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**NETWORK-CENTRIC WARFARE:  
THE PROBLEM OF SOCIAL ORDER**

by

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## **ABBREVIATIONS AND ACRONYMS**

ADF  
NCW

Australian Defence Force  
network-centric warfare



## ABSTRACT

Network-centric warfare (NCW) is becoming the dominant logic of current and future military operations. Network-enabling technologies bring with them a dramatic increase in the quantity of information, the need for constant interaction and a demand for greater organisational transparency. These network characteristics will raise important questions about the cultural assumptions held by the Australian Defence Force (ADF) and the wider Department of Defence. The pressure on the military workforce and the organisational systems that support it has never been greater. In short, the organisational means on which the ADF has relied to maintain social order are being challenged.

Profiting from the opportunities afforded by new technologies is never as simple as it first appears. The link between technology and social order is subtle, active, and intimately linked to successful change management. The ADF's ability to become an adaptive, versatile and flexible force depends on the workforce's capacity to absorb and integrate new technology. In turn, the workforce's capacity for change depends on the social architecture of the organisation—the organisational systems that allow the workforce to adapt to changing circumstances. It is these systems of social order that NCW threatens directly.

This working paper explores the effect of network-enabling technologies on social order in the Defence Department. It outlines the macro drivers of social order. It then sets up a framework for understanding where network-enabling technologies will challenge the Defence Department's prevailing social order. It closes with the claim that, if Defence leaders are to find a path through the social and organisational paradoxes of NCW, they must understand the philosophical questions that NCW poses.

# NETWORK-CENTRIC WARFARE: A THREAT TO SOCIAL ORDER

*Every individual, organization or society must mature, but much depends on how this maturing takes place. A society whose maturing consists simply of acquiring more firmly established ways of doing things is headed for the graveyard—even if it learns to do things with greater and greater skill.*

John Gardner<sup>1</sup>

## The Problem of Social Order

Social order is a core issue for leaders managing organisational change. In his book *The Problem of Order* Dennis Wrong notes: ‘Groups, institutions, and societies are nothing but concentrations of recurrent interactions among individuals.’<sup>2</sup> Resistance to change and organisational inertia arise from individuals reacting to shifts in recurrent patterns of behaviour that are the foundation of social order.

Social order in organisations (and society) arises from the need to overcome two problems.<sup>3</sup> First, people need to be confident that the behaviour of peers, subordinates and superiors is predictable. People must be able to coordinate their actions with others to achieve a collective outcome. This is the problem of *systems integration*.<sup>4</sup> People need systems to provide regularity and predictability to their interactions.

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<sup>1</sup> John Gardner, *Self Renewal: The Individual and the Innovative Society*, rev. edn, W.W. Norton, New York, 1981, p. 5.

<sup>2</sup> Dennis Wrong, *The Problem of Order: What Unites and Divides Society*, Free Press, New York, 1994, p. 227.

<sup>3</sup> Michael Hechter and Christine Horne (eds), *Theories of Social Order: A Reader*, Stanford University Press, Stanford, 2003.

<sup>4</sup> Dennis Wrong, *The Problem of Order*, p. 233.



Bureaucracy, doctrine and organisational structure all work to preserve social order in the Defence Department by reducing the potential for conflict.

Second, if people are to work together, they must be able not only to coordinate their activities, but also to cooperate. This is the problem of *social integration*.<sup>5</sup> Social integration is the formation of a social identity that requires the allegiance of an individual to a primary group. Powerful symbols and myths, to which individuals attach emotional or sentimental significance, often represent the group. Within the Army, corps and regimental structures provide the scaffolding for the symbols that make social integration possible. Similarly, the Anzac tradition is a symbol for social integration in Australia that represents a sense of identity and a collective ethic.

Network-centric warfare (NCW) is fast becoming the dominant logic of current and future military operations. But there is a persistent assumption throughout Australian Defence Force (ADF) doctrine that the meaning of ‘network’ is well understood. As Columbia University network researcher Duncan Watts notes:

... unless we can understand exactly *how* connected systems are connected, we cannot predict how they will behave. And unless we know what kind of behavior we are trying to understand, we don’t even know what it is about the network that is supposed to matter.<sup>6</sup>

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<sup>5</sup> *Ibid.*, p. 229.

<sup>6</sup> Duncan Watts, ‘Unravelling the Mysteries of the Connected Age’, *The Chronicle of Higher Education*, vol. 49, no. 23, February 14, 2003, p. B7.

Networks are complex systems that, unlike hierarchies, thrive on connectivity, flat organisation and peer-to-peer links.<sup>7</sup> The paradox of complex systems is that fragility and adaptability arise from the increased interdependence and independence of each component part of the network.<sup>8</sup> There is a tendency in ADF doctrine to focus optimistically on the benefits of increased connectivity. NCW also raises important questions about deeply and closely held cultural assumptions of defence organisations. What is the right balance between interdependence and independence? What are the attributes of a networked workforce? In an environment where the human resource will be used more intensively, how can it be preserved?

While the capacity for self-synchronisation at local levels provides versatility, it also risks large and small losses in functionality. The power and authority delivered to the ‘strategic private’<sup>9</sup> give the ADF local adaptability and versatility, but as the number of potential ‘strategic privates’ increases so does the fragility of the entire network. The ADF’s peak doctrine focuses on the opportunities for adaptability and self-synchronisation offered by increased connectivity but does not identify the increased fragility of the entire network as a significant risk.<sup>10</sup> This social and organisational risk receives less intellectual and financial investment than the development of robust communication systems, but finding the right way to regulate human

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<sup>7</sup> Kevin Kelly, *New Rules for the New Economy: 10 Ways the Network Economy is Changing Everything*, Fourth Estate Limited, London, 1998.

<sup>8</sup> *Ibid.*

<sup>9</sup> Lieutenant General Peter Leahy, Speech by the Chief of Army to the Defence Watch Seminar, National Press Club, Canberra, 10 February 2004.

<sup>10</sup> Department of Defence, *Force 2020*, Commonwealth Department of Defence, Canberra, 2000; and Department of Defence, *Future Warfighting Concept*, Canberra, December, 2002.

behaviour within a network is central to protecting against the fragility of the whole system. The ability of Defence leaders to steward the institution from a ‘platform-centric’ to a ‘network-centric’ force is less a problem of technology than a problem of social order.

This paper explores the effect of network-enabling technologies on social order in the Defence Department. It outlines the macro drivers of social order. It then sets up a framework for understanding where network-enabling technologies will challenge the department’s dominant social order. It closes with the claim that if Defence leaders are to find a path through the social and organisational paradoxes of NCW they must understand the philosophical questions that NCW poses.

### **Technology Threatens Social Order**

Profiting from the opportunities offered by new technology is never as simple as the proponents of NCW make it sound. The link between technology and social order is subtle and active. Nonetheless, the problem can be split into two broad aspects. On the one hand, a dominant social order can constrain the use of new technology. Ralph Peters observes that ‘the mere possession of technology does not ensure that it will be used effectively’.<sup>11</sup> His observation reminds us that social practice—culture—is central to the effective application of technology. On the other hand, every new technology brings with it a subversive ideology. New technologies are developed to solve problems, but they also disrupt, subvert and reshape the existing social order.

The challenge for all Defence leaders is to develop a deeper understanding of why individuals and groups resist change by adhering to the existing social order. Likewise, leaders need to

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<sup>11</sup> Ralph Peters, ‘In Praise of Attrition’, *Parameters*, vol. xxxiv, no. 2, Summer 2004, pp. 24–32.

understand the ideology that accompanies network-enabling technology and anticipate the disruption of the institution's social order. While institutions with tightly bound systems and social integration, such as the ADF, are vulnerable to rejecting or constraining the use of potentially valuable technology, this paper focuses on the second problem—technology as a threat to social order.

Technological change is the spur for social change in two ways: first, it creates new opportunities, and, second, it creates new problems. ADF planners see NCW as a new opportunity to increase situational awareness across the force. Lifting the fog of war is the Holy Grail for all military commanders, but maximising the opportunities that NCW creates will require alterations to the existing social organisation. For example, the Army's Complex Warfighting doctrine highlights the need for a more modular structure, in which semi-autonomous teams can be configured and reconfigured to suit the task.<sup>12</sup> While modularity has long been a principle of force structure, Complex Warfighting describes the combined arms teams of the near future as small, robust, interdisciplinary and interchangeable. Clearly, the existing social structures will also change in order to achieve the configurations proposed by the Army's planners, as will the roles that those structures performed.

Technological change, in the form of NCW and its corollary, increased connectivity, is threatening the dominant social order in the Army and in the wider ADF. Network-enabling technologies are creating new opportunities and new problems. Concentrating only on the opportunities (such as increased adaptability) without acknowledging the problems of preserving social order (such as increased fragility) obstructs the institution's ability to manage change effectively.

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<sup>12</sup> Australian Army, 'Future Land Warfare', *Complex Warfighting, Future Land Operational Concept*, 2004.

The new possibilities that NCW offers will challenge Defence leaders to think more clearly about command, control, hierarchy and other mechanisms for maintaining social order. Does the character of command change in organisations that regroup frequently? What does control mean in a network? Can the actions of semi-autonomous teams in rapidly changing configurations be maximised in a vertically integrated hierarchy? In effect, the technologies of NCW will challenge all leaders to revisit their leadership philosophy. Concepts such as mission command, which until now leaders could subscribe to in theory while declining to practise, become not only a possibility but also a necessity. Potentially, NCW will challenge Defence leaders with questions about institutional values. In doing so, it prepares the way for a shift in the mechanisms that bolster social order.

### **Working with Dynamic Conservatism**

In 1971, philosopher Donald Schön argued that society had lost the ‘stable state’. He suggested that belief in the stable state is belief in ‘the unchangeability, the constancy of central aspects of our lives, or belief that we can attain such constancy’.<sup>13</sup> Such a belief is strong and deep, and it provides a bulwark against uncertainty. Schön argued that ‘dynamic conservatism’—‘a tendency to fight to remain the same’—is a persistent characteristic of most institutions.<sup>14</sup> But the pervasiveness and frequency of technical change was ‘uniquely threatening to the stable state’.<sup>15</sup> Schön believed that change was a fundamental feature of modern life and that it is necessary to develop social systems that can learn and adapt.

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<sup>13</sup> Donald Schön, *Beyond the Stable State*, Temple Smith, London, 1971, p. 9.

<sup>14</sup> *Ibid.*, p. 32.

<sup>15</sup> *Ibid.*, p. 28.

Unfortunately, the response of most organisations to the need for constant change is to refresh the organisational ‘vision’ and create a ‘sense of urgency’ that will galvanise the workforce. This constant, almost manic, sense of motion seeks to create dissatisfaction with the present that, in theory, will undermine the workforce’s natural resistance to organisational change. This tactic ignores the cost of the constant stress of adaptation for individuals and organisations. As one researcher puts it, ‘we can ... adapt to such an extent that we do ourselves harm. The process of adaptation has its costs’.<sup>16</sup> This approach to change is an unspoken feature of the *Force 2020* strategy:

Through experimentation and simulation, these key future concepts will become more than just words on a page. They will also require all of us to overcome organizational inertia, and embrace bold and innovative ways of operating.<sup>17</sup>

The concern with this tactic is that it creates a feeling of continual restlessness and unease. Continuous movement makes possible further movement without any sense of achievement. For an exhausted workforce, the only behavioural response is to withdraw commitment and survive.<sup>18</sup>

Rather than arguing for complete surrender to the momentum of change, Schön contended that social systems must learn to transform themselves without ‘intolerable threat’.<sup>19</sup> The concept of ‘dynamic conservatism’ recognises that the capacity of institutions to change is constrained by the

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<sup>16</sup> Christopher Alexander, *The Timeless Way of Building*, Oxford University Press, New York, 1979, p. 129.

<sup>17</sup> Department of Defence, *Force 2020*, Commonwealth Department of Defence, Canberra, 2000, p. 25.

<sup>18</sup> David Schmidtchen, ‘Rethinking the psychological contract between Army and its people’, *Australian Defence Force Journal*, no. 137, July/August 1999, pp. 5–8.

<sup>19</sup> Donald Schön, *Beyond the Stable State*, p. 60.

function they serve as part of a broader societal system and by their role in providing a social framework for individuals:

A learning system ... must be one in which dynamic conservatism operates at such a level and in such a way as to permit change of state without intolerable threat to the essential functions the system fulfils for the self. Our systems need to maintain their identity, and their ability to support the self-identity of those who belong to them, but they must at the same time be capable of transforming themselves.<sup>20</sup>

Learning is central to the ability to transform, but resistance to change is a valid workforce reaction that leaders need to work with. Resistance to change is not an unpleasant distraction that leaders can sweep aside in eddies of constant movement. For Schön, the movement towards a learning system is, of necessity, ‘a groping and inductive process for which there is no adequate theoretical basis’.<sup>21</sup>

Organisational change is a succession of alternating phases of inertia and action. Revolutionary or frame-breaking change is the exception and only occurs when the ‘stable structure is stressed beyond its buffering capacity to resist and absorb’.<sup>22</sup> This is not to say that periods of apparent inertia are periods without change. In organisations, as in scientific disciplines, technical and social standardisation can be the source of rapid innovation in a particular direction.<sup>23</sup> This is the ‘steady state’ for most institutions.

The challenge for the Defence Department’s change agents is to manage sensibly the transition to a network-centric force by taking into account both its frame-breaking potential and

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<sup>20</sup> *Ibid.*, p. 60.

<sup>21</sup> *Ibid.*

<sup>22</sup> Stephen Jay Gould, ‘Darwinism and the expansion of evolutionary theory’, *Science*, no. 216, 1982, pp. 380–7.

<sup>23</sup> Compare with Thomas Kuhn’s description of ‘normal science’, in Thomas Kuhn, *The Structure of Scientific Revolutions*, Chicago University Press, Chicago, 1970.

the ‘dynamic conservatism’ of the Defence institution. Just as Donald Schön did in the early 1970s, Department of Defence planners identify learning as a key principle in the transition to a network-enabled force. But sustaining the transition needs a deeper understanding of the psychology and sociology of social order than is expressed in the rapidly multiplying ‘roadmaps’ for change.

### **Social Order and Social Capital**

Social order and social capital are overlapping and easily confused terms. Sociologist Daniel Bell believes that social networks increase the importance of social capital, which he defines as ‘the awareness of new opportunities and possibilities for advancement through new information and, most important, by acquiring connections’.<sup>24</sup> Bell’s definition reflects his academic background. An Organisation for Economic Cooperation and Development report on social capital noted that it is possible to distinguish at least four broad approaches to the subject:

- *economic*—focuses on people’s incentive to invest in social capital;
- *political*—focuses on the role of institutions, and political and social norms, in shaping human behaviour;
- *sociological*—focuses on trust, reciprocity and citizenship; and
- *anthropological*—focuses on establishing social order.<sup>25</sup>

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<sup>24</sup> Daniel Bell, ‘The Axial Age of Technology’, in foreword to Daniel Bell, *The Coming of Post-Industrial Society*, Basic Books, New York, 1999, p. lviii.

<sup>25</sup> Organisation for Economic Cooperation and Development, *The Wellbeing of Nations: the Role of Human and Social Capital*, OECD, Paris, 2001.



In Australia and elsewhere, social capital has been subject to intense research scrutiny in each of these academic domains. However, a conclusion from the Australian Productivity Commission's investigation into social capital summarises the current understanding of the term:

... there is limited understanding of social capital and how different policies interact with it, and measurement is difficult. Further research, coupled with small scale policy experimentation, may be warranted to provide better knowledge and tools for incorporating social capital considerations in policy analysis where appropriate.<sup>26</sup>

In this paper, the focus is on understanding the way network-enabling technologies challenge the drivers of social order in the Department of Defence. Social order is a more elemental issue than social capital because it depends on the predictability of individual behaviour and the motivation to cooperate as the source of social stability.<sup>27</sup> Therefore, focusing on social order provides a firmer foundation for appreciating the influence of network-enabling technology on the Defence Department.

## **The Drivers of Social Order**

The danger of a network is a loss of coherence and an inability of the workforce to achieve organisational goals. Social coherence in the Defence Department, with an accompanying sense of certainty, arises from strong central control. Networks increase managerial and governance complexity and potentially reduce both the capacity of the central authority to steer behaviour and the capacity of the workforce to administer change to achieve organisational goals. There

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<sup>26</sup> Productivity Commission, *Social Capital: Reviewing the Concept and its Policy Implications*, Research Paper, AusInfo, Canberra, 2003, p. viii.

<sup>27</sup> Michael Hechter and Christine Horne (eds), *Theories of Social Order*, p. xiii.

are limits to the capacity for workforce autonomy and involvement. Ultimately, networks may be good for individuals but inefficient for organisations.

Networks increase the contribution of people to capability, and the adaptability, versatility and innovation that Defence Department leaders seek depends more than ever before on human ingenuity and problem-solving. The current hierarchical model relies heavily on centrally governed processes, practices and procedures that a rule-following workforce carries out. Unlike hierarchies, networks spread the responsibility for planning and decision-making across the workforce. Consequently, traditional top-down planning is replaced by increased workforce participation. Peers interact across the network not only to action the plan, but also to build and refine it. Increased network connectivity provides the opportunity to better harness the potential of the workforce.

In order to understand the challenges that network-enabling technologies throw up for the department, it is necessary to understand the drivers of social order: meaning; values and norms; power and authority; and groups and networks.<sup>28</sup> These drivers provide the philosophical frame for understanding the impact of network-enabling technologies on social order in the Defence Department. In turn, this understanding will frame a suitable change management strategy.

## **Meaning**

Shared meaning is the basis of social order. Theoretical physicist David Bohm regarded shared meaning as the cement that holds society together.<sup>29</sup> A society with a disjointed set of

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<sup>28</sup> *Ibid.*

<sup>29</sup> David Bohm, *Unfolding Meaning: A Weekend Dialogue with David Bohm*, Ark Paperbacks, New York, 1985; and Dennis Wrong, *The Problem of Order*.

meanings (poor-quality cement) falls apart: losing common meaning leads to a breakdown in order.

Bohm's observations reflect a wider view that shared ideas and beliefs are a precondition for communication. Even though most people are not consciously aware of their beliefs, those beliefs remain essential for communication. Sociologist George Herbert Mead suggested that shared meaning allows people to anticipate the actions of others and thereby decide how to act themselves.<sup>30</sup>

Four broad cultural dimensions define ADF culture: professionalism, sense of community, hierarchy and conservatism.<sup>31</sup> These dimensions are at the core of military socialisation and practice, and immersion in a military career reinforces them. Social interaction, routine and ritual constantly confirm the legitimacy of each dimension. This constant socialisation fosters social order by strengthening the bonds that attach individuals to the military community.<sup>32</sup>

The strength of socialisation and hierarchy in military organisations defines and constrains the channels for communication. Increased network connectivity increases communication that is not subject to the filtering and limits inherent in a vertically integrated hierarchy. The question is

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<sup>30</sup> George Herbert Mead, 'Play the Game, and the Generalized Other', Section 20, in Charles W. Morris (ed.), *Mind, Self and Society from the Standpoint of a Social Behaviorist*, University of Chicago, Chicago, 1934, pp. 152–64.

<sup>31</sup> Nick Jans with David Schmidtchen, *The Real C-cubed: Culture, Careers and Climate and How they Affect Capability*, Canberra Papers on Strategy and Defence No. 143, Strategic and Defence Studies Centre, Australian National University, Canberra, 2002, p. 56. (Although developed to describe Army, the four dimensions apply equally to RAAF and Navy but may play out differently.)

<sup>32</sup> Australian Army, *Officer Professional Effectiveness Review—Army* (Project OPERA), internal publication and release, 1999.

not whether the four cultural dimensions will remain relevant: as a broad frame for meaning, they continue to reflect the cultural standards for success in warfare, and NCW does not change the nature of war. Instead, the interesting question will be about how increased network interaction will reshape the meaning of professionalism, community, hierarchy and conservatism in the ADF.

On the one hand, networks promote the disaggregation of the workforce, opening the way for people to see the world as multiple fragments unrelated to each other. Such a view reinforces a 'stovepipe' attitude, in which the divisions between activities are absolute and final rather than of limited utility and authority. Fragmented meaning leads to fragmented action. On the other hand, a more refreshing view, and one that is consistent with an innovative culture, argues that if continuous interaction creates meaning then the four cultural dimensions may no longer have the status of 'indisputable cultural facts'. Instead, they will be constantly open for re-interpretation. The Defence Department and military 'model' will become open to wider critical scrutiny, allowing the possibility for alternative organisational practices to emerge that support the innovative and adaptive culture expressed in *Force 2020* and the *NCW Roadmap*.

Maintaining the status quo is not an alternative. Increased interaction is the stimulus for change. What sense of community and hierarchy will emerge from peer-to-peer networked commanders working as semi-autonomous teams self-synchronising in a modern battlespace? What sense of professionalism will emerge from morphing organisations that rapidly form and dissolve in response to the prevailing conditions? How will the military community, with a long-term sense of continuity and purpose, reconcile itself with a short-term, disposable and impermanent environment? It is not important that leaders do not have answers to these

questions today. It is important that they start to frame the questions and remain alert to the answers that are beginning to emerge from an increasingly connected workforce.

Shared meaning and the common sense of purpose that flows from it have long been the strength of military culture. How the workforce keeps a shared sense of meaning in a network that potentially disaggregates and fragments individual experience is a key question for Defence leaders. It is a capability question.

### **Values and Norms**

Even if people share common meaning, they may still lack social order. Common meaning is not enough to produce cooperation. To cooperate, people must not only be able to understand one another, but agree on one or more shared ends.

There are two kinds of values: individual values that develop throughout the course of a person's life, and collective or social values that allow people to adjust their behaviour according to widely held ethical principles. Again, socialisation into the military profession is likely to shape individual values. This recalls Samuel Huntington's observation of the military profession: 'People who act the same way over a long period of time tend to develop distinctive and persistent habits of thought'.<sup>33</sup> The drivers of social order in each of the services work to align individual and social values. Stability in the processes that support social order is vital to keeping the alignment between the two value systems. The processes of recruitment, selection, training, promotion, education, performance appraisal and discharge all contribute to building a collective workforce ethic.

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<sup>33</sup> Samuel Huntington, *The Soldier and the State*, Vintage Books, New York, 1957, p. 61.

More broadly, sociologist Emile Durkheim argued that individuals have no way of limiting their ‘passions’, so the exterior force of society regulates individual behaviour by requiring individuals to adhere to agreed moral limits. That is, in periods of relative stability, society’s values and norms provide people with essential direction about how they should live their lives.<sup>34</sup>

Thus, societal expectations limit individual ambition by providing a frame for what is right and what is not. However, in a changing society, for example in a period of rapid technological innovation, the machinery (systems integration) for regulating social order is challenged. Durkheim contended:

If ... as has often been said, man is double, that is because social man superimposes himself upon physical man. Social man necessarily presupposes a society which he expresses and serves. If this dissolves, if we no longer feel it in existence and action about and above us, whatever is social in us is deprived of all objective foundation ... Yet this social is the essence of civilized man ... Thus we are bereft of reasons for existence; for the only life to which we could cling no longer corresponds to anything actual; the only existence still based upon reality no longer meets our needs.<sup>35</sup>

Without regulation, individual expectations are unlimited, but the means for achieving them are finite. Durkheim believed that individuals experience ‘anomie’ or alienation and purposelessness when they have too much freedom. Therefore, common standards, values or ideals are central to maintaining social order.

Durkheim assumed that, in response to uncertainty, people continuously compare their means with their expectations

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<sup>34</sup> Emile Durkheim, *Suicide: A Study in Sociology*, George Simpson (ed.), Free Press, New York, 1979.

<sup>35</sup> *Ibid.*, p. 213.

about what they ought to have. The wider the gap, the greater is the dissatisfaction.<sup>36</sup>

The services keep tight control over workforce expectations and ambitions through career management. The workforce is sensitive to changes in these systems because the systems define what is possible in advancement, professional development and career ambitions. Career management defines the criteria for evaluation—the behavioural norms. Some writers see the professional military career system as a major lever for cultural change,<sup>37</sup> but to others it is a ‘wicked problem’,<sup>38</sup> meaning that it has no definitive form and no decisively ‘best’ solution. The system is the ADF’s great strength and great weakness.

The central processes of socialisation, competence, job rotation and tournament selection, combined with action-orientated performance criteria, produce good, tactically focused, career-orientated personnel. Career success relies on the application of standard procedures and drills with the expectation of prompt, visible and measurable results. This ‘professionalism of small things’<sup>39</sup> has contributed enormously to the ADF’s operational success. The weakness is that years of exposure to this mode of behaviour can limit performance in environments where the problems are ambiguous and long term. In such situations, a short-term, task-orientated, can-do attitude is a liability rather than an asset.

The ADF’s *Future Warfighting Concept* describes the battlespace of the network-enabled future as nonlinear (‘where small changes can have huge impacts on events’) and non-

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<sup>36</sup> Michael Hechter and Christine Horne, *Theories of Social Order*, p. 95.

<sup>37</sup> Nick Jans with David Schmidtchen, *The Real C-cubed*.

<sup>38</sup> Horst Rittel and Melvin Webber, ‘Dilemmas in a general theory of planning’, *Policy Sciences*, vol. 4, 1973, pp. 155–69.

<sup>39</sup> Dr Nick Jans, personal communication, 6 October 2004.

contiguous (where operations are ‘not necessarily confined to adjoining theatres’).<sup>40</sup> In a network-enabled environment, the military workforce must have the flexibility and adaptability to ‘shape the battlespace’ and deliver an ‘effect’.

What values and norms will be essential to success? If they differ from prevailing ones, what aspects of the career system will need to change? What will be the expectations and aspirations of the workforce in this new environment? How will leaders manage the workforce’s sensitivity to changes in this crucial system to avoid frustration and dissatisfaction? When should the change begin? These questions are not currently asked in Defence Department or ADF planning.

Values and norms signal to the workforce which behaviours are appropriate or inappropriate, moral or immoral. It is not enough to state the vision for a network-enabled future and hope that the workforce will deliver it. Too often, the architects of the future ‘assume away’ or overlook the systems that have contributed to creating today’s professional, capable and successful military workforce. They assume that professionalism is a stable and innate organisational characteristic. It is not.

### **Power and Authority**

Spreading power and authority in a network is central to the NCW philosophy. Pervasive connectivity will change the character of power relationships in the Defence Department and the ADF. This is among the most pressing social and cultural issues for Defence leaders to understand.

The vertically integrated hierarchy is one of class division, and this fundamentally shapes the behaviour of the workforce. Rank and position define power and authority. The ADF’s

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<sup>40</sup> Department of Defence, *Future Warfighting Concept*, Canberra, December, 2002, p. 8.



(and the department's) command and control philosophy holds that strong central authority is essential to social order. Long history, prodigious socialisation and powerful coercive tools (for example, the Defence Force Discipline Act) ensure that central authority is seen as legitimate. Strong central authority provides the platform for distributed command and control concepts such as mission command because the central authority can be confident that the workforce will follow the 'rules'. Voluntary compliance is central to success in warfare, therefore every governance structure tries to cultivate a belief in the legitimacy of central authority. This is the ADF of today. Will this philosophy serve the ADF of tomorrow?

Hierarchy builds on a view that social order needs some subset of the group to have greater power and authority than other members of the group. The minority produces and preserves social order by dominating the majority.<sup>41</sup>

In a hierarchy, people's characteristics—including their approach to problem solving—depend on their role in the hierarchy and their specialist contribution to capability. Changes in the social dynamics of Australian society and the Defence Department may alter the nature of control. An increasingly educated and knowledgeable Australian population will have expectations of the workplace that are different from those of their predecessors.<sup>42</sup>

The most obvious expression of the changing power relationships in the ADF is the acknowledgment by the Chief

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<sup>41</sup> Max Weber, *Economy and Society*, Volume 1, G. Roth and C. Wittich (eds), University of California Press, Berkeley, 1925/1978.

<sup>42</sup> David Schmidtchen, 'Australian population and workforce trends: the strategic human resource challenges and opportunities facing Army', *Australian Defence Force Journal*, no. 140, Jan/Feb 2000, pp. 17–24.

of Army that success and failure in military operations is increasingly in the hands of one type of individual—the ‘strategic private’.<sup>43</sup>

The network-enabled force is a challenge to a top-down control philosophy. The main premise of NCW is that it is possible for individuals and groups pursuing their own interests to produce predictable systems of behaviour through self-synchronisation, and that, because such systems incorporate the knowledge of many people, they may be preferable to those planned by a central authority.

This clash of organisational philosophies is not a minor matter. It is essential to understanding the changing social order in the ADF. The prevailing system, disguised by the familiarity that comes with organisational continuity, subscribes to Thomas Hobbes’s view that, ‘because the bonds of words are too weak to bridle mens ambition, avarice, anger and other Passions, without feare of some coercive Power’,<sup>44</sup> preserving social order needs a powerful, legitimate and coercive central authority. The network-enabled counter-view recalls Adam Smith’s self-interested open market with all its strengths and weaknesses: ‘It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own self-interest’.<sup>45</sup> In this view, central authority regulates rather than directs behaviour. For the Defence Department, this is a substantial shift in organisational philosophy.

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<sup>43</sup> Lieutenant General Peter Leahy, Speech by the Chief of Army to the Defence Watch Seminar, National Press Club, Canberra, 10 February 2004.

<sup>44</sup> Thomas Hobbes, *Leviathan*, Chapter XIV, Of First and Second Naturall Lawes, and of Contracts, produced by Edward White, 1651/2002, <<http://www.gutenberg.org/dirs/etext02/lvthn10.txt>>.

<sup>45</sup> Adam Smith, *An Inquiry in the Nature and Causes of the Wealth of Nations*, Oxford University Press, Oxford, 1776/1998.

Spreading power and authority in a network poses philosophical and practical questions for leaders and change managers who aspire to make the transition to a network-enabled future. Again, these questions are not asked.

## **Groups and Networks**

The history of economics shows that unregulated, self-interested interaction may lead to chaos, predictability or cooperation. The challenge for NCW theorists seeking to move Defence from the current organisational state based on strong central authority to one based on the emergent behaviour of self-synchronised individuals and groups is to explain how the Department will achieve predictability and cooperation.

The answer lies in a more complete understanding of the ties between individuals and within and between groups. Leaders must understand the role of small groups as the source of meaning for individuals—in particular, how people internalise and strengthen meaning through norms and how they understand power distribution. This area, in which the ADF excels, is not without challenges.

In 1973, Mark Granovetter explored a fundamental weakness in sociological theory.<sup>46</sup> He believed that, until then, sociologists had been unable to relate micro-level behaviour to macro-level patterns. Granovetter focused on interpersonal networks as the bridge between micro and macro behaviour. He argued for two kinds of ties that bind people: those within groups (strong ties) and those between groups (weak ties).

The strength of the link between people depends on the quantity, quality and frequency of social exchange between them. Strong ties arise from time-intensive and frequent interactions in which the social exchange between people is

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<sup>46</sup> Mark Granovetter, 'The strength of weak ties', *American Journal of Sociology*, vol. 28, no. 6, 1973, pp. 1360–80.

emotional, intimate and reciprocal. Weak ties are transitory, mechanistic and often impersonal, but through them people exchange information between groups and across formal organisational boundaries. In this way, weak ties promote social order by bridging between groups whose members do not normally interact with one another. In contrast, strong ties produce groups that are inward looking and hostile to outsiders. The resilience and professionalism of the ADF's three service cultures comes from the strong ties forged through socialisation (social integration) and training (systems integration).<sup>47</sup> But strong cultures that rely on strong ties alone are susceptible to intergroup conflict and social disorder. Organisational cultures that seek to build weak ties have more intergroup relations and greater levels of social order.

In a network-enabled environment, the cultural standards and protocols in the Defence Department will converge. This is an unavoidable and essential outcome of connectivity, information transparency, participation and self-synchronisation. *Force 2020* implies an operational need for cultural convergence:

A defining feature of FORCE 2020 is that it is driven by the concept of a 'seamlessly integrated force'. This concept goes beyond the contemporary understanding of 'jointness', but it does not signify a merger of the three Services, nor does it seek to undermine their identities and cultures.<sup>48</sup>

'Jointness' is not 'news', but given the uneasy history of the 'four tribes' (Navy, Army, Air Force and Australian Public Service) in the department, it does signal that a mere façade of

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<sup>47</sup> See Nick Jans with David Schmidtchen, *The Real C-cubed* (Chapters 4 and 5) for a more complete description of the Australian Army's organisational culture.

<sup>48</sup> Department of Defence, *Force 2020*, Commonwealth Department of Defence, Canberra, 2000, p. 17.

‘jointery’ is no longer an option.<sup>49</sup> *Force 2020* further advances the slow but steady migration of the strong but inwardly focused service cultures towards a more inclusive ‘joint culture’. There should be no doubt here about what it will take to be ‘joint’ and ‘seamless’ in thinking and operation. While a joint culture does not preclude the strength and identity of the contributing cultures, it does suggest an expanded professional consciousness and a fundamental change in behaviour. Managing this cultural and professional convergence is central to building, retaining and maximising a workforce that will deliver *Force 2020*.

Defence leaders might be tempted to argue that the ADF has made significant advances in this area in recent times. The following comments from ADF personnel returning from operations suggest that there is still some way to go. The first is from a soldier who served with the United Nations Operation in Somalia (UNOSOM) in 1994:

One of the biggest problems facing the contingent both in Australia and over there was the mixing of the services within our own contingent. Who was responsible for what etc... One of the problems with that is that it stems from a lack of training on a tri-service level. It also comes down to single service attitude.<sup>50</sup>

Ten years later, in 2004, two soldiers returning from Iraq made the following comments:

The whole working in the Joint environment, we need to do a lot more of that. And I think that starts at the training; we need to re-

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<sup>49</sup> Neil James, *Reform of the Defence Management Paradigm: A Fresh View*, Working Paper No. 59, Australian Defence Studies Centre, Canberra, 2000.

<sup>50</sup> David Schmidtchen, *Preparing Capable Australian Defence Force Peacekeepers: Principles and Foundations*, Defence Publishing Service, Canberra, 1999.

align and we need to align our Service communications, skill sets and training.<sup>51</sup>

Visibility or knowledge of what the other Services' skill sets are and how they operate. And what—what backgrounds, I suppose, each of them have. Or if you are an Army guy, to have knowledge of what the naval assets are. Same with the Air Force and vice versa, so all around tri-Service type knowledge.<sup>52</sup>

The social depth of the individual service cultures stems from strong ties developed through ongoing career socialisation. Weak ties within each service and between the services are a function of frequent job rotation and, more recently, joint education and training and joint operational experience. These associations build a coherent understanding among a broad portion of the workforce of what it means to be 'joint'. Being 'joint' is no longer an idea routinely spouted only by strategic planners in Canberra. It has real meaning, among real people. And its source is the weak ties that promote the value of interservice cooperation.

Given the degree of commonality that exists between the services, developing a joint ADF culture is the easy part. The desire for 'seamless' operation implies a 'Defence culture' that brings the Defence Department civilians of the Australian Public Service into the fold. This is a far more difficult prospect, as there is not a high degree of cultural commonality between the ADF and civilians.<sup>53</sup> The goal of the seamless force is to produce a seamless effect. In a seamless force, Defence civilians will be an integral component of an adaptive and innovative Defence culture. The strength of this culture

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<sup>51</sup> Leoni Warne, Irene Ali, Derek Bopping, Dennis Hart and Celina Pascoe, 'The Transformation of the Military for NCW and Future Warfare', presentation to the Defence Human Factors Special Interest Group (DHFSIG), Bridport, Tasmania, 16 November 2004.

<sup>52</sup> *Ibid.*

<sup>53</sup> Nick Jans with David Schmidtchen, *The Real C-cubed*.

will stem from its ability to manage the boundaries between diverse organisational cultures and specialisations effectively.

The emergence of a Defence culture is inevitable and has begun. Evidence of this can be seen in three areas of the senior leadership group's attitudes.<sup>54</sup>

- First, it increasingly expects cooperation rather than competition.
- Second, as a core group of like-minded people in key positions who can influence culture, it agrees that cooperation should be the norm.
- Third, it has the will to oversee behaviour and correct aberrant behaviour.

As in the development of a joint ADF culture, the emphasis should be on building the weak ties that bridge groups, shape meaning and sustain social order without compromising the strong ties that contribute to capability.

### **Three Mechanisms of Change**

If the philosophies that accompany NCW challenge the social order of Defence, then it is important to understand how patterns of workforce behaviour mature. The organisational systems that regulate social order emerge from an ideology that explains the nature of the world. The same ideology is also the stimulus for creating tools that the workforce uses to work in an uncertain and ambiguous environment. The ideology, organisational systems and tools are self-imposed

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<sup>54</sup> Michael Mazarr, *Toward a Global Social Contract: Human Nature, Complexity, and International Relations*, Global Trends Research Paper, Center for International and Strategic Studies, Washington DC, 2002, <<http://www.csis.org/gt2005/ircoop2.pdf>>.

organisational constraints that shape the behaviour of individual members of the workforce.

All change starts with individuals. Therefore a micro-strategy of change must consider three broad questions: How do individuals make sense of their environment? How will that understanding affect their behaviour? How does collective action emerge from individual behaviour?

These questions are important because people who are positively disposed towards an organisation or immediate task give their commitment, creativity and innovation freely. Those who are not so disposed either leave the organisation or, more often, continue to serve, but in a limited way. These people withhold their commitment and only do what is essential. The philosophies of NCW intensify the way in which people contribute to producing capability and make the ADF more dependent on the quality of its workforce.

Figure 1 provides a model for understanding the *situational*, *behavioural* and *transformational* mechanisms of change.<sup>55</sup> Three simple assumptions about individual behaviour underlie the model.

- *All behaviour is caused, motivated and goal-directed.* People take actions either to attain a condition or outcome that is perceived as good, or to get away from a condition or outcome that is perceived as bad.
- *Typical behaviour patterns are learnt over time.* People use successful behaviours constantly until eventually they become habit. Over-reliance on habitual responses can have negative effects.
- *Behaviour patterns vary with circumstances.* Behaviour is a function of the individual interacting with the environment.

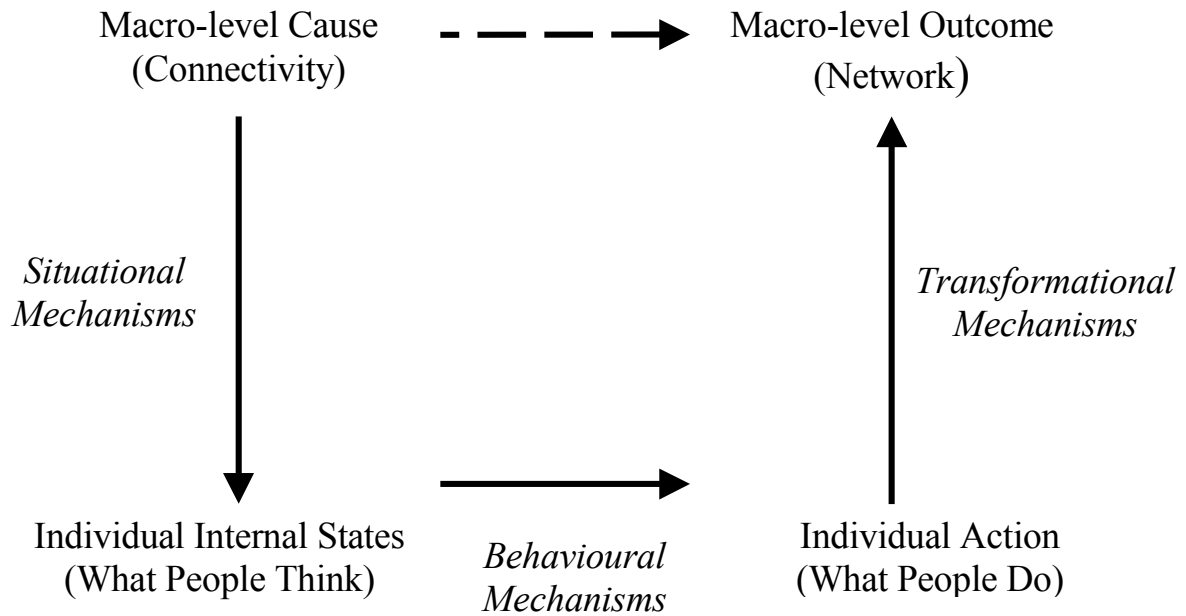
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<sup>55</sup> James Coleman, *Foundations of Social Theory*, Harvard University Press, Cambridge, MA, 1990.



Behaviour stems from two basic sources: individual or personality-based factors and external or environmental factors. The implications of this assumption are twofold: first, people respond differently in different environments; second, changing the characteristics of the environment changes individual behaviour.

Without these three assumptions about human behaviour—which is driven by many, sometimes inconsistent, motivations—there is little chance of predicting social outcomes. Managing change is about influencing individual behaviour to bring about a desired social outcome. Figure 1 shows three different mechanisms for linking micro-level patterns of behaviour (individual and group behaviour) to macro-level social outcomes.



**Figure 1. Mechanisms for Enabling Organisational Change** (adapted from Coleman, 1990)<sup>56</sup>

The *situational mechanism* captures the social environment that influences what people think and believe—how they make sense of the environment. The situational mechanism assumes that shared common meaning translates into collective workforce effort.<sup>57</sup> To cooperate, individuals not only have to be able to understand one another; they must also agree on one or more mutual ends. Conversely, loss of common meaning leads to a breakdown of social order. At this level, before establishing a new state of collective understanding and action, change is about challenging common meanings and managing the temporary breakdown in social order. What is the common meaning of NCW? Who is managing the transformation? What are the social ‘levers’ of change?

<sup>56</sup> James Coleman, *Foundations of Social Theory*.

<sup>57</sup> Wilfred Drath and Charles Palus, *Making Common Sense: Leadership as Meaning-making in a Community of Practice*, Center for Creative Leadership, Greensboro, NC, 1994.

The *behavioural mechanism* captures the understanding that what people think affects their behaviour.<sup>58</sup> People form commonsense meaning through social interactions and feedback. If a group shares common meaning, collective effort emerges. Paradoxically, the increased connectivity associated with NCW could potentially paralyse action: the network creates more opportunities for interaction and consequently more opportunities to establish meaning, but it also generates a larger amount of information from a broader range of sources, leading to uncertainty and inaction. What will motivate people to take action to change? How can leaders harness self-interest to achieve a collective outcome? How will the individual's identification with the values and norms of their 'tribe' influence their behaviour?

Finally, in order to achieve the macro-level outcome—a network-centric force—the Defence Department must have some way of translating individual behaviour into group-level phenomena. The *transformational mechanism* focuses on how individual and group behaviour combines in complex ways to produce new social and organisational order. How will the desire for change diffuse across the department to achieve the aspiration of *Force 2020* and the *Future Warfighting Concept*?

## **Conflicting Philosophies of Social Order**

Bringing together the drivers of social order in organisations and the mechanisms that enable change makes plain the contrast between the philosophies that underlie a network and those that underlie the dominant system of vertically integrated hierarchy. Tables 1–4 summarise the philosophical

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<sup>58</sup> David Schmidtchen, 'Rethinking the psychological contract between Army and its people', *Australian Defence Force Journal*, Jul/Aug, 1999, pp. 5–8.

differences between the two organisational systems.<sup>59</sup> The contributions of the three mechanisms of change (Situational, Behavioural and Transformational) to the central questions of social order highlight the threats to organisational stability posed by NCW.

The vertical hierarchy and the integrated network are opposite ends of a continuum, and the Defence Department is not located at either. However, the institution's underlying philosophy is closer to a vertical hierarchy than to a network, whereas *Force 2020* signals a clear (and relatively radical) shift towards an integrated network.

## **Meaning**

Table 1 shows that a vertical hierarchy relies heavily on pervasive socialisation and a robust central hierarchy to shape behaviour. A sense of shared understanding and purpose allows individuals to coordinate their behaviour within the constraints of the hierarchy. In an integrated network, shared meaning originates from the constant interaction of individuals. Persistent feedback allows individuals to adapt their behaviour in response to the environment. This creates opportunities for local innovation and the rapid diffusion of social practice.

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<sup>59</sup> Tables 1–4 have been adapted from Michael Hechter and Christine Horne (eds), *Theories of Social Order*, pp. 346–7.

<b>Shared meaning</b>	<b>Vertical hierarchy</b>	<b>Integrated network</b>
How are shared meanings produced?	<i>S</i> : Pervasive socialisation and strong central hierarchy shape and reinforce a sense of shared meaning.	<i>S</i> : Shared meaning emerges from constant interaction.
	<i>B</i> : Shared understanding leads individuals to identify with organisational values and coordinate behaviour within hierarchy.	<i>B</i> : Constant feedback is the basis for behavioural adaptation and the opportunity for innovation.
	<i>T</i> : Centrally coordinated behaviour aggregates to produce social order.	<i>T</i> : Self-organising behaviour aggregates to produce social order.

**Table 1. Shared Meaning—Hierarchy and Network**

### **Values and Norms**

Both in vertically integrated hierarchies and in interdependent networks, normative rules emerge from the positive and negative reinforcement of behaviour. Hierarchies and networks differ in their assumptions about why people cooperate (Table 2).

In a vertical hierarchy, combining pervasive socialisation and external coercion (centrally administered punishment) results in cooperative behaviour. The overriding idea is that individuals cooperate because they have to. In an integrated network, pervasive socialisation remains central to establishing behavioural norms, but the focus is on setting up ‘professional’ values that foster an expectation of cooperation. Individuals cooperate because they want to.

Evolving military professionalism has elsewhere been characterised by the rise of the ‘dual professional’.<sup>60</sup> The dual professional has an expanded sense of community, marked by ‘open arms, long tentacles’.<sup>61</sup> The implication is that the emerging dual professional is both more culturally inclusive and more widely connected than ever before.

The mechanisms that shape the values and norms of the dual professional are more likely to emerge from an integrated network than from a vertical hierarchy. Again, in an integrated network, cultural norms evolve by constant interaction. Peer-to-peer relationships become the primary force in moderating and aligning behaviour.

Values and norms	Vertical hierarchy	Integrated network
How do values and norms emerge?	<i>S</i> : Behavioural consequences lead to normative rules.	
Why do people cooperate?	<i>S</i> : Social environment leads to internalisation of values and/or interest in enforcing norms.	
	<i>B</i> : Internalise core ‘tribal’ values through pervasive socialisation. External coercion fosters cooperative behaviour.	<i>B</i> : Internalise core ‘professional’ values through pervasive socialisation. Cooperation fostered as an expectation.
	<i>T</i> : Cooperative individual behaviours aggregate to produce social order.	

**Table 2. Values and Norms—Hierarchy and Network**

<sup>60</sup> Nick Jans with David Schmidtchen, *The Real C-cubed*, p. 71.

<sup>61</sup> *Ibid.*, p. 71.

## **Power, Authority and Responsibility**

Table 3 highlights the most controversial difference between hierarchies and networks: power distribution. A network spreads power on the assumption that self-interest and interdependence result in collaboration, whereas the prevailing hierarchical system assumes that conflict and efficient resource division arise from a strong central authority. Social exchange is the basis of effectiveness in a network because it produces the feedback necessary to coordinate behaviour at an individual level. Contrast this with the prevailing organisational system, in which effectiveness comes from avoiding the negative outcomes of deviance.

<b>Power, authority and responsibility</b>	<b>Vertical hierarchy</b>	<b>Integrated network</b>
How are power, authority and responsibility managed?	<i>S</i> : Formal organisation leads to conflicts of interests.	<i>S</i> : Recognition of interdependence leads to interest in acting cooperatively.
	<i>B</i> : Conflict leads to demand for mechanism for control, coordination and arbitration.	<i>B</i> : Self-interest leads to coordination and collaboration.
	<i>T</i> : Demand for control leads to formation of central authority, hierarchy and bureaucracy.	<i>T</i> : Interactions produce network ties that aggregate to produce social order.
What makes it effective?	<i>S</i> : Central authority increases the negative consequences of antisocial behaviour.	<i>S</i> : Reliance on local-level interaction and exchange is more efficient than central organisation. Distributing responsibility increases access to the innovative potential of the entire workforce.
	<i>B</i> : The costs of deviance encourage pro-social behaviour.	<i>B</i> : Sense of common purpose motivates individual behaviour and instils legitimacy in individual action.
	<i>T</i> : Cooperative individual behaviours aggregate to produce social order.	<i>T</i> : Self-synchronisation leads to coordinated and cooperative behaviour that aggregates to produce social order.

**Table 3. Power, Authority and Responsibility—  
Hierarchy and Network**



## **Groups and Networks**

The role of groups in influencing individual behaviour is the same in hierarchies and networks. However, different philosophies drive the relationship between groups and the larger organisation. In an integrated network, there is a finer balance between the collective and individual ethics. Strong ties dominate in a vertically integrated hierarchy, so individuals identify with the primary culture. A system of centrally managed regulation punishes small groups deviating from social norms. An integrated network calls for a better balance between strong and weak ties to foster cooperation and innovation. The proper balance depends on the situation, and therefore greater responsibility for keeping the balance falls to the individual. This reflects a shift in the balance of power between a vertical hierarchy and an integrated network. It also reflects an underlying shift in the structure of social order.

<b>Groups and networks</b>	<b>Vertical hierarchy</b>	<b>Integrated network</b>
How do groups influence behaviour?	<i>S</i> : A group controls its members through values and norms.	
How can groups be influenced by the organisation?	<i>S</i> : Central hierarchy punishes antisocial groups or rewards prosocial groups. Strong ties dominate.	<i>S</i> : Network ties (strong and weak) affect individual information, perceptions of group membership and social values.
	<i>B</i> : The costs of deviance encourage pro-social behaviour. Individuals identify strongly with primary culture.	<i>B</i> : These internal states affect individual behaviour. Strong ties are the source of identity; weak ties are the stimulus for cooperation.
	<i>T</i> : Group prosocial value aggregates to produce social order.	<i>T</i> : Individual action that contributes to the larger society aggregates to produce social order.

**Table 4. Groups and Networks—Hierarchy and Network**

## **Pressure for Change**

In political, economic, social and organisational senses, plentiful information, constant interaction and increased openness go with increased organisational connectivity. The pressure on the Defence workforce and the organisational systems that support it has never been greater. Preserving the military advantage in an increasingly transparent and information-rich society will test the social order of the vertically integrated organisations that make up Defence.

In a fluid strategic environment, the advantage is likely to be in Defence's less tangible (and messier) cultural, social and organisational systems. These systems will provide the

capacity to learn, innovate and adapt. Defence's capability depends increasingly on the capacity of the workforce to absorb and integrate new technology. This will require constant attention to long-term organisational change—and the devil, along with capability, will be in the detail.

Another feature of widespread connectivity is a much more competitive environment, in which speed, surprise and innovation are the basis of competitive advantage. This has repercussions for the level and the frequency of strategy and decision-making activity. Fast and innovative responses to threats require organisational decentralisation so that local leaders can take strategic decisions—the 'strategic private' effect.<sup>62</sup> Innovation will increasingly rely on leaders at the periphery, rather than on those at the centre.

The competitive pace of change will collapse strategy and decision-making from the measured cycle of well-defined episodes into a much more continuous process, introducing adaptability and fragility as ever-present organisational constants. A more independent and interdependent organisational activity depends on dynamic information transfer at the organisation's periphery (self-synchronisation) rather than on strategy and decision-making that emanates from the all-knowing centre or hierarchy. Strategy and decision-making is becoming a pervasive feature of organisational life, rather than an activity for a few in the hierarchy. More people are going to be more involved in these activities, more often than ever before. Hierarchy is not yet dead, but in a network environment it is under pressure to change.

Defence currently conforms to an organisational philosophy of vertically integrated command and control. Essentially, at

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<sup>62</sup> Lieutenant General Peter Leahy, Speech by the Chief of Army to the Defence Watch Seminar, National Press Club, Canberra, 10 February 2004.

the organisational level, this is a system for managing information and efficiently coordinating collective action. At the individual level, clear division of authority (and responsibility), combined with adherence to process, allows people to decide what to do in response to persistent uncertainty. The organisational system reduces uncertainty by providing a social framework that specifies how individuals should behave, as well as their relationship to others. In a hierarchy, people reduce their uncertainty about why to act and what to do by reducing all the available information to only that which they need in order to perform a task at their level and in their specialisation. Is this organisational system efficient in an environment characterised by speed, innovation and surprise? Does this system exploit connectivity and interdependence? Does it free the innovative capacity of the workforce? Is there another way?

### **Capacity for Change**

Successful transition to a network-centric force depends on Defence's capacity for change and, in particular, on its capacity to absorb technological innovation. The capacity for change, in turn, depends on the social architecture of the organisation—the systems that create and sustain intellectual and social capital. The technical transition to a network-enabled force requires an organisational system that increases the productive capacity of the workforce by maximising individual and variable human intellectual effort.

Networks increase the human contribution to producing capability. Adaptability, versatility and innovation arise from the human capacity for inventiveness and problem solving. The current hierarchical model, which reflects Defence's approach to change management, relies heavily on centrally developed and complete plans that the rule-following workforce carries out as best it can.

In a network, the centrally developed plan might not be complete. Networks distribute strategy and decision-making: the workforce continues to build and refine the plan through network interaction. This increases the capacity of the organisation by increasing the breadth of activity across the workforce. Strategy and decision-making are as much bottom-up as they are top-down. This is mission command for the network age; and, like mission command, it depends on a highly skilled workforce. Networks do not replace hierarchies, but a hierarchy might behave differently in a network.

Transition to a network-centric force will require different thinking about the drivers of social order in Defence. Joint and service warfighting doctrine already recognises this shift through ideas like self-synchronisation. However, these patterns of thinking have not found a foothold in the corporate Defence groups responsible for enabling and fostering organisational change.

If Defence is to make the transition to a network-centric force, the focus of change management should reflect the principles of the network. Change managers should focus on the elements of social order—meaning; values and norms; power and authority; and groups and networks. This micro-level of change management delivers macro-level goals because it accounts for the factors that shape human behaviour in network-enabled organisations and does not use an idealised model of top-down organisational change.

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