



Redefining Warfare

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The most influential interpreters of the revolution in military affairs wrought by the early nineteenth century campaigns of Napoleon were Antoine Jomini (1779-1869) and Carl von Clausewitz (1780-1831). Jomini analyzed warfare within the context of the eighteenth century Enlightenment philosophy that sought to explain the world through applying reason, logic and rational thought to derive universal and enduring principles. Conversely, Clausewitz's philosophical foundations arose in reaction and opposition to the Enlightenment, focusing instead on the importance of emotion, passion and intuition in explaining war.¹ However, while Clausewitz is today considered the outstanding theorist of war, his works are complex and difficult to read with his true meaning often obscure. In contrast, Jomini's lucid and prescriptive works, in particular his exposition of the fundamental principles of war, have brought both a clarity to military planning and operations, and a valuable, well-used framework for the study and teaching of warfare.² Clausewitz may be more significant for scholars, but for two centuries Jomini has proved of more use to practical military professionals.

Jomini's work in reflecting the spirit of his times has some shortcomings. He isolated strategy from its political and social context, ignored the impact of technological change and disregarded conflicts where asymmetric opponents fought each other.³ These shortcomings, in matters important in contemporary warfare, suggest that abstract principles rarely endure indefinitely. Principles to be most useful need to be relevant to, and appropriate for, their times. Militaries though tend to be conservative, and

most use principles of war based more upon early nineteenth century thinking than that of today's information age.⁴

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This article proposes fresh principles of war based on an examination of war in our times. The principles offered are intended to advance discussion about current operational problems and the building of future forces by describing the contours of modern warfare. They are not intended to be didactic but rather points of departure. Lists by their nature are exclusive, rather than inclusive, raising as much concern over what has been left out as has been included. Lists inherently invite dissent and disagreement that can enhance understanding of complex problems and issues through a dialectical process of exchanging propositions and counter-propositions.

Today's World

Changing Wars

While many alternatives have been tried, the political and economic system that has survived and prospered most since Jomini's time has, perhaps unexpectedly, been liberal democracy and its symbiotic



A US Predator Unmanned Aerial Vehicle is inspected following a mission in Iraq. Photo Courtesy of US DoD

twin, the market economy.⁵ About half of the world's states are now democracies; combined they represent some 85 per cent of the total global GDP, and have effectively established a stable, prosperous peace amongst themselves.⁶ These states are not constructed around objectives such as conquering other peoples, geographical expansion, spreading ideology, achieving regional or global political domination, ensuring a particular ruling elites' longevity, the salvation or moral perfection of its citizens or defending a religious faith. The liberal-democratic, market economy state's goals are instead minimalist, mundane and secular being simply the physical well-being of its populace.

China appears the major exception as an emerging great power that is not liberal-democratic, although it is seemingly intent on integrating fully into the global economy. The Chinese government appears intent on economic success, as the popular slogan 'to get rich is glorious' attributed to Premier Deng Xiaoping illustrates. The nation's

peacefulness and economic desires may be simply, as some critics assert, to ensure the ruling Communist party survives where other totalitarian regimes have failed. Irrespective, the result today is a stable, albeit sometimes troubled state, actively and generally peacefully working towards being part of the global prosperous core, not global dominance.

For the people of these core states, war is perceived as an aberration, a failure of policy, to be concluded as rapidly as possible. The spread of liberal democracies and the market economy, combined with the fear of nuclear war and the process of globalization, has created a state of widespread peace unique in recorded history.⁷ The developed states in the international system today form a security community amongst which war is unthinkable; this significantly changes international politics, calling into question traditional theories of war.⁸ This is an imperfect peace, though with civil wars becoming more common especially in poor countries with partly democratic, partly

authoritarian governments lacking in legitimacy, competence and capacity. Although lessening since the end of the Cold War, the incidence of intrastate conflicts remains high particularly when compared to the historical experience since the Napoleonic Wars.⁹

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Intrastate wars have two significant differences when compared with international wars. Firstly, civil wars last far longer; typically civil wars last around seven years compared with some six months for typical international wars. Moreover, the length of civil wars is



increasing with the average duration of civil wars during 1980–1999 almost double that of the preceding 1960–79 period. Secondly, for a decade after the civil war finishes, there are very high risks of the conflict restarting.¹⁰ About half of these risks are inherited from the characteristics that originally made a country prone to conflict; the other half of the risk arises from changes brought about by the conflict.¹¹

Outside of the peaceful core, there are many weak and failing states suffering endemic internal conflict and disorder; a situation likely to continue. Over the next fifty years, the number of stable, peaceful states is predicted to increase from ninety-six to 102, but the number of weak and failing states is only expected to drop from sixty-one to fifty-four. Importantly, conflict globally is now becoming increasingly concentrated in these marginalized states; their combined global share of conflict, albeit it intrastate, is forecast to rise from 82 per cent in 2000 to 94 per cent by 2050.¹²

The most prevalent type of war in the twenty-first century looks set to be protracted, persistent civil wars in weak and failing states, however interstate wars, while unlikely, could have serious consequences for those nations involved. The possibility of interstate wars cannot be disregarded by modern military forces, but preparing for them should no longer dominate defence debates, budgets and doctrines, especially as today civil wars in distant countries can have serious consequences for the peaceful, prosperous global core.

Weak and failing states racked by civil wars provide conditions that allow large-scale organized crime and terrorism to develop and be sustained. Most transnational criminal groups today operate out of such weak and failing states.¹³ Worryingly, criminal and terrorist groups are becoming increasingly unified, with profits from criminal activities often diverted to support terrorist activities.¹⁴ Safe havens beyond the effective control of the state within whose borders they lie seem necessary for large-scale, transnational terrorist organizations, such as Al-Qa'ida, to develop. The numbers of countries suffering from civil wars provide such

organizations a choice of location, and when evicted, as from Afghanistan, relocation. After the 11 September attacks, ignoring such failing states is no longer a sensible option.

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The solution lies in encouraging failing states to adopt effective governmental systems, recognized as legitimate by their citizens, with responsive political systems and effective security forces.¹⁵ With this improved governance, these states should experience equitable economic growth and be able to progressively become part of the stable, peaceful, prosperous core; the problem state then becomes part of the solution. This is not a simple or quick solution.

Enduring solutions to the civil wars endemic to failing states will often require external interventions involving a careful blend of diplomatic, political, economic and military efforts.¹⁶ Such external interventions appear behind the sharp reduction in civil wars since the 1990s.¹⁷ A recent study of several different approaches indicates that the most effective single instrument is external military intervention under Chapter VII of the United Nations Charter. This type of intervention needs both to enforce peace post-conflict, and to maintain it throughout the prolonged period – about a decade – during which the risks of reversion to conflict are very high.¹⁸ Providing long-term security appears the foundation of a lasting peace.

This approach to achieving a durable peace is quite different to that driving

warfare in Jomini's time. Generally, the goal in the early eighteenth century was a grand, large-scale, short and decisive battle where the opposing army would be substantially destroyed allowing the victor to impose peace.¹⁹ Such climactic battles have traditionally been at the heart of the Western style of warfare.²⁰ However, at least since the seventeenth century Thirty Years' War, warfare has proven stubbornly indecisive. War may, at times, be the lesser evil but in recent centuries, the enduring lesson has been that no military defeat is final. History suggests that a lasting peace is best created through victories that are moderate, judicious, politically tolerant, acceptable to the vanquished and the victors, and that integrate the defeated nation into the international order.²¹ It has proven essential to conduct military operations with constant regard to the peace desired. Combat activities must be carefully crafted and waged so as to create a peace better than when the war commenced, not a new political circumstance where future wars are almost inevitable.²²

Globalization Continues

The process of globalization, already underway in Jomini's time, has progressively and significantly reduced the variety of social, economic and ideological systems across the globe. The state, governance structures, economic systems, concepts of religion and of nationhood have become very similar globally; a trend matched at lesser levels with growing uniformity in modes of dress, timekeeping practices, languages, naming conventions, foods, sport and leisure. Simultaneously, societies have internally become more complex with the emergence of innumerable specialist professions and occupations, states gaining new means to control their citizens, and the growth of public opinion as an important political factor.²³ This deepening uniformity and complexity has allowed both the growth of a complex and generally beneficial interdependency between states, and a consequent decline in their previously jealously guarded national sovereignty. A wide array of international networks and linkages has developed, deeply

enhancing the co-operation and collaboration between states, and dramatically improving their citizens' prosperity.

An adequate sense of the contemporary international system can no longer be gained by only considering states, as there are now innumerable interacting networks connecting many different kinds of actors operating at many different levels. The state remains important but principally only in creating the conditions that determine the extent of the networks linking a nation's non-state actors to the wider world. States, however, have considerable difficulty regulating, controlling and policing these interactions as the network linkages between internal non-state actors and external agencies become progressively more extensive, denser and intense. While most are beneficial, some can be dangerous. The 11 September attacks demonstrated that non-state actors can use the modern globalized environment to carry out terrorist attacks that can be as coercive and fear-inducing as attacks by states, although the survival of the state under attack is not directly threatened.²⁴

Without this trust true co-operation and collaboration is impossible, and this division simply aids adversaries

Contemporary non-state actor threats are diverse, persistent and broad-based, mirroring the increasing internal complexity of states. The focus on the war on terror has obscured five other similar global wars also currently underway: the illegal international trade in drugs, arms, intellectual property, people, and money. These long-running 'five wars of globalization' pit states against agile, well-financed networks of highly dedicated individuals. Countering such transnational non-state actor threats requires recognizing both their

mutually reinforcing nature and that they represent 'a new global trend that shapes the world as much as confrontations between nation-states did in the past.'²⁵ The decline of the interstate war has not meant the end of violence or of threats, but rather the development of new forms.

The growing interdependence of states under the impact of globalization means that states can no longer be insulated domestically from threats, coercion and violence; isolationism and unilateralism are no longer viable policy options. Countering transnational non-state actor threats inherently requires a multilateral approach by the stable, wealthy, peaceful states of the centre of the world economy; a globalized age requires a global response favouring co-operative security.²⁶

Technology Progresses

A distinctive aspect of the modern world that owes much to the Enlightenment philosophy that influenced Jomini is the pervasiveness of technology. As human societies have become more complex, the numbers of people engaged in scientific and technological activities has increased dramatically. Given this, the rate of increase of human knowledge has now become almost exponential.

The practical implementation of these new ideas and concepts is uneven, however, and mainly manifested in information technologies. In other sectors by comparison, technological change appears much slower; transport in some respects is slower and less effective than 100 years earlier, while there is no productivity growth in many service industries. Instead, the productivity improvements and economic growth of contemporary societies rests principally on rapid advances in information technology. Accordingly, the creation, dissemination and application of knowledge and information has become powerful and influential, directly influencing the way modern societies are structured and function, and the way they make war.²⁷

Military forces have actively embraced information technologies aiming to create 'systems of systems' networked together to gain sharply

improved combat effectiveness and efficiencies. Notably, network-centric warfare is not just an approach for militaries. Peaceful protest movements, large-scale criminal organizations, and transnational terrorists are today organized as distributed, multidimensional, networks that use the latest communication technologies to act conjointly across the world.²⁸ The nature of the modern world means wars in all forms now tend to be netwars.²⁹

Fresh Principles?

The processes of spreading liberal democracies and market economies, of globalization, and of advancing technology have created a world different in many aspects to that of Jomini's late eighteenth century Europe, which was still structured around the principles of the 1648 Treaty of Westphalia. The world has become more uniform, although the imposition of this uniformity remains contested by some, and states internally have become more complex. The world can now be viewed not just as a large number of sovereign states but as also comprising two parts: a stable, peaceful, prosperous centre and a turbulent periphery of weak and failing states. Based on the experience of the last half of the twentieth century, by the middle of the twenty-first century almost all conflict globally will be intrastate and concentrated in weak and failing states. These conflicts, in leading to a collapse of proper state governance, can allow transnational non-state actor threats to develop that may use the networks created through globalization to penetrate deep into peaceful states, adversely impacting their security in diverse ways including through catastrophic terrorism.

Whilst Jomini wrote about major battles between the armies of European states, for the foreseeable future almost all wars are expected to be civil wars. Further, Jomini's methodology has been criticized for being inherently reductionist. However, no single approach to studying an activity as complex as war can be expected to be all-encompassing.

The fresh principles suggested below are intended not as universal and



enduring principles, but to support contemporary operational thinking and to inform current debates on future force structures. The principles proposed seek to be clear, reasoned, appropriate to today's circumstances, and useful. Although in following the logical and rational Enlightenment paradigm, the proposed principles are incomplete, passing over less tangible aspects such as passion, will, morale and intuition. For these, Clausewitz retains importance.

One: A Better Peace

The objective of a better peace underpins all else. Military activities today need undertaking in a way that achieves the strategic goal of bringing hostile states, or states breeding non-state actor threats, in a political, economic and social sense into the inner core of prosperous states. This particular conflict termination goal based on the needs of the liberal-democratic, market economy state, and the backdrop of the experience of warfare since Jomini's era, has marked implications for the ways and means of waging war. Instead of focusing efforts on a traditional decisive victory, the attention is now on undertaking combat operations in a manner that achieves a durable and robust peace superior to the *status quo ante*.

Two: Network

Reflecting contemporary society and technology, the fundamental characteristic of modern warfare against both states and non-state actors is creating and using networks. Deep, broadly-based, co-operative and collaborative networks are now being built within and between states and military forces. Domestically, through integrating the defensive efforts of a state across the many diverse and different arms of government, critical synergies can be gained and discordances avoided; a 'unity of effort' can be achieved.³⁰ These benefits can be extended internationally through engaging friends and allies globally at all levels, and creating deep partnerships. In employing these networks, swarm techniques can be

used across the spectrum of warfare from meeting the threats of the 'five wars of globalization' to winning major regional conflicts.³¹

Three: Decentralize

Implicit in a network, emphasis is placed on the use of flat hierarchical organizational structures, with numerous small groups imbued with purpose and the commander's intent. These small groups can operate independently to meet the overall goal of a better peace, are able to make ready use of network warfare concepts and technology to swarm, and make timely responses to events. This decentralized approach emphasizes an open organizational structure with skilled staff, suitable technical resources, and matching doctrine and culture to allow the optimum interface and networking with a wide range of outside domestic and external agencies, organizations and resources. Such decentralization also mirrors aspects of organizations operating within the market economy of the prosperous states.

Four: Constant Activity

The greatest strength of the prosperous states compared to potential or actual adversaries is their unequalled ability to harness comparatively enormous resources to achieve their goals. The use of asymmetric warfare by most adversaries reflects their inherent resource constraints. Making use of the prosperous states' great strengths in scale, wealth and technology can allow continual and simultaneous actions, unsettling and unbalancing an opponent, and allowing no time to recuperate. Time works against an adversary. Each action in itself does not necessarily need to be perfectly targeted or executed; simply a large number of actions in themselves confuse and fragment the adversary. This is a cumulative strategy, rather than the Napoleonic sequential strategies analyzed by Jomini. A cumulative strategy is comprised of numerous small actions that are not sequentially interdependent; each individual action is no more than a single statistic, an isolated plus or minus at arriving at a final result.³²

A cumulative strategy can make best use of the prosperous states' greatest relative strength.

Five: Global Roaming

Contemporary adversaries have the potential to strike anywhere at anytime, giving warfare a truly global dimension. Similarly, defensive forces need to be able to appear and operate globally, and give an impression of being omnipresent. This principle should be employed in combination with the previous principle of constant activity to achieve the maximum synergistic effect and keep an adversary unbalanced.

Six: Understand

Sun Tzu writing towards the end of the sixth century BC noted that: 'If you know the enemy and know yourself, you need not fear the result of a hundred battles.'³³ Contemporary warfare is no different although, arguably, the understanding necessary to achieve victory today in a globalized world, built on deep and complex interdependencies, needs to be even more all-encompassing and deeper. Deep understanding is now needed of friendly armed forces and states, foreign cultures and societies, and of complex, dispersed and hidden adversaries.

Seven: Trust

As no single state can now make 'a better peace' unilaterally, effective co-operation and collaboration between states and their constituent elements is critical. Contemporary warfare is more effective and efficient when a deep understanding of the situation can be exchanged quickly by all means available, when states actively support each other and can be depended upon, and all can be relied on to keep information from adversaries. However, to work as partners toward a common goal of a better peace, friends and allies must trust each other. Without this trust true co-operation and collaboration is impossible, and this division simply aids adversaries. Establishing trust is by no means easy but it ultimately forms the fundamental basis for success – for without trust, effective and efficient networks cannot be established.

Eight: Shape

Adversaries today rely on asymmetric warfare techniques to counter armed forces superior to them in almost all measures. A significant feature of these smaller adversaries is their capacity to operate in four dimensions compared to our more traditional focus on tactical activities seeking immediate battlefield success. Countering this requires deliberately taking actions to shape the future global battlespace; to operate in time to make situations develop as favourably as possible. We need to think ahead to shape future successes, to take preventive action to ameliorate unpleasant surprises and setbacks, to build alliances and partnerships in advance, and to deceive and undercut adversaries before combat is joined. Understanding the different timescales implicit in the different shaping measures that are undertaken is important.³⁴

Nine: Diversity

Today's adversaries are not the massed armed forces of the Soviet Union, where possessing a defending force of great depth and redundancy was critical. With contemporary adversities now strikingly different, there is greater utility in engaging an adversary, sequentially or simultaneously, using many dissimilar and diverse means. A broad engagement, rather than one in depth, as during the Cold War, is now more efficacious. Today's smaller adversaries can perhaps counter one or two techniques, but they find countering several different types impossible. Moreover, a more diverse force will always have a greater inherent flexibility to respond to new events in an appropriate manner.³⁵ Such a heterogeneous force would emphasize being able to employ many different capabilities and competencies across space and time.

Conclusion

The political and social context of the time influences the type, nature and manner of wars waged. The modern world can be perceived as comprising a peaceful, prosperous core and a turbulent periphery, influenced by an ongoing process of globalization and continually advancing technology, where interstate wars are

increasingly infrequent, but persistent civil wars breed new transnational non-state actor threats. This world is sharply different from the early nineteenth century Europe, in which Napoleon fought battles analyzed by Jomini to derive fundamental principles of war to provide 'a compass to the chief of an army'.³⁶ Jomini's approach has inherent shortcomings, but after two centuries, the concept still has merit in providing a useful framework for warfighters to comprehend and understand their profession. However, Jomini's specific principles appear pertinent more to the nineteenth century than today. Fresh principles of war in tune with the world in which we find ourselves are needed. ■

NOTES

- 1 Azar Gat, *The Origins of Military Thought: From the Enlightenment to Clausewitz* (Oxford: Oxford University Press, 1989), pp. 106, 174–176.
- 2 Brian Bond, *The Pursuit of Victory: From Napoleon to Saddam Hussein* (Oxford: Oxford University Press, 1996), pp. 44–47.
- 3 John Shy, 'Jomini', pp. 143–185 in Peter Paret (ed.), *Makers of Modern Strategy: from Machiavelli to the Nuclear Age* (Princeton New Jersey: Princeton University Press, 1986), pp. 164–176.
- 4 For example, the US armed forces use as principles of war: Objective; Unity of Command; Offensive; Security; Mass; Surprise; Economy of Force; Simplicity; and Manoeuvre.
- 5 Francis Fukuyama, *The End of History and the Last Man* (London: Hamish Hamilton, 1992), pp. 39–51.
- 6 Adrian Karatnycky, *Freedom in the World 2003: Liberty's Expansion in a Turbulent World*, 2003, http://www.freedomhouse.org/research/free_world/2003/akesay.htm, [accessed 15 August 2003].
- 7 See Michael Howard, *The Invention of Peace and the Reinvention of War*, Revised Edition (London: Profile Books, 2002).
- 8 Robert Jervis, 'Theories of War in an Era of Leading-Power Peace', *American Political Science Review*, Vol. 96, No. 1, March, 2002, <http://www.uoregon.edu/~rmitchel/ir/readings/Jervis-APSR2002.pdf>, [accessed 13 January 2005], p. 1.
- 9 *Human Security 2005: War and Peace in the 21st Century*, Human Security Centre, The University of British Columbia, Canada, [accessed 1 January 2005], pp 150–152.
- 10 Paul Collier and Anke Hoeffler, *The Challenge of Reducing the Global Incidence of Civil War*, Revised, 26 March 2004, Copenhagen Consensus Challenge Paper, 2004, http://www.copenhagenconsensus.com/Files/Filer/CC/Papers/Conflicts_230404.pdf, pp.14–17.
- 11 *Ibid.*, p.17.
- 12 Paul Collier, Lani Elliott, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol, Nicholas Sambanis, *Breaking the Conflict Trap (A World Bank Policy Research Report, Co-publication World Bank and Oxford University Press, 2003)*, <http://econ.worldbank.org/pr/CivilWarPRR/text-26671/>, [accessed 22 June 2003], pp. 108–110.
- 13 Mary Kaldor, *Perspectives on Global Governance*, London School of Economics, <http://www.iddri.org/iddri/telecharge/G8/kaldor.pdf>, [accessed 20 June 2003], 2003, p.3.
- 14 Joseph L. Albini, (ed.), *Organized Crime: The National Security Dimension*, George C. Marshal European Centre for Security Studies Conferences, Aug 29-Sep 2, 1999, pp.40, 74 and 79.
- 15 Mueller, *Op.cit.*, p. 511–513.
- 16 Richard L. Kugler, 'Controlling Chaos: New Axial Strategic Principles', in Richard L. Kugler and Ellen L. Frost (ed.), *The Global Century*, Vol.1 (Washington D.C.: National Defense University, 2001), pp.75 and 105.
- 17 *Human Security 2005: War and Peace in the 21st Century*, *op.cit.*, p. 155.
- 18 Collier and Hoeffler, *Op.cit.*, p.22.
- 19 Russell F. Weigley, *The Age of Battles: The Quest for Decisive Warfare from Breitenfeld to Waterloo* (London: Pimlico, 1991), p. xii. Clausewitz placed almost an exclusive emphasis of battles. Jomini considered battles important, although armies could also be destroyed by strategic maneuver, Gat, *Op.cit.*, p.116.
- 20 Victor Davis Hanson, *The Western Way of Warfare: Infantry Battle in Classical Greece* (New York: Oxford University Press, 1989), p.9.
- 21 Bond, *Op.cit.*, p. 197–202.
- 22 B.H. Liddell Hart, *Strategy*, 2nd Revised Edition (New York: New American Library, 1974), p. 353.
- 23 C.A. Bayly, *The Birth of the Modern World 1780–1914: Global Connections and Comparisons* (Malden MA: Blackwell Publishing, 2004), pp 472–486 and pp.12–19.
- 24 Robert Keohane, *The Globalization of Informal Violence, Theories of World Politics, and 'The Liberalisation of Fear'*, Social Science Research Council, 2001, http://www.ssrc.org/sept11/essays/keohane_text_only.htm, [accessed 15 August 2003], p. 8.
- 25 Moisés Naim, 'The Five Wars of Globalisation', *Foreign Policy*, January – February, 2003,



- <http://www.foreignpolicy.com/wwwboard/five wars.html> [accessed 10 May 2003].
- 26 Christopher Coker, 'Globalization and Insecurity in the Twenty First Century: NATO and the Management of Risk', *Adelphi Paper 345* (Oxford: Oxford University Press, 2002), pp. 37–40.
- 27 Alvin and Hedi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century*, (Boston: Little, Brown and Company, 1993), pp. 18–25 and pp. 57–80.
- 28 See John Arquilla and David Ronfeldt, eds., *Networks and Netwars: The Future of Terror, Crime, and Militancy*, RAND, MR-1382-OSD, Santa Monica, CA, 2001.
- 29 Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire* (New York: The Penguin Press, 2004), pp. 55.
- 30 Morgan, et al, *Op.cit.*, p.36.
- 31 See John Arquilla and David Ronfeldt, *Swarming & The Future of Conflict*, RAND, DB-311-OSD, Santa Monica, CA, 2000.
- 32 J.C.Wylie, Rear Admiral, USN, *Military Strategy: A General Theory of Power Control* (New Brunswick: Rutgers University Press, 1967), p.24.
- 33 Sun Tzu, *On The Art Of War*, Translated from the Chinese by Lionel Giles, 1910.
- <http://www.chinapage.com/sunzi-e.html>, [access 30 December 2004].
- 34 Lesley Seeback, 'Cadence, War and Security', *Australian Journal of International Affairs*, Vol.58, No. 4, pp.494–510, December, 2004, pp 504–507.
- 35 Peter Layton, 'Looking Forward: A Defence Force Structure for the Modern World', *AQ: Journal for Contemporary Analysis* (Vol.75, Issue 4, July-August 2003) pp.12–13.
- 36 Jomini, *Treatise on Military Operations*, New York, 1865, p.18 quoted in Gat, *Op.cit.*, p. 112.

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