



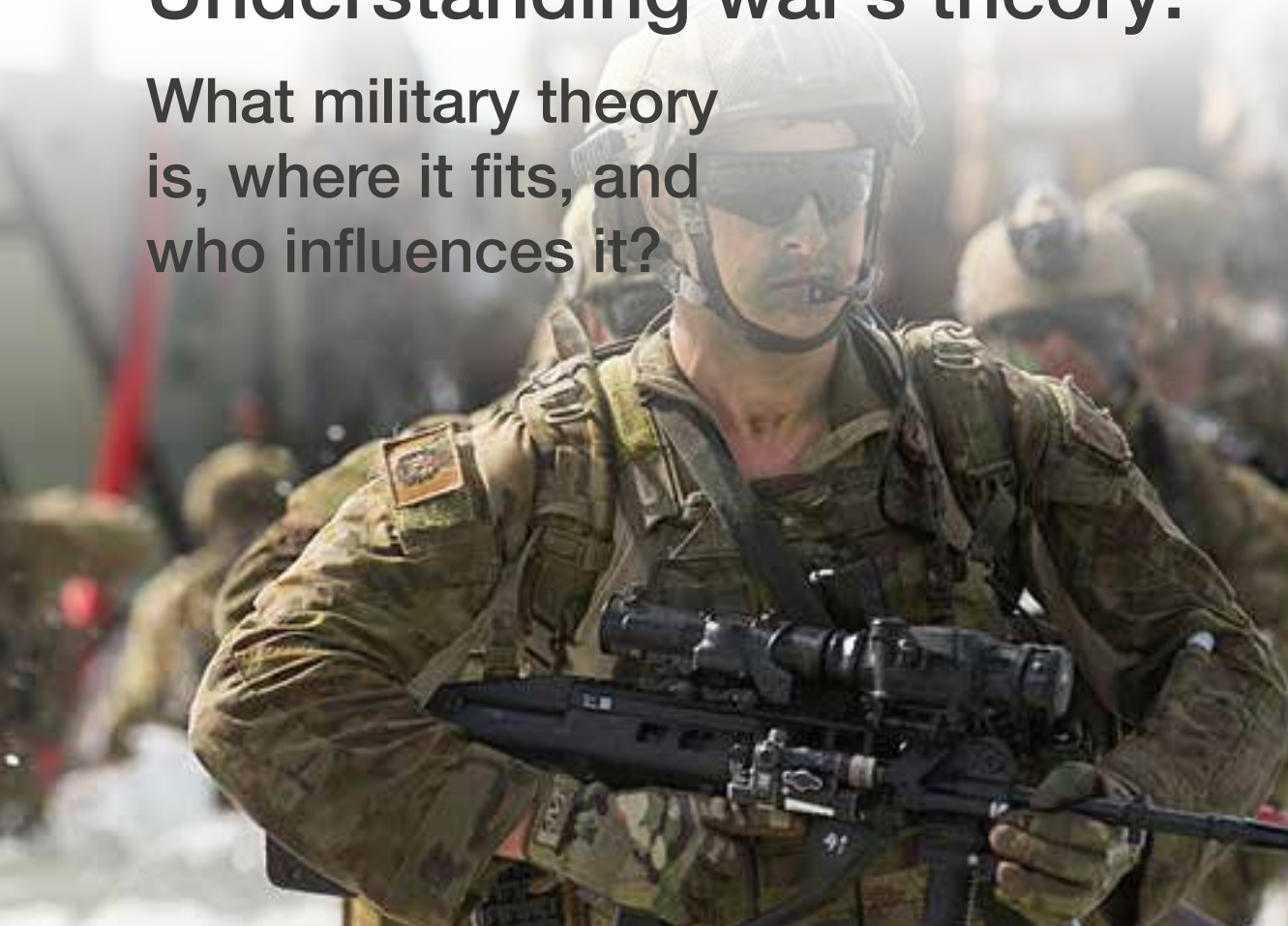
Army

Australian Army Occasional Paper
Conflict Theory and Strategy 001

April 2018

Understanding war's theory:

What military theory
is, where it fits, and
who influences it?



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Lieutenant Colonel Nick J Bosio, CSC

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CONFLICT THEORY AND STRATEGY SERIES

This paper is part of the Occasional Paper – Conflict Theory and Strategy Series and is published in line with the Chief of Army's primary task for AARC: to foster knowledge and debate about the profession of arms. Since warfare began, military leaders have considered what they do and studied the theories behind their actions. Today we study many of these thinkers and writers from the past while considering how their thinking fits into the modern construct of warfare both now and into the future. The unique challenges of modern conflict prompt the military thinkers of today to study the theory of warfare with renewed enthusiasm. This paper, and the others in this series, will add significantly to the body of knowledge in the area of conflict theory and strategy.

Abstract

Many military professionals and academics outline the importance of military theory and the need to study it. Some, like Colin Gray, even highlight how understanding it allows the profession of arms to better adapt in war. Given these wise words, would it not seem important to know ‘what’ military theory is? Is it not significant to know who has shaped it? How do we, as professionals, tell if something is military theory, or just opinion and conjecture? Knowing what military theory is, and what it is not, is vital. It helps identify what writings further our understanding of war and warfare, and guides professional military education and research for future doctrine and training. This work answers the questions of what military theory is, where it sits within the wider context of the study of conflict, and which theorists are key in defining its body of knowledge.

The work first defines **what military theory is**. Military theory is a field of study that seeks to understand the phenomena of war and its links to wider conflict; and provides a framework for the valid creation and dissemination of the knowledge of war and warfare. In other words, military theory is the epistemology of war. This definition highlights that research into military theory is grounded in the philosophy of scientific inquiry and, much like applied history, must use broad scientific methods – using hypothesis and empirical data based in history; not just a single incident, war or technological advancement – to develop its concepts. Understanding this also provides a guide to test whether a new or modern idea is effective ‘military theory’, or merely ‘military notion’. The definition also indicates that the focus of military theory is the development of first principles knowledge about war and warfare. It is this knowledge that allows planners,

commanders and senior decision makers to adapt their know-how of war fighting to changing situations, environments and political objectives. It is also this knowledge that can be enhanced through wider study.

The analysis of what military theory is, also demonstrates **where military theory fits** within wider academic disciplines. Although other humanities disciplines like history can support military theory, its focus on applied theory gives it strong links to other applied social sciences like political science, international relations and economics. These other disciplines overlap with military theory, and provide an avenue to potentially advance military theory's understanding of power, influence and war's wider links to conflict. Such links assist in broadening the military theory body of knowledge – a body of knowledge that is not codified, but is instead shaped by foundational theorists.

Who these foundation theorists are, or **who is most influential**, is also answered by this work. By analysing the curriculums of staff colleges around the world, this work has identified the top 20 theorists currently accepted as most influential. The analysis also suggests a normalising of military theory across the globe, including a possible convergence between the conceptual Eastern and Western ways of war.

Overall, this work provides a definition for military theory and highlights the key theorists that shape our views on it now and into the future. This is supported with guidance that allows us to test future theories. Understanding what military theory is and who shapes it lays the foundation to allow the profession to debate where future advancements in military theory should focus to best support planners, commanders and senior decision makers.

Acknowledgements

This monograph is based in part on my ongoing PhD research entitled 'On War's Theory: Finding a Relationship Between Military and Systems Theory.' It is derived from one of my foundational chapters that considers what military theory is and who influences it. As an edited version, the data collected from staff colleges, as well as the analysis of Agenda-Setting Theory and its adaption to military education, is not included. However, it is available on request.

Because this monograph has been so heavily based on my ongoing research, I would like to firstly thank my PhD committee; Professor John Blaxland (Chair), Dr Russell Glenn and Honorary Associate Professor Barry Newell; for the assistance they have provided up until this point.

The data collected from staff colleges would not have been possible without the support and efforts of the Directorate of Protocol and Visits, International Policy Division (Australian Department of Defence); the Directorate of International Engagement – Army and their liaison officers (Australian Army); and the Defence Attachés stationed in Canberra. Furthermore, I wish to acknowledge the support provided by the commanders and staff of the following institutions (in national alphabetical order): the Royal Brunei Armed Forces Defence Academy; the Canadian Forces College; Bundeswehr Command and Staff College (Germany); Netherlands Defence College; the Centre for Defence and Security Studies (Massey University, New Zealand); the New Zealand Defence Force Command and Staff College; the Singaporean Armed Forces Command and Staff College; Spanish Joint Staff School; US Army War College; and US Marine Corps Command and Staff College. Without these institutions' support, there would have been no staff college information for the research.

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The author

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Chapter 1 – Why military theory?

An introduction

General theory [of war] has no difficulty coping adequately with changing strategic contexts and recently novel-seeming conflict. The general theory both of war and of strategy insists that they address and command phenomena that effectively are permanent in nature, but also are ever certain to manifest themselves in belligerencies that can be very different in character. Furthermore, the rich diversity in character of conflict was as plainly discernible in ancient times as it is today. Then, now, and in the future, the phenomena are captured well enough in the general theories of war and strategy.

Colin Gray, 'Politics, Strategy and the Stream of Time'¹

Colin Gray's discussion highlights how understanding theory enables militaries to operate in, and adjust to, changing circumstances within war and broader conflict. Given these wise words, would it not seem important to know what military theory is? Should we not understand where it fits within the great disciplines of knowledge? Is it not vital to know who has shaped it? How do we, as professionals, further military theory if we do not know what it is? Is writing a blog on ideas such as Clausewitz's centre of gravity a part of military theory, or just general discussion? What about doctrine – does it come before or after theory? If understanding military theory allows the profession of arms to better adapt in war, then why should we, military professional and academics alike, consider other areas of study? If we do, which other disciplines are useful?

Knowing what military theory is, and what it is not, is vital. It helps highlight what writings relate to military theory – furthering our understanding of war and warfare – and what is opinion or historiographical discussion. It guides professional military education, shaping our awareness of the general theories that relate to war and specific theories relevant only in certain contexts. It helps to define the body of knowledge, and is itself defined by the theorists we chose to study. More importantly, it helps us understand which other disciplines relate to the phenomenon that is war – linking military theory to areas of political, economic and social study.²

Although many texts detail the importance of theory to military endeavours, few describe what is meant by the term. Colin Gray's description above highlights what military theory provides, but does not define what military theory is. His words are echoed by many historical military thinkers. Antoine-Henri Jomini, a Swiss officer who was a French and Russian general during the Napoleonic Wars, viewed theory – or 'the art of war' – as essential '... for a general, or for a staff officer, [as] this knowledge is indispensable.'³ Julian Corbett, one of the great maritime theorists, highlighted that theory's '...main practical value is that it can assist a capable man to acquire a broader outlook', thereby increasing the likelihood of success.⁴ Mao Tse-tung, the founding father of the People's Republic of China and a skilled insurgency general, indicated that '[e]pistemologically speaking, ...[only] by taking an objective all-sided view in making a study of war can we draw correct conclusions on the question of war.'⁵ These, and other, military thinkers highlight its importance, but do not define what military theory is. This is further clouded by the *Encyclopaedia of Military Science*. It provides an entry for 'military science' as an overarching area of study. It then highlights that '...military science often addresses related issues including... military theory', but it does not go on to define what military theory is.⁶ Jan Angstrom and JJ Widen, in their book *Contemporary Military Theory*, outline the key themes of military theory but do not settle on a succinct definition.⁷ With so many views, how can we possibly define military theory and identify who are the key theorists shaping its future?

Given its importance, this work focuses on military theory: what it is, how it relates to wider theory, and who has shaped it. In doing so, this work not only defines military theory, it places it within the wider military and conflict studies context. The work comprises of five chapters, including this introduction. Chapter 2 defines military theory, highlighting how it is an

epistemology of war. Chapter 3 then places military theory within the context of the wider study of conflict and national power. This illustrates how military theory links with other applied social science disciplines. With this context understood, Chapter 4 identifies the key theorists who shape current, and influence future, military theory, including which areas of study they are most associated with. Finally, Chapter 5 highlights how the definition guides a military professional's ability to test if something is military theory or conjecture, and provides some initial observations that can be drawn from the work, providing a starting point for future avenues of research.

In addition to the chapters, this work seeks to increase general awareness of the importance of theory more broadly and, where applicable, enhance understanding of theory's link to decisions. By doing this, the work provides a basis to enable informed discussion on what theory means for current and future education and operational planning. Furthermore, the work includes text boxes that provide definitions of key words in ***bold-italic***; highlight additional facts; or explain linked theories and methodologies. These definitions are all captured in Annex A – Glossary.

Chapter 2 – What is military theory?

An epistemology of war

Theory and practice, explanatory and normative, can thus be understood as two sides of the same coin. Rather than a choice between practical utility and explanatory value, military theory is a means of achieving both objectives... Just like politics, war and warfare, without theory, are also in danger of being controlled by prejudice, gut feelings, and untested and potentially invalid causal propositions.

Jan Angstrom and JJ Widen, *Contemporary Military Theory*⁸

Theory – ‘...a coherent group of general propositions used as principles of explanation for a class of phenomena’⁹ – forms the foundation of **mental models** and world views.¹⁰ Within each discipline, theory defines the field of study; bounds its problem space; and brings order by categorising the phenomena under consideration – also known as the field’s taxonomy and typology.¹¹ Through these actions, theory helps explain the phenomena and develops the concepts, ideas, language and practical applications of a discipline. This increases knowledge and allows for the ‘...teaching of the truth or development of the truth of a subject.’¹²

Mental models

Mental models are defined as ‘...deeply ingrained assumptions, generalisations, or even pictures or images that influence how...’ an individual, organisation or discipline understands different theories, concepts and the real world.

Without theory, knowledge could only be attained through direct empirical observation – experience, experiment, practice and application. For militaries, such empirical experience only comes from war, meaning militaries would have to be constantly at war. However, theory allows military practitioners to understand conflict before any ‘practical application’ must occur. It is theory, specifically military theory, that this chapter discusses and defines. To do this, the chapter first highlights the links between theory and knowledge. Using this, the chapter then considers how military theory is focused predominately on first principles, or propositional, knowledge. This then allows the chapter to define military theory as an epistemology of war that provides a framework to create and disseminate knowledge.

Theory and knowledge – intrinsically linked

Theory (general)

A specific ‘theory’ is a statement that:

- outlines a set-of-laws, the empirical generalisation about a phenomenon;
- is axiomatic, meaning it details terms, language, truisms and derived ideas (definitions, axioms and propositions) that define the boundaries of study and a phenomenon; or
- details the causal processes, or the inter-relationships and causal links, that occur within a phenomenon.

More broadly, a theory of a topic covers all the theory statements related to that topic.

Theory forms the foundation of knowledge, and knowledge expands theory, thereby building further knowledge.¹³ This cycle is normally intuitive, and can be seen through the research into single and double loop learning, or John Boyd’s Observe-Orient-Decide-Act (OODA) loop concept.¹⁴ Although there are many types of knowledge, two are critically influenced by, and directly affect, theory: propositional and procedural knowledge.¹⁵ These two types of knowledge provide the ‘how, where, what and why’ of theory and process.¹⁶ Procedural knowledge, or ‘knowledge of how’,

...is concerned with how things are done. ...An example is the military appreciation process [a planning process used to develop military plans for operations and combat]. The intent of a [training] lesson on this is to teach students how to plan. Tactical exercises ...are focused on implementation, reinforcing how to use the process. Collective training through command post exercises... enhance understanding on where to use the process.¹⁷ [Emphasis added]

The ‘whys’ and ‘hows’ of knowledge

In Figure 2.1, the ‘how’ knowledge does not overlap with the ‘why’ knowledge. This is intentional within both the diagram and the Australian Army’s Ryan Review. When one considers propositional and procedural knowledge – both separately and their overlap – it is seen that one does not need to understand ‘why’ something works to make it work. Nor does understanding ‘how’ something occurs give insight into ‘why’ it works that way.

An example is the internal combustion engine found in a car. Understanding why an engine works – thermodynamics, fluid mechanics, chemistry and physics – does not mean a person will understand how the engine works or, more importantly, how to fix it when it breaks. Nor does understanding how the engine operates lead one to understand the underlying chemistry and physics of the engine (the ‘why’).

A historic example can be seen within Civil Engineering and the development of the arch. Through trial and error, the Romans understood how to build an arch and where it should be built. However, they had a limited understanding of the underlying principles (what), and no real understanding of the concept of forces and their vector transition (why). Fast forward to today, and a modern civil engineer graduate, straight out of university, can (should) explain where to use an arch, what are its principles, and why it works. However, they are highly unlikely to have any clue as to how to build one in any practical sense.

Meanwhile, propositional knowledge, or ‘knowledge of that’, consists of knowledge that is fact (sometimes argued as truth). In the above example, propositional knowledge would explain what the process is attempting to achieve – in this case, it is a catalyst to force human mental models to

be tested and challenged – and why the process is executed like it is – to align with human cognition and heuristic usage to make the process more natural for people to execute.¹⁸ Although these two types of knowledge are often discussed separately, they actually overlap (**Figure 2.1**). It is the inter-relationship between these knowledge types that creates and shapes the ‘...general propositions... for a class of phenomena.’¹⁹ The principles that guide this inter-relationship for a specific area of inquiry are contained within the philosophy of knowledge – or *epistemology*.²⁰ Military theory is one such area of inquiry.

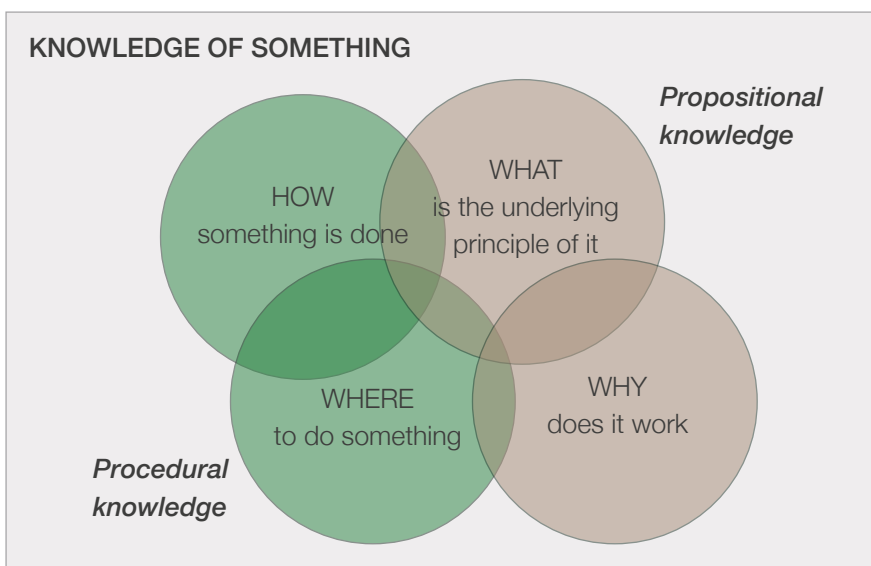


Figure 2.1 – Interrelationship between procedural and propositional knowledge

This diagram is adapted from the Australian Army's *Ryan Review* (Ryan, 2016) into training, education and doctrine. It highlights the relationship between procedural knowledge – the *how* and *where* of something (knowledge of procedures and processes) – and propositional knowledge – understanding the *what* and *why* of something (knowledge of the underlying first principles of theory).

Discovering what military theory is

As already discussed in Chapter 1, many texts detail the importance of military theory, while few define it. Angstrom and Widen probably best summarise the case as to why military theory is important with their comment that without this theory the study, discussion and knowledge concerning war and warfare is likely to descend into ‘...prejudice, gut feelings, and untested and potentially invalid causal propositions.’²¹ Such

situations can lead to false conclusions concerning the nature of war and the characteristics of warfare – or, as Lieutenant General HR McMaster calls them, ‘the four fallacies’ (see sidebar ‘The Four Fallacies’²²) that ‘...try to turn war into something alien to its nature.’²³ This highlights the importance of first understanding ‘what’ military theory ‘is’. Only by knowing what it is, is it possible to test if an idea furthers military theory’s body of knowledge, or falls into the fallacies produced by prejudice. Luckily, Clausewitz provides both reasons for, and an initial definition of, military theory.

Epistemology

Narrowly, epistemology is defined as ‘...the branch of philosophy which deals with the origin, nature, methods, and limits of human knowledge.’ However, more broadly, it is the field of philosophy that considers ‘...issues having to do with the creation and dissemination of knowledge in particular areas of inquiry.’

Clausewitz argued that theory is ‘...an analytical investigation leading to a close acquaintance with the subject; applied to experience – in our case, to military history – it leads to thorough familiarity with it.’²⁴ Clausewitz also stated that:

[t]he primary purpose of any theory is to clarify concepts and ideas that have become ...confused and entangled. Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply.’²⁵

In essence, Clausewitz highlighted that by using theory to examine the question of war, knowledge of war can be formed. This indicates how studying theory assists in the ‘...teaching of the truth or development of the truth of a subject.’²⁶ Clausewitz’s view is then echoed by Milan Vego, who describes military theory as:

...a comprehensive analysis of all the aspects of warfare, its patterns and inner structure, and the mutual relationships of its various components/elements. It also encapsulates political, economic, and social relationships within a society and among the societies that create a conflict and lead to a war. Sound military theory explains how to conduct and win a war. It also includes the use of military force to prevent the outbreak of war.’²⁷

Although the above includes aspects of procedural knowledge concerning 'how' to conduct war, the focus of the definition is on the development of first principle theory, or propositional knowledge, concerning war and society.²⁸

The four fallacies

LTG McMaster highlights that the learning and advancement of military theory is often hampered by four fallacies. These fallacies; normally based on technological or postmodern concepts; ignore, at least in part, history and the human/political nature of war.

The Vampire Fallacy. Called the 'Vampire Fallacy' because the idea seems to never die, it focuses on technology. The concept is that technology will make '...the next war fundamentally different from all that had come before ...[shifting] uncertainty to that of certainty.' The idea has been around since the 1920s (strategic bombing) and has led to 'Shock and Awe', and the deterministic use of Effects Based Operations and Network Centric Warfare.

The Zero Dark Thirty Fallacy. This fallacy sees strategic focus on special forces, drone and counter-terrorist operations at the expense of joint (and combined joint) operations. As McMaster highlights, these operations '...are often unable to affect the human and political drivers of armed conflict or make progress toward achieving sustainable outcomes consistent with vital interests.'

The Land Proxy Fallacy. This is a belief that proxy land forces will achieve, in full, the expected strategic outcomes. The fallacy ignores human nature and the potentially divergent goals of the proxy force.

The RSVP Fallacy. This fallacy seeks to solve the complex nature of future war by 'opting out' of certain types of conflict. Such approaches ignore both the '...enemies in wars or the adversaries between wars.'

Military theory defined

The focus on knowledge seen in Clausewitz and Vego's work is reinforced by the war theorists cited in Chapter 1. These theorists advocated developing knowledge and understanding on all aspects of war – not just the procedural 'know-how' of waging warfare. Using this as a premise highlights that military theory is focused on the '...creation and dissemination of knowledge in particular areas of inquiry.'²⁹ This is reinforced by the key themes Angstrom and Widen identified (see sidebar 'The Themes of Military Theory').³⁰ Each of these themes support the creation of knowledge, through valid methodologies, and provide a framework to understand and disseminate that knowledge. This suggests an epistemology focusing on war.

Therefore, **military theory** can be viewed as an epistemology relating to all aspects of war – including its relationship to society and wider conflict. It specifically seeks to understand the phenomenon known as war, while also providing a framework for the valid creation and dissemination of this knowledge. Validity is important and directly relates to two military theory themes: *Methodology of Military Theory* and *Theory and Practice*. This definition also highlights that the focus of military theory is broader than the limited modern interpretation of war, being '...a conflict carried on by force of arms, as between nations or states, or between parties within a state.'³¹ Therefore, to understand the relevance and importance of military theory as an epistemology of war, it is necessary to recognise how military theory relates to the wider study of conflict.

Military theory

An epistemology relating to the phenomenon of war, and all its related aspects, that seeks to understand it and its links to wider conflict; and provide a framework for the valid creation and dissemination of knowledge concerning war and warfare.

Chapter 3 – Military theory placed in a wider context

Placing war's theory within the wider conflict studies

...many important elements of security studies cannot be separated from the political, economic or social elements of the international system. One cannot simply study the military implications of war without understanding the roots of the rivalry between actors, such as considerations of power, status, ideology and wealth. Politics remains at the very roots of war.

Craig Synder, Contemporary Security and Strategy³²

Craig Synder highlights that military theory cannot be considered in isolation. It is intrinsically linked to the wider study of politics and society. However, the extent of that overlap is difficult to define. This chapter provides a framework to consider this overlap. It uses the analogy that *conflict is a logic set*, meaning a Venn diagram can be used to illustrate not only how military theory is entwined with other disciplines, but also how the study of war more generally requires a multi-disciplinary approach. After all, the study of politics and power is considered by many disciplines, why should war – an extension of politics – be any different? However, to set the scene for this discussion, it is useful to consider the history of the word 'war.'

The history of a word tells a story – the story of the word ‘war’

The distinction between war and conflict can be, and historically has been, blurred. The history – or etymology – of the word ‘war’ stems from the root Proto-Germanic word of *werz-a* (to confuse, perplex), and then into Old French (*guerre*: difficulty, dispute, hostility, fight, combat, war).³³ This history indicates that the word ‘war’ was derived from ideas and concepts that covered more than just the modern interpretation of nation-state military action. The word included concepts like disputes, rising diplomatic and cultural hostility, tensions, and broader conflict. Compare this to the modern definition for war. The modern definition is derived from the Proto-Italic and Latin word *bellum* (battle, combat, military force).³⁴ How did today’s ‘war’ diverge from its original Proto-Germanic roots? According to the *Oxford English Dictionary*, which both defines and traces the history of words, language historians believe the change occurred during the rise of the Roman Empire to stop the expanding empire getting confused over two similar sounding, but very different, words.³⁵

Apparently, the expanding Roman society often confused the two Latin words *bellum* and *bello* (beautiful).³⁶ Therefore, the Romans chose the Germanic word *werra*; one linked to Gaul, Spain and Saxon; to replace the word *bellum*, but not the definition. In effect, *werra* took on the meaning of, and replaced, *bellum*.³⁷ Through this transition, and the subsequent morphing of certain European languages due to Roman influence, modern day languages like English have been heavily influence by the Roman’s use of the word ‘war.’³⁸ This has led to today’s limited definition, where war consists of discrete activities ‘...carried on by force of arms, as in a series of battles or campaigns.’³⁹ The possible effect on interpreting and translating historical texts due to the Roman influenced definition of the word ‘war’ is an interesting point, but beyond the extent of this work. However, this discussion is useful in two ways. Firstly, it suggests the need for further research that may partly explain why translated historical texts, and their ongoing interpretations, refer only to ‘war’ without often a wider consideration of broader ‘conflict’. Secondly, it highlights that through the history of the word ‘war’, there are links between war and wider conflict.

War is more than ‘war’

Acknowledging the historical development of the word ‘war’ helps to highlight how war and conflict are connected. It indicates that:

[a]ll war is conflict, yet not all conflict is termed war, with the spectrum extending from ‘no conflict’ situations – like humanitarian relief – up to and including ‘total war’ between states. This reaffirms that conflict, at any level, is a competition of political and human will that can use violent and non-violent means to influence a diverse group of actors to achieve the political objective.⁴⁰

Given this idea of competition, ‘conflict’ can be seen to include economic, trade and diplomatic conflict, trade sanctions, espionage, sabotage, terrorism, insurgency, human security, and other non-traditional military considerations.⁴¹ This helps to explain why the concepts of ‘economic war’ and ‘trade war’ exist in other, non-military, areas of study – even though these phrases do not relate to the modern definition. Furthermore, since war is conflict, the ‘conflict set’ includes all aspects of military theory: from tactics, techniques and procedures (TTPs); up to and including operational and strategic concepts and war philosophies. Therefore, even though the modern definition of war may have diverged from its original etymology, it is possible to place military theory within the context of both ‘war’ and conflict more broadly.

Military theory within conflict studies – a Venn diagram representation

Using the term ‘conflict set’ in the previous paragraph is deliberate. It sets the stage for an analogy – that *conflict is a logic set*, and can be represented as a Venn diagram.⁴² A ‘set’ is a grouping of objects, and in this analogy the different theories and ideas that make up the study of conflict form the ‘objects’ that can be grouped together to understand how they may conceptually overlap. Conflict as a logic set is very broad. When one considers the root of the words ‘war’ and ‘conflict’, it makes sense that the study of conflict includes all possible violent and non-violent competition between social groups – be it nation-states, non-state actors, international actors, or even cultural groupings within a larger social construct (ie Sunni

and Shiite conflict within Iraq). Such a diverse range forms the universal set of the Venn diagram representation – the set that contains all the different information types and possibilities under consideration. It is this analogy, and its Venn diagram representation, that provides a useful way to visualise how military theory – being a ‘set’ within the wider ‘universal set’ – fits within conflict, as well as how it interacts with other disciplines that influence thinking on national power: economics, law and international relations. To establish this representation, it is first necessary to provide the scope of the study of conflict.

What about philosophy?

Philosophy exists in all disciplines in some way. Every discipline has its own philosophical view points and paradigm debates. These shape different schools of thought and a discipline’s world views and ideal-types. Philosophy interacts with all concepts and disciplines. Therefore, philosophy – though relevant to all theory – is not included within this analogy. Instead, it is taken as an ‘axiom’ that underpins all ‘information sets.’

Conflict studies – infinite permutations within multiple disciplines

There are potentially infinite permutations of topics, research areas and theories within conflict studies. Issues covering environmental threats, food and resource concerns, women and children’s safety, cultural stability, poverty, and societal disenfranchisement have all been included as a part of the study of conflict.⁴³ However, to help illustrate the breadth of study and the possible links across disciplines, twenty concepts have been selected as indicative ideas within the wider field. These topics, listed at **Table 3.1**, form the ‘data elements’ of the Venn diagram framework, and broadly provide a useful representation of the areas of concern within the wider study of conflict and its relationship with state, non-state and multi-national actors.

These twenty concepts straddle a number of different academic disciplines. For example, in the table above, serial six, *Law of Armed Conflict*, is studied by students of law as well as military professionals. Serial three, *Strategic Concepts*, though a major focus for senior military professionals, is also a key part of a diplomat’s study. Therefore, it is necessary to group these

concepts, or data elements, as an illustration of the possible relationships between disciplines. This starts to form the ‘information sets’ of a Venn diagram.

Table 3.1 – Conflict Venn diagram concepts (‘data elements’)

Serial	Concept	Serial	Concept
1	Tactics, Techniques and Procedures	11	Espionage
2	Operational Concepts	12	Sabotage
3	Strategic Concepts	13	Corporate Actions
4	Military Power Construct	14	Arms Trade
5	Military Economics	15	Piracy
6	Law of Armed Conflict	16	Human Security
7	Economic War	17	Human Rights
8	Trade War	18	Terrorism
9	Sanctions	19	Trans-National Crime
10	Diplomatic Disagreement	20	Resource Limits and Constraints

It is acknowledged that when considering conflict there are many fields of study that overlap. Conflict and peace studies, philosophy, history, political science (broadly), sociology and psychology are all examples of areas of research that either contribute to, or are a significant part of, understanding conflict. However, for simplicity, only those applied areas of study that could have a direct correlation with the national levers of power – diplomacy, information (and legal), military and economic – have been considered. These form the ‘information sets’ under the four disciplines of international relations, law studies, economics and military theory.⁴⁴ Using this as a guide, it is possible to identify which discipline primarily considers a particular concept, and which disciplines may be related. Using the *Strategic Concepts* example, military theory would be a prime discipline for its study. However, both international relations and economics would relate to strategy, and therefore

would be incidental disciplines. From this simplified analysis, the concepts are related to different disciplines, as seen in **Table 3.2**. This data can then be developed into a visual representation that shows the inter-relationships between different disciplines and the study of conflict.

The data in Table 3.2 highlights how concepts relate to different disciplines. It is much like a matrix, indicating how different data elements relate to various information sets. Using this, it is possible to group the ‘data elements’ – concepts – by their primary disciplines within the ‘conflict universe set’. This starts to demonstrate the spread of issues across the different disciplines, as is seen in **Figure 3.1**, allowing the concepts to be grouped.

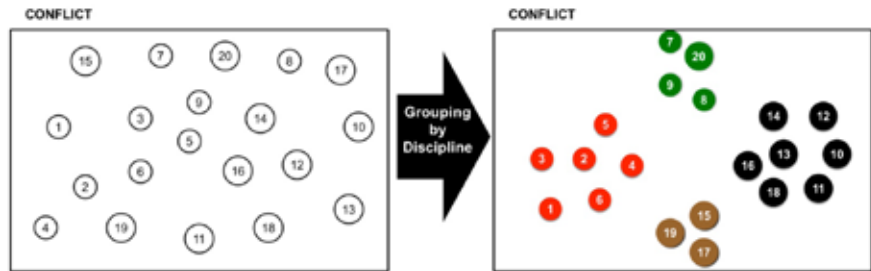


Figure 3.1 – The Conflict Universe Set

The concepts that form the conflict studies spectrum are placed within the universal set called ‘conflict’. Using the identified primary fields of study, the concepts are grouped into Military Theory, Economic, International Relations and Law Studies. These start to highlight the breadth of the fields of study – or the ‘information sets’.

Grouping concepts – forming the Venn diagram framework

The work so far starts to show the links between military theory and the study of wider conflict. Using this as a foundation, it is possible to create a visual representation of conflict studies and the overlap between disciplines. To do this, the incidental fields of study, outlined in Table 3.2, can be used to illustrate the idea of multi-discipline overlap. To visually represent this, one builds the Venn diagram one information set at a time. Because military theory is wholly concerned with war – though not necessarily concerned with the full spectrum of conflict – the entire discipline is contained within the universal conflict set. Therefore, it should be the first field that is visually represented, as seen in **Figure 3.2**

Table 3.2 – Conflict concepts linked to fields of study

Serial	Concept	Field of Study	
		Primary	Incidental
1	Tactics, Techniques and Procedures	Military Theory	NA
2	Operational Concepts	Military Theory	NA
3	Strategic Concepts	Military Theory	International Relations, Economics
4	Military Power Construct	Military Theory	International Relations, Economics, Law
5	Military Economics	Military Theory	Economics
6	Law of Armed Conflict	Military Theory	Law
7	Economic War	Economics	International Relations
8	Trade War	Economics	International Relations
9	Sanctions	Economics	International Relations, Military Theory
10	Diplomatic Disagreement	International Relations	NA1
11	Espionage	International Relations	Law2
12	Sabotage	International Relations	Economics
13	Corporate Actions	International Relations	Economics, Law
14	Arms Trade	International Relations	Economics, Military, Law
15	Piracy	Law Studies	Military Theory, International Relations
16	Human Security	International Relations	Economics, Law
17	Human Rights	Law Studies	International Relations
18	Terrorism	International Relations	Military Theory, Law, Economics
19	Trans-National Crime	Law Studies	Military Theory
20	Resource Limits and Constraints	Economics	International Relations

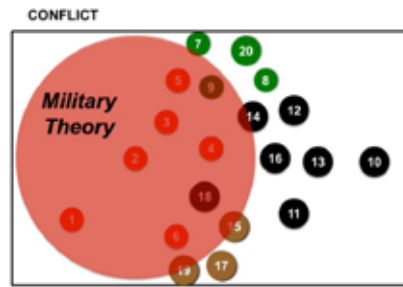


Figure 3.2 – Military Studies as an Information Set

Military Theory, as a discipline, is wholly focused on conflict and war. As such, the entire information set – or discipline – sits within the wider universal conflict set

Figure 3.2 suggests some of the overlap between other disciplines and military theory. Concepts like Serial 18 – *Terrorism*, and Serial 9 – *Sanctions*, are primarily considered by law studies and economics respectively. However, as Figure 3.2 shows, they are also of interest to military theory, particularly at the operational and strategic level. The same visual representation can be developed for the remaining three disciplines. However, these three disciplines cover more than conflict and war. Law studies cover a wide range of international, domestic, civil, criminal and contract law. Economics considers both wider national and trans-national impacts, as well as the mathematics of finances. International relations cover not only the conflict of degrading relations, but also the management of bi and multi-lateral organisations, diplomacy and trans-national corporations. As such, the information sets of these disciplines are greater than the universal conflict set. This is demonstrated in **Figure 3.3**, with the final Venn diagram framework represented at **Figure 3.4**.



Figure 3.3 – Building the Visualisation

Each field of study is added to the diagram to represent their conceptual overlap and relationships. The information sets for Law Studies, Economics and International Relations extend beyond the universal set to highlight that they cover more than the study of conflict. Philosophy is not seen as it is an ‘axiom’ – a given truth.

Military theory must consider more than ‘war’

This visual representation, seen in Figure 3.4, illustrates the conceptual disciplinary overlap – or the metaphoric ‘mathematical intersections’ of information sets. This framework can be further extended to conceptually understand how key sub-disciplines, such as war studies and international security studies, relate to each other and wider military theory. However, what does this analogy show? It reinforces one of the key themes of military theory: that military theory is related to other areas of study – particularly the applied social sciences such as economics, political science, international relations and law – and these other areas of study can inform military theory.⁴⁵ It also supports the fact that military theory’s focus on war is not limited to discrete nation-state conflict, and must consider the wider phenomena known as war and conflict. This includes its relationship with law, economics, diplomacy and society. This simple visual representation reinforces Clausewitz’s point that ‘...war is not merely an act of policy, but a true political instrument, a continuation of political intercourse, carried on with other means.’⁴⁶ It also leads to the question: Who are the theorists that influence military theory’s development now and into the future?

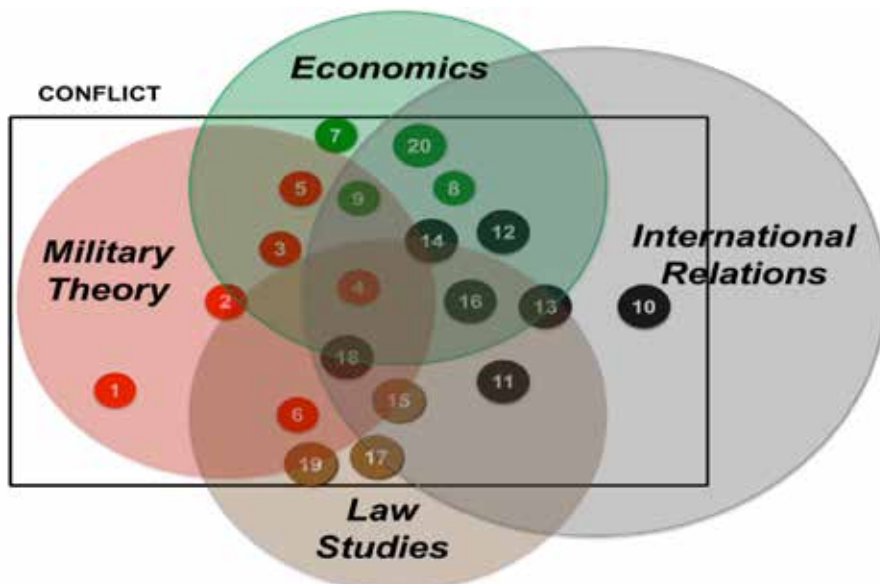


Figure 3.4 – Overlapping and Inter-related Disciplines Studying Conflict

The complete Venn diagram representation that highlights the conceptual overlap between key disciplines and military theory

Chapter 4 – Influencing military theory

Who are the key theorists that shape research and future development?

What then qualifies someone as a 'philosopher' in the art of war? The general definition often given for that word is someone that seeks wisdom and is an expounder of theory or a specific area of experience. ...It is for this reason too that many famous military commanders do not warrant [the title]. The simple practice of war, however successful, is not to be equated with the actual study of war. ...[However,] [a]s with all figures in history, the impact of individuals varies wildly.

Daniel Coetzee and Lee W Eysturlid, *Philosophers of War: The Evolution of History's Greatest Military Thinkers*⁴⁷

In the book *Masters of War*, Michael Handel details the 'great classical theorists' of Clausewitz, Corbett, Jomini, Machiavelli, Mao Tse-tung, Sun Tzu, and Thucydides. However, there is no description, or definition, as to why these theorists are the 'greats.' Although Handel is not wrong to say these thinkers are great theorists, one could argue that the strategic theory they support could have also been provided by Julius Caesar, Napoleon, Hans Delbruck, Alexander Svechin, or any other military thinker who meets the common assumptions Handel identifies in his introduction.⁴⁸ This does not make *Masters of War* an invalid work. However, it does demonstrate the issue with selecting 'influential' or 'important' theorists: what are the selection criteria and why are they more important than others? Identifying these key theorists is critical to understanding what ideas make up military theory.

Unlike some disciplines, military theory does not have a codified ‘body of knowledge.’⁴⁹ Instead, in a similar vein to some humanities and social sciences, it is the key theorists that shape what is understood to be ‘military theory’. Much of the study of foundational military theory consists of considering history and past theorists; understanding their ideas and historical settings; and then placing them within modern contexts.⁵⁰ This raises more questions – questions often debated in staff colleges and officers’ messes – which theorists to study? Which are ‘important’ and ‘influential’? How does one tell if Clausewitz is considered more important than Jomini, Svechin, or even Delbruck? This chapter answers these questions. Firstly, the chapter adapts Agenda-Setting Theory to the situation of military education. This demonstrates that one of the key facets in determining influence is identifying which theorists are taught in military education institutions. Using this insight, the chapter reviews the curriculums of staff colleges around the world. This analysis not only ranks the theorists, it also identifies the key areas of study that they are associated with. Knowing this identifies which theorists currently shape military theory and are likely to inform its future development.

Shaping who is influential – Agenda-Setting Theory in a military context

Agenda-Setting Theory, developed in 1972 by Maxwell McCombs and Donald Shaw, highlights how the media influences the population’s view of what issues are important. Broadly speaking, the theory demonstrates that:⁵¹

*...editors, newsroom staff, and broadcasters play an important part in shaping political reality. Readers learn not only about a given issue but also how much importance to attach to that issue from the amount of information in a news story and its position. ...[T]hat is, the media may set the ‘agenda’...*⁵²

Underpinning this theory is the availability heuristic. This specific cognitive tool shapes a person’s perception of importance – the quicker a piece of information can be recalled, the more important the information is perceived to be.⁵³ Therefore, when the media focuses on an issue – giving it significant ‘air time’ across multiple sources and news articles – it

becomes easier for the issue to be recalled by the public. This triggers the availability heuristic, which in turn makes the issue seem more important. Because of confirmation bias, this increases the weight people place on the issue at hand.⁵⁴ This process is not isolated to mass media and policy development.⁵⁵ The same concept of presenting selected ideas to an audience, and thereby shaping their perception of importance and influencing their future work, could be considered in the area of military education and theory.

The education that military academics and practitioners receive acts as a foundation for the research they subsequently undertake. Such research may have different objectives. It could be something as simple as an assignment for a military college. It may have a practical outcome, like the research undertaken to update military doctrine and training. No matter the reason, undertaking research further internalises ideas and theories, increasing the researcher's understanding of specific theorists and their concepts. At the core of this cycle is the original education provided. Agenda-Setting Theory influences the cycle of education, research and new education.⁵⁶ The military theorists initially taught to the students of war are the ones most easily recalled. This makes these theorists appear more important, increasing the likelihood of their use within research endeavours. These endeavours further advance the theorist within education, training and doctrine – thereby further feeding the cycle of perceived importance. This complex interplay indicates that the theorists most often taught as a part of military theory are the ones perceived as the most important. This perception influences research and therefore future military theory. Although other theorists may provide similar (or even alternative) views, the perception of them is less and – because of the availability heuristic – they are given lower weight. This insight is valuable as it provides a mechanism to determine which theorists are currently seen as important, and therefore shape 'what' is understood to be the breadth of military theory. Understanding this, and adapting Agenda-Setting Theory to the military context, provides two criteria that can be used to determine the influence a theorist has:

1. The breadth of coverage of each theorist, or the number of institutions that teach the theorist; and
2. The depth of penetration of the theorist, or the number of subjects that the theorist's concepts and ideas are used to illustrate the area under discussion.

Using these criteria, data collected from military colleges can be reviewed to identify who is perceived as the most important theorists, and therefore who is currently the most influential.

Data collection – understanding what staff colleges teach

Although training and education occurs throughout military service, there are certain points in a professional's life that are major educational experiences. These points, often key milestones in an officer's career, are designed to shape an officer's mind, preparing them for the next stage of their service.⁵⁷ Although initial officer training and War College for senior officers are examples of such educational interventions, it is often the staff college – for mid-ranked officers of major to lieutenant colonel (service/nation equivalent) – that has the greatest effect. This is the college that transitions military officers from their tactical, often rote learned, skills towards the first principles theory of operational and strategic thinking. In many ways, Staff College can be likened to secondary school: transitioning from elementary education – initial officer training necessary to do one's immediate role – towards the underlying theory behind the training, or outlining why battles and wars are fought in different ways. It is also this level, much like secondary school, where key theorists are introduced and used to illustrate conceptual thinking. Because of the importance given to staff colleges for military development and senior officer selection, understanding which theorists are taught helps demonstrate which theorists are most likely to remember by military professionals and academics alike, and therefore be considered important and influential.

To discover which theorists are taught, it was necessary to collect information from different staff colleges around the world. This was achieved through three methods. Firstly, a formal request for information was sent to the Defence Attachés stationed in Canberra, Australia.⁵⁸ Secondly, the Australian Army provided assistance by contacting several countries via its Australian Army liaison officer network.⁵⁹ Finally, a series of secondary sources were used to enhance the data overall.⁶⁰ These approaches elicited data from 14 staff colleges: Australia, Brunei, Canada, Germany, Indonesia, Japan (Army), the Netherlands, New Zealand, Russia, Thailand, Singapore, Spain and the United States of America (US Army and US Marine Corps).

This is a broadly even spread of colleges from across four continents: North America (three colleges), Asia (five colleges), Oceania (two colleges) and Europe (four colleges). It is also a strong number of 'Five-Eyes'; or American, British, Canadian, Australian and New Zealand, staff colleges.

Although the 'Five-Eyes' construct is an intelligence specific agreement, these five nations share a range of integration, standards, training, concepts and doctrine to ensure the nations can easily operate together in coalition environments. This often has flow on effects in key military institutions across the world like the North Atlantic Treaty Organisation (NATO) and the Five Powers Defence Arrangement (FPDA), thereby shaping other militaries' thinking, training and doctrine. Given this, it is important to have good data spread from Five-Eyes nations. Of the eight possible Five-Eyes staff colleges, data was collected from five of them.⁶¹ Furthermore, 11 of the staff colleges were joint, meaning their students came from all arms and services of the nation's defence force. This ensures that the data provides a broad view across all services and domains. Although still a relatively small sample, the combination of geographical spread, Five-Eyes inclusion, and joint colleges indicates that the 14 staff colleges provide a useful representation of military education across the globe. This data identified 74 separate theorists studied across 41 different areas of study.⁶²

As Agenda-Setting Theory highlights, there is a correlation between teaching a specific military theorist and the perception of the importance and influence of that military theorist. Although this is subjective, it is possible to estimate the perceived importance of a specific military theorist by first identifying how many institutions study the theorist, and then cross-referencing this with the number of subjects that include the theorist. The first criterion, number of institution, is known as the theorist's breadth of coverage.

Breadth of coverage – which theorists are taught the most

Using the data collected, it is possible to rank the theorists by the number of institutions that use them for instructional purposes. All 74 theorists were ranked from one – the theorist taught in the most institutions – through to 74. This ranking highlights that the top five theorists are studied in approximately three-quarters of all staff colleges (71%). Meanwhile, the

top ten theorists, outlined at **Table 4.1**, are studied in just under half of all colleges (43%). Although four of the top five, and eight of the top ten, theorists are Western in origin, it is interesting to note that all Asian staff colleges study the top five theorists.⁶³ Furthermore, there is an approximately even distribution of staff colleges from Europe, Asian and Five-Eyes nations that study the top ten theorists.

Table 4.1: Top 10 theorists by breadth of coverage only

Ranking	Theorist
1	Carl von Clausewitz
2	Antoine Henri Jomini
3	Sun Tzu
4	Alfred Thayer Mahan
5	Basil Liddell Hart
6	Julian Corbett
7	Giulio Douhet
8	Helmuth von Moltke the Elder
9	JFC Fuller
10	Mao Tse-tung

The analysis provides a quick reference to who may be considered as the most important theorist for military studies at this time. However, as the above discussion on Agenda-Setting theory highlights, importance is affected not only by who is studied, but also how often they are studied within a curriculum – or the theorist’s depth of penetration. Therefore, this initial analysis – the theorist’s breadth of coverage – provides only half the story. For example, a theorist like Mahan (fourth in Table 4.2) is taught in many staff colleges. However, if he is only associated with sea power – one area of study – then his importance, and therefore influence, may be perceived as less when compared to another theorist associated with more areas of study – even if this theorist is lower on Table 4.1. Liddell Hart (fifth in Table 4.2) is one such theorist. This discussion highlights the need to cross-reference with which areas of study each theorist is used in. It is only

this cross-referencing that determines their influence in military theory more generally. For this, it is necessary to define what the key areas of study within military theory are.

Studying military theory – identifying the different areas of study

The *Encyclopaedia of Military Science* highlights that military studies, or military science as it defines the term, is not codified within a specific discipline or body of knowledge.⁶⁴ Furthermore, its nine separate, but related, fields of study do not necessarily align with the different areas of study identified in the staff college data.⁶⁵ Angstrom and Widen discuss eight different areas of study in their book *Contemporary Military Theory*. Although informative, their work does not separate political level theory (like grand strategy) and specific types of conflict (like insurgencies and nuclear theory) from strategy and domain theory.⁶⁶ Milevski's book, *The Evolution of Modern Grand Strategic Thought*, highlights the importance of grand strategy as a separate area of study. Given this, and the informative nature of other texts, the 41 study categories identified in the staff college data were reviewed. This identified eight broad areas of study:

- **War Philosophy.** This is the highest level of conceptual study on and about war. It considers the philosophy, rationale, ethics and theoretical first principle links to other disciplines. This area of study considers war's nature and its abstract links to human endeavour.
- **Grand Strategy.** This area of study considers the theory, historical development and current thinking of how all-of-nation, or groups-of-nations, direct their national power towards a political and security goal.⁶⁷
- **Strategy.** Although linked to Grand Strategy, this area of study considers the theory, historical development and current thinking of how military power specifically is integrated within national power towards a political goal.⁶⁸
- **Operational Theory.** This is the area of study that considers the theory, historical development and current thinking of the operational level of war – or the campaign.⁶⁹ It is strongly influenced by strategic study.

Broad military study focuses

The eight areas of military study can be clustered to form four broad, and overlapping, military study focus areas that helps to group thinking and assists in wider analysis of theorist and theory overlaps. These four broad focus areas are:

War Philosophy – War philosophy corresponds with its area of study name sake.

Strategic Thinking – Covering the areas of study of grand strategy and strategy, this theme includes discussions on the theoretical and historical development of the inter-play of national and military power.

Operational Thinking – This directly correlates with the operational theory area of study.

Domain Theory – Domain theory relates the study of the specific physical domains: land, sea and air. This theme most relates to domain specific thinking for the integration of land, sea and air power into military and national power, as well as the tactical theory of the employment of land, sea and air capabilities.

Other – Although not a theme, there are theorists whose ideas cannot be allocated to any of the above themes. This includes specific context theories (insurgency/counter-insurgency) and growing areas of discussion (Cyber, Information Operations).

- **Land / Sea / Air Power.** Leveraging the lay definitions of land/sea/air power, these three separate areas of study each considers the historical development and current thinking for domain specific theory.⁷⁰ Most of this study relates to tactical theory, often at the formation level (corps, division, brigade for land; fleets, fleet, squadrons for sea; fleet, groups, wings, squadrons for air), with links into operational theory. Due to the developments of operational theory and operational art over the last 100 years, many of the theorists that may have been associated with strategy in the past are now more associated with domain specific theory.⁷¹

- **Specific Warfare Characteristics.** The final area of study covers specific studies in selected areas of warfare, like irregular or counter-insurgency warfare.

These eight areas of study, which generally align with previous works, form the framework to consider the depth of penetration of each theorist.

Who is most influential – ranking the military theorists overall

The number of institutions that associate a theorist with a particular area of study suggests the relative weight of influence that theorist has. The more institutions that associate the theorist with that area of study, the more weight the theorist has in that topic. Furthermore, where a theorist is associated with more than one area of study, this may indicate they have influence over military theory more widely. The more areas of study a theorist covers, the wider their influence is across military theory. This forms the theorist's depth of penetration into the curriculum specifically and, by inference, into military theory generally. In most cases, the data provided by the 14 staff colleges not only identified which theorists were studied, but also which part of the curriculum the theorist was associated with.⁷² This information allows theorists to be correlated with the eight areas of study, showing the depth of penetration a theorist has across military theory.

The top twenty theorists (by breadth of coverage) were cross-referenced with their associated areas of study. This provided a ranking of theorists that had both breadth and depth of coverage across military theory.⁷³ An example of the outcomes of this analysis is seen when comparing Clausewitz and Jomini. In Clausewitz's *On War*, he discusses a wide range of topics including the tactics of battle. However, the staff college data indicates that Clausewitz is rarely used to discuss land theory. Instead, most staff colleges use Clausewitz to illustrate war in the abstract, with a primary focus on *war philosophy* and *grand strategy*. However Jomini, Clausewitz's contemporary who discussed similar ideas from a different perspective, is considered more important than Clausewitz in *operational theory* and *landpower*. This analysis identified the final top 20 theorists that influence

Table 4.2 – Top 20 theorists

Rank	Theorists	Rank	Theorists
1	Carl von Clausewitz	11	Julian Corbett
2	Sun Tzu	12	Giulio Douhet
3	Basil Liddell-Hart	13	J F C Fuller
4	Antoine Henri Jomini	14	Napoleon
5	Helmuth von Moltke the Elder	15	Alexander Svechin
6	Mao Tse-Tung	16	Billy Mitchell
7	John Boyd	17	Halford Mackinder
8	Thucydides	18	Heinz Guderian
9	Niccolo Machiavelli	19	T E Lawrence
10	Alfred Thayer Mahan	20	M. Tukhachevsky

military theory (Table 4.2). The analysis also highlights not only the relative weight a theorist has within a defined area of study, it also demonstrates the depth of penetration each theorist has across multiple areas of study. A visual representation of this for selected theorists is seen at Figure 4.2.⁷⁴ This analysis provides a list of theorists that are perceived as important at this time, and therefore influential for future theory. These theorists currently act as the foundational theorists – forming the corner stone to military theory's body of knowledge. The analysis also provides insight into the differences between the so-called 'art' and 'science' of military theory.

Art and science – defining the perceived categories of theorists

Consider Clausewitz and Jomini. Their names have become synonymous with creative thought and qualitative considerations (Clausewitzian); or process and quantitative analysis (Jominian) respectively.⁷⁵ This ignores the fact that the majority of Clausewitz's work, *On War*, relates to tactics, terrain and the superiority of numbers; things that one would associate with quantitative processes. However, this generalisation does highlight one thing: the perceived divide within military theory between *war as an art* versus *war as a science*.⁷⁶ This raises the questions: what do these terms mean, who wrote theories that are art/science, and does it matter?

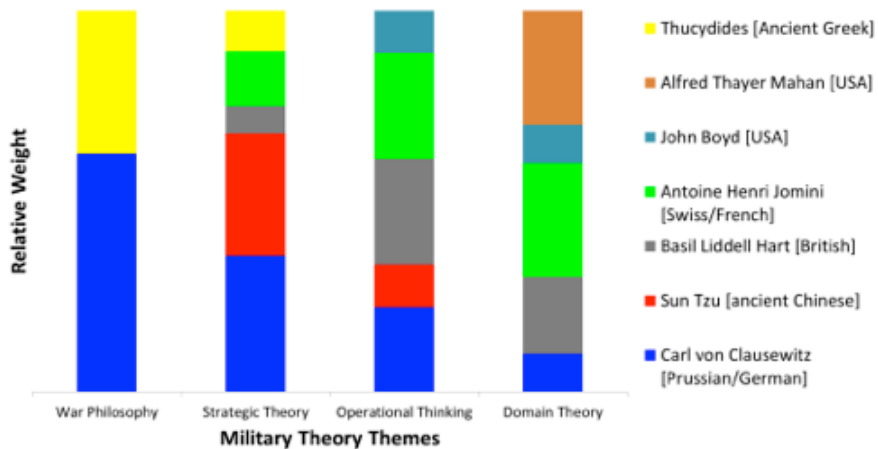


Figure 4.2 – Relative weighting of a selection of theorists from the Top 20

This graph shows the relative weight of selected theorists for different study focus areas. As an example, one can see the perceived importance of Clausewitz in War Philosophy and Strategic Thinking. However, Clausewitz's perceived importance is low in Operational Thinking and Land Power.

The concept of 'art' versus 'science' is not new. Vego, in his articles 'Science vs the Art of War' and 'On Military Theory', traces the history of military theory as both a science and an art. From his analysis he highlights that '[o]ur knowledge and understanding of warfare is a science, but the conduct of war itself is largely an art.'⁷⁷ Glenn Voelz also highlights the links to scientific endeavour and military theory.⁷⁸ This is reinforced by Angstrom and Widen who indicate it is both an 'art', in that it is grounded in the humanities and social sciences, and a 'science' as it must use scientific method to validate its theories.⁷⁹ The issue of whether war is an art, science or both remains a hotly debated topic at colleges, courses and on military blogs around the world.⁸⁰ Even in the fields of business and philosophy, there are debates on what is 'art', 'science', how are they different, and which is 'better.'⁸¹ To make matters more confusing, many of these debates do not use the dictionary definitions of the words to frame their discussions.⁸² Although these debates highlight that war, and wider theory more generally, is a combination of both art and science, they create a perception that art and science are opposites: art is genius, creative thinking and intuitive; science is process, predictable and repeatable. What can be identified is that the concepts of 'art' and 'science' are often used by military professionals to categorise, and at times deride, ideas. Because the

perception of art and science is so pervasive throughout military discourse, it is worth understanding which theorists are considered to reflect 'art' and which reflect 'science.'

Although the data provided by the staff colleges allows for military theorists to be categorised by area of study or focus area, it does not provide a useful medium to identify who is perceived as 'art' or 'science'. However, the works of Vego and Voelz provide the following guide: is a theorist's work considered general in nature, not reliant on technology of the era; or is the theory context specific, reliant on technology or historical intellectual views?⁸³ Using this guide, both academics discuss the perceived categories of 12 theorists.⁸⁴ For the remaining eight theorists, the guidance above can be used to allocate them to the art and science categories respectively.⁸⁵ Using this information, the top 20 theorists from Table 4.2 can be categorised by study focus area and across the art/science divide, as seen in **Table 4.3**.

This analysis is insightful for a few reasons. It firstly demonstrates that the art/science divide is evenly split across the 20 theorists identified as influential. This suggests that the concept of art/science is more one of subjective discussion, often context specific, rather than an objective 'universal' analysis of different approaches to developing military theory. As such, the concepts of art/science form **ideal-types** that help people understand the characteristics of different approaches to military theory and military thought. Although these ideal-types do exaggerate the different approaches to developing military theory, they assist in comparing and considering the different approaches and outcomes of research.⁸⁶ This also leads to the second insight.

The analysis illustrates which theorists are currently considered the most important, and therefore act as the foundational theorists whose ideas and concepts currently underpin military theory. Finally, by highlighting which areas of study these theorists are most influential in, it is possible to see how specific ideas shape the sub-disciplines of military theory. Knowing this helps military professionals to understand which theorists should be studied, and which theorists' work should be used to cross-reference new ideas – testing and, through valid methodologies, synthesising new theory. It also provides guidance for future areas of research.

Table 4.3 – Top 20 theorists categorised by military study theme and art/science

War Philosophy	Strategic Thinking	Operational Theory	Domain Theory	Other	‘Art’	‘Science’
Clausewitz	Clausewitz	Jomini	Mahan (<i>Maritime</i>)	Mao	Clausewitz	Liddell-Hart
Thucydides	Sun Tzu	Liddell-Hart	Jomini (<i>Land</i>)	T E Lawrence	Sun Tzu	Jomini
Machiavelli	Machiavelli	Boyd	Douhet (<i>Air</i>)	Tukhachevsky	Moltke the Elder	Boyd
	Jomini	Clausewitz	Corbett (<i>Maritime</i>)		Mao	Mahan
	Mao	Moltke the Elder	Liddell-Hart (<i>Land</i>)		Machiavelli	Douhet
	Napoleon	Svechin	Mitchell (<i>Air</i>)		Thucydides	Fuller
	Mackinder		Fuller (<i>Land</i>)		Corbett	Napoleon
			Guderian (<i>Land</i>)		Svechin	Mitchell
					Mackinder	Guderian
					Lawrence	Tukhachevsky

Chapter 5 – Observations and conclusion

What can this mean for the future?

...[W]e should distinguish between military thought in general and military theory. The relationship between them can, perhaps, be most easily expressed as follows: while all theories constitute thought, not all thought amounts to theory. ...[N]ot all ideas or opinions that concern military matters are military theory. [Military theory is an attempt] at systematically organising evidence of the empirical world to a varying degree of universal validity. Theories are thereby of a generalising nature, which not all ideas need to be.

Jan Angstrom and JJ Widen, *Contemporary Military Theory*⁸⁷

Because military theory is not a codified body of knowledge, to understand what military theory *is*, it is necessary to define it and identify who shapes it. This work has answered both of these questions, and thereby provides a starting point to critically consider if the views put forward in modern concepts are military theory or, as Angstrom and Widen highlight, form a part of wider military opinion and thought. How to tell the difference comes from the definition of military theory and its themes.

Using the framework – the difference between military theory and opinion

This work has defined military theory as the epistemology of war. This definition highlights that military theory seeks to understand war and warfare, including its links with wider conflict and society. Furthermore, military theory provides a framework for the valid creation and dissemination of that knowledge. This framework is founded on the philosophy of scientific inquiry, using the scientific method (see sidebar ‘Strategies for Research’).⁸⁸ Much like applied (or public) history, the ‘hypothesis’ is the general idea of a theorist; ‘empirical data’ is the history of war, warfare, and society; and the final theory is the combination of the idea aligned with history that forms a bounded ‘universal validity’ that helps to explain the evidence.⁸⁹ Understanding this definition allows military practitioners and academics to critically question new ideas, impressions and concepts in two ways. First, does the idea fit within the phenomenon of war and its links to wider conflict? Second, was the idea developed through a method or methodology grounded in the philosophy of scientific inquiry – in other words, does it use history or focus purely on a single instant in time or technology? Answering these questions can help define which modern concepts are military theory, and which are opinion. However, the work does more than just define military theory, it also has identified which theorists have shaped its body of knowledge and has raised some interesting areas of future inquiry.

Some observations and areas of future research

This work has identified the most influential theorists. Their work shapes understanding and the body of knowledge of military theory. They also influence the future direction that theory takes. Although it is possible that there is a risk of self-perpetuation – theorists reinforcing theorists – this list provides a reference guide to support military officers understand what military theory is, the nature of war, and the characteristics of different types of warfare. Furthermore, this work also identifies four areas of discussion that provide a starting point to further the development of military theory, and consider additional research to enhance military education.

Strategies for research

Paul Reynolds' discussion on developing knowledge in *A Primer in Theory Construction* summarises the many methodologies into two broad strategies:

Research-then-Theory – This strategy first reviews the empirical data of the phenomenon – in military theory's case, the history of war or the circumstances of a particular war(s) – and lists the characteristics of the phenomenon. Then the strategy seeks patterns in the characteristics and formulates theory statements that summarise and explain the patterns.

Theory-then-Research – As the title suggests, this approach starts with a theory and then seeks to test this theory against the empirical data. Where the empirical data does not support the theory, the theory is adjusted (synthesis) or discarded.

These two strategies represent different philosophies within scientific inquiry. The first believes that there are patterns that can be identified and documented. The second seeks statements that provide useful representations of causality in general terms.

Both have their uses. However, when Reynolds' discussion is considered, it is identified that for military theory Research-then-Theory probably better supports specific theories that are bounded within a defined context (a type of war, or a specific level of war, as examples). Meanwhile, Theory-then-Research is relevant for the general theories of war and warfare that underpin military theory and shape specific theories' focus.

Military theory is primarily the 'whats' and 'whys' of conflict and war

Although this work has identified that military theory does have a link to procedural knowledge, or the 'hows' and 'wheres' of war-fighting, its primary focus is to develop first principle knowledge that considers the underlying principles of warfare and the causal relationships that occur within war. This is the '*what is the principles of warfare and why does war occur and change*', or propositional knowledge, on war. This observation

directly links to the definition of theory. Focusing military theory around this observation can help shape a person's understanding of what is possible within war and conflict – at the tactical, operational and strategic level. It also allows people to adapt procedural knowledge to changing situations.⁹⁰ This is critical because, as highlighted in Chapters 1 and 2, it is not possible to have experience in all aspects of war, warfare and conflict. Therefore, it is theory that helps guide planners, commanders and senior decision makers.

If military theory is focused too heavily on the '*how to conduct warfare*' and the '*where to fight*', or worse, is the result of '...prejudice, gut feelings, and untested and potentially invalid causal propositions',⁹¹ then military officers will be very limited in their ability to plan for future battles, campaigns and wars. Given this, the importance of a strong military education curriculum leading up to Staff College cannot be understated. Not only does this prepare the officer for Staff College – seen as a critical turning point in their career – it also assists in shaping their minds for planning and principle staff roles. After all, in the Australian Army, it is the senior captain and major that is often the planner in small task forces, and an embedded officer within larger coalition operations. Understanding the propositional knowledge of war and warfare can be enhanced through inter-disciplinary study.

Military theory should include a study of power and influence

The conceptual analysis in Chapter 3 demonstrates how military theory is intrinsically linked to other applied social science disciplines. This provides two observations. Firstly, it reinforces the fact that war is linked to human nature and the concepts of power and influence. Although some would argue that war is only focused on coercion, it must be remembered that coercion is a form of influence and for it to be successful, there must be a clear understanding of power.⁹² Therefore, to better understand power and influence in a broader sense – particularly at the campaign and war level – military practitioners should take time to study the concept of power in political science and economics, particularly Steven Lukes' three dimensions of power (see side bar 'Three Dimensions of Power').⁹³ Undertaking such study also links to the second observation.

Three dimensions of power

In their book *Contemporary Military Theory*, Angstrom and Widen discuss Lukes' theory of the three dimensions of power. Their discussion places these ideas in a military context, and thereby helps illustrate how studying power and influence can assist in advancing military theory. The three dimensions of power are:

Decision-Making Power – This form of power consists of the ability to make groups do what you want. It is the one most readily understood by military professionals, both at the personal level (command) and through the traditional lens of deterrence, coercion and military power.

Non-Decision-Making Power – This is the power to influence the agenda. It is a '...form of power where one avoids direct influence by controlling the issues to be decided upon.' This form of power is focused on removing options by setting the agenda. A military example used by Angstrom and Widen is a 'fleet-in-being', where the existence of a fleet, not necessarily its use, forces an enemy to blockade. Other examples could exist in counter-insurgency operations, or military deception.

Ideological Power – This final dimension of power relates to '...influencing someone without the other party noticing that the use of power occurs.' It is the power to influence mental models by shaping the environment and playing on subjective interests of those manipulated. This is targeting the cognitive domain. Although this exists, to a limited degree, in military doctrine (eg. information operations), using power to better explain the interplay between physical and informational actions provides a different perspective on the concept.

As already highlighted, the 20 theorists identified are considered the most influential because they are the ones taught in most institutions, thereby making them appear to be the most important. Although one cannot deny the importance of these theorists, particularly to enable junior officers to understand key parts of military theory, diversifying the study of power and influence more generally does assist in overcoming the possible stagnation of the field. By understanding a broader perspective of power and influence, military practitioners and academics can test external ideas against military theory – thereby creating greater synthesis and advancing the field.⁹⁴

War is more than 'war' – both in translations and reality

By discussing the history of the word 'war', it is seen that the current English definition may have different connotations to that used in historical writing, or other languages. As already highlighted, one possible effect could be a misrepresentation of the word 'war' within historical texts. This may partly explain why translated historical texts, and their ongoing interpretations, refer only to 'war' without a wider consideration of broader 'conflict'. Given that 12 of the 20 most influential theorists are not native English speakers;⁹⁵ and the native languages of eight of them are not part of the Romantic language group;⁹⁶ future research may wish to consider if the narrow definition used in English has affected modern interpretations of past works.⁹⁷ It could also explain why there are different views on what 'war' is across different, but overlapping, disciplines. This may also be linked to the apparent normalising of theorists across the world.

Military theory is normalising – is there really an Eastern/Western way of war?

From Chapter 4, it is seen that many staff colleges around the world are teaching the same theorists – particularly the top ten theorists. This may imply a normalising of the perceived importance of key military theorists across the worlds' militaries. It may also suggest, with further study, that the 'eastern' and 'western' ways of war are now less pronounced than they may once have been. This, as well as the cultural impact of these predominantly European theorists on Asian militaries, could be further areas of study.⁹⁸

Concluding thoughts

This work has answered the questions: ‘what is military theory?’, ‘where does it fit?’ and ‘who influences it?’. It has defined military theory as the epistemology of war. This means it seeks to understand the phenomenon of war and its links to wider conflict, and provides a framework for the valid creation and dissemination of knowledge concerning war and warfare. Although military theory can cover a range of topics – from the procedures of weapon handling up to and including the philosophical reasons for war – its primary focus is the development of first principles knowledge, general and specific, on the nature of war and the characteristics of warfare. Its body of knowledge is shaped by key theorists who form its foundation. This work has also identified these theorists through analysis of staff college curriculums. By providing answers to these questions the work has established what military theory is, who the foundational theorists are that make up its body of knowledge, and how military practitioners and academics should use the framework to further that knowledge, or test other people’s ideas – thereby confirming what is theory and what is a matter of opinion.

Annex A – Glossary

This glossary gives definition for key terms and phrases within the context of this work and military theory more broadly. It is derived from the wider research work being undertaken entitled ‘On War’s Theory: Finding a Relationship Between Military and Systems Theory.’ The definitions provided are either directly from source documents, or have been derived from the research into military theory.

Cognitive Domain. The cognitive domain is one of the three vertical domains in conflict. It is

...where individual and organisational collective consciousness exists. It is where information is used to form perceptions and attitudes and make decisions.⁹⁹

Conceptual Metaphor. A conceptual metaphor is defined as ‘... understanding one conceptual domain [idea/concept] in the terms of another conceptual domain.’¹⁰⁰ Conceptual metaphors work by mapping a known, often physical, experience onto an abstract idea/concept to assist in describing it.¹⁰¹ The known experience is referred to as the **source domain**, which is used to map expressions onto the **target domain**.

Conceptual Repertoire. A conceptual repertoire is the internalized set of concepts and mental models that forms an individual’s, organisation’s or discipline’s world view and understanding. This shapes the subjective meaning of words, phrases and conceptual metaphors used to express ideas and concepts.¹⁰² For organizations and disciplines, a conceptual repertoire is built on shared theoretical and educational experiences.

Congruence. Congruence is defined as being in a ‘...condition of agreeing; agreement.’¹⁰³ This can occur where two (or more) theories merge into one theory (like the Eastern and Western ways of war). It can also occur where one theory’s underlying themes/concepts are found in another theory’s themes, forming **invariants** of a meta-theory. This is how external ideas, like business or systems theories, can be ‘imported’ into military theory or used to support the advancement of military theory.¹⁰⁴ In these cases, it can be said that the two theories have a relationship that allows them to be used together. The strength of this relationship assists in understanding the links between the theories, and if there is congruence between them. If there is little or no relationship, then the theories are not in agreement and there is no congruence. If the relationship is modest, this may imply that the use of one theory to support the development of the second theory may have limited utility. This suggests that there may be congruence, but it is only relevant for specific parts of a discipline, or specific characteristic. Finally, if there is a strong relationship, then both theories are in agreement (or in congruence), indicating that both are relevant to each other.

Epistemology. Narrowly, epistemology is defined as ‘...the branch of philosophy which deals with the origin, nature, methods, and limits of human knowledge.’¹⁰⁵ However, more broadly, it is the field of philosophy that considers ‘...issues having to do with the creation and dissemination of knowledge in particular areas of inquiry.’¹⁰⁶ Therefore, epistemology is the theory of knowledge, either within a specific field of study or more broadly.¹⁰⁷

Ideal-Types. Ideal-Types outline the common characteristics and elements of phenomena. They are not pure examples of a scenario. However, they can be used to compare and consider cases, theories and methods to identify which conform broadly with a phenomenon.¹⁰⁸ An example of ideal-types are the concepts of ‘war as art’ and ‘war as science’. Each represents an exaggerated version of the two different strategies for research – *Theory-then-Research* and *Research-then-Theory* respectively – and demonstrate the common characteristics and elements of methodologies and methods that are grounded within each of these strategies or world views.

Information Domain. The information domain is one of the three vertical domains in conflict. It is

...formed by the intersection of the physical and cognitive domains, and is the abstract space where information exists. The domain

*consists of information and is where the functions of information systems (ie, information collection, processing, and dissemination) create information content and flow. The information domain is the link between the reality of the physical domain and human perceptions and decision-making in cognitive domain.*¹⁰⁹

Invariants. Invariants are ‘unvarying;... constant.’¹¹⁰ Within the context of theory, invariants are the themes that underpin the theory and should be unchanging over time.

Mental Model. Mental models are defined as ‘...deeply ingrained assumptions, generalisations, or even pictures or images that influence how...’¹¹¹ an individual, organisation or discipline understands theories, concepts and the real world. These directly influence actions by shaping the decisions made under normal human cognitive decision-making. This is achieved through schemas – mental models of organized patterns of thought – and stereotypes – mental models of patterns of understood human behavior – being compared to current situations through the cognitive process known as heuristics.¹¹² Mental models for organisations or disciplines are known as ‘shared mental models’.

Meta-Theory. Meta-theory is defined as

*...primarily the study of theory, including the development of overarching combinations of theory, as well as the development and application of theorems for analysis that reveal underlying assumptions about theory and theorizing.*¹¹³

Within the context of military theory (or using external theories within military theory), a meta-theory exists if the underlying themes of one theory are found to be invariants within another theory. The degree that these **invariants** exist highlights the overlap between the theories, thereby demonstrating the relevance of the meta-theory that combines two or more separate theories.

Military Theory. An **epistemology** relating to the phenomenon of war, and all its related aspects, that seeks to understand it and its links to wider conflict; and provide a framework for the valid creation and dissemination of knowledge concerning war and warfare.

Physical Domain. The physical domain is one of the three vertical domains in conflict. It is ‘...the real world environments of land, sea, air, and space.’¹¹⁴

Source Domain. Source domain is part of **conceptual metaphor** theory. This is the conceptual domain, or idea/concept, that is used to understand another conceptual domain (**target domain**) through the mapping of a conceptual metaphor. Source domains are

...typically less abstract or less complex than target domains. For example, in the conceptual metaphor LIFE IS A JOURNEY, the conceptual domain of journey is typically viewed as being less abstract or less complex than that of life.¹¹⁵

Target Domain. Target domain is part of **conceptual metaphor** theory. Target domains are the conceptual domains, or ideas and concepts, that uses another conceptual domain – called a **source domain** – to better understand the abstract idea presented by the target domain through conceptual metaphor mapping. Target domains are ‘...typically more abstract and subjective than source domains.’¹¹⁶ In the example of LIFE IS A JOURNEY, although the concept of life is considered more complex than a journey, it can be better understood through the experience of the source domain of a journey.

Theory. Theory is discretely defined by the dictionary as ‘...a coherent group of general propositions used as principles of explanation for a class of phenomena.’¹¹⁷ However, a specific ‘theory’ is a statement that:¹¹⁸

1. outlines a set-of-laws, the empirical generalisation about a phenomenon;
2. is axiomatic, meaning it details terms, language, truisms and derived ideas (definitions, axioms and propositions) that define the boundaries of study and a phenomenon; or
3. details the causal processes, or the inter-relationships and causal links, that occur within a phenomenon.

More broadly, a theory of a topic cover all the theory statements related to that topic.

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(Endnotes)

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- 2 Greater discussion of these links can be seen in Jan Angstrom and J.J. Widen, *Contemporary Military Theory: The Dynamics of War* (New York City, New York, USA: Routledge, 2015), 4-9.
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- 4 Julian Corbett, *Some Principles of Maritime Strategy*, ePub Apple Books ed. (London, UK: Apple iBooks, 1911), 3.
- 5 From Mao, cited by Handel: Michael I. Handel, *Masters of War: Classical Strategic Thought*, 3rd Revised and Expanded Kobo eBook ed. (Southgate, London, UK: Frank Cass Publishers, 2005), 50.
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- 7 Angstrom and Widen spend significant time defining the themes of military theory and its differences between doctrine, military thought and other disciplines. This book is a key reference for anyone that wishes to understand the breadth of military theory. See: Angstrom and Widen, *Contemporary Military Theory*.
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- 9 'Theory,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
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- 12 Milan N. Vego, 'On Military Theory,' *Joint Force Quarterly* 3rd Quarter 2011, no. 62 (2011): 60.
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- 14 Murat Baç, 'Propositional Knowledge and the Enigma of Realism,' *Philosophia* 27, no. 1 (1999): 200-221; Sterman, *Business Dynamics*, 14-22; Alan C. McLucas, *Decision Making: Risk Management, Systems Thinking and Situation Awareness* (Canberra, ACT, AUST: Argos Press, 2003), 14-20; Brown Jr, 'Rapid Knowledge Formation in an Information Rich Environment,' 3; Nicholas J. Bosio, 'Realistic Balance Scorecards: Systemic Understanding via the Balanced Scorecard Cascaded Construction Method' (University of New South Wales, 2005), 54-56; Frans P. B. Osinga, 'Science, Strategy and War: The Strategic Theory of John Boyd' (Univeristy of Leiden, 2005), 108-120.

- 15 John N. Williams, 'Propositional Knowledge and Know-How,' *Synthese* 2008, no. 165 (2008): 24-25; Mick B. Ryan, *The Ryan Review: A study of Army's education, training and doctrine needs for the future* (Canberra, ACT, Australia: Department of Defence, 2016), 46-47.
- 16 *The Ryan Review*, 48.
- 17 *The Ryan Review*, 48-49.
- 18 This is an extension of the mathematic example outline by Moser, where $1+1=2$ is a fact that is taken as given – therefore being propositional knowledge that aligns with mathematical induction and the $x=x$ axiom, where $y+y=x$ meaning that $x/2=y$ – and the knowledge a person has on *how* to add the two numbers together to demonstrate that they equal '2' is procedural knowledge. Propositional knowledge is also explained by Kant as knowledge that is taken as truth without need for proof – such as 'all bachelors are unmarried'. Cited in: Paul K. Moser, 'Propositional Knowledge,' *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 52, no. 1 (1987): 91-92. The 'what' and 'why' is derived from Williams discussion: Williams, 'Propositional Knowledge and Know-How,' 24.
- 19 Quotation from: 'Theory,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014). For discussion on knowledge, and the types of knowledge, see: Wolfgang Schnotz and Achim Preup, 'Task-Dependent Construction of Mental Models as a Basis for Conceptual Change,' Chap. 7 in *Mental Models in Discourse Processing and Reasoning*, ed. Gert Richheit and Christopher Habel, *Advances in Psychology* (Amsterdam, The Netherlands: North-Holland Elsevier Science, 1999), 140-147, 150-151; Mauri Laukkanen and Mingde Wang, *Comparative Causal Mapping - The CMAP3 Method* (London, England, UK: Routledge, Taylor and Francis Group, 2015), 16-19; Gabriel A. Radvansky and David E. Copeland, 'Memory - Mental Models,' *Education Encyclopedia - StateUniversity.com*, Accessed 16 Jul 2016, <http://education.stateuniversity.com/pages/2219/Memory-MENTAL-MODELS.html>; James Clear, 'Mental Models: How Intelligent People Solve Unsolvable Problems', *Important Ideas, Explained Simply*, 2016, <http://jamesclear.com/feynman-mental-models>.
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- 21 Angstrom and Widen, *Contemporary Military Theory*, 173.
- 22 The information for this sidebar come from three sources. These are (quotations source first): Herbert R. McMaster, 'H.R. McMaster: Thinking Clearly about War and the Future of Warfare – The US Army Operating Concept', *Military Balance Blog*, 2014, Accessed 09 Nov 2016, <http://www.iiss.org/en/militarybalanceblog/blogsections/2014-3bea/october-831b/>

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- 23 McMaster 'H.R. McMaster: Thinking Clearly about War and the Future of Warfare – The US Army Operating Concept'.
- 24 Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Paret, Indexed eBook ed. (New Jersey, USA: Princeton University Press, 1989), 140.
- 25 *On War*, 132.
- 26 Vego, 'On Military Theory,' 60.
- 27 'On Military Theory,' 60.
- 28 This discussion by Vego is reinforced by Angstrom's and Widen's extensive work. Their book, particularly its final chapter, outlines the that military theory's key value is its enhancement of propositional knowledge. See: Angstrom and Widen, *Contemporary Military Theory*, 168-174.
- 29 Steup, 'Epistemology.'
- 30 The key themes discussed in the side bar are from Angstrom and Widen. The analysis, or 'so whats' is derived from this research. See: Angstrom and Widen, *Contemporary Military Theory*, 168-174.
- 31 The dictionary defines war as: '...a conflict carried on by force of arms, as between nations or states, or between parties within a state'. Cited in: 'War,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 32 Craig A. Snyder, 'Contemporary Security and Strategy,' Chap. 1 in *Contemporary Security and Strategy*, ed. Craig A. Snyder (New York City, New York, USA: Routledge, 1999), 3.
- 33 Andrew L. Sihler, *New Comparative Grammar of Greek and Latin* (New York, USA: Oxford University Press, 1995), 4-6; 'War,' in *Oxford English Dictionary*, ed. Judy Pearsall, Fiona McPherson, and Richard Holden (Oxford, England, UK: Oxford University Press Oxford, 2014); Douglas Harper, 'War (Noun),' Online Etymology Dictionary, Accessed 16 Jul 2016, <http://www.etymonline.com/index.php?term=war>.
- 34 Discussion from Sihler, *Greek and Latin*, 13-16. *Bellum* meaning from the *Oxford Latin Dictionary*, cited in: Kevin D. Mahoney, 'Bellum, Belli ' Latdict - Latin Dictionary and Grammar Resources, Accessed 16 Jul 2016, <http://www.latin-dictionary.net/search/latin/Bellum>.
- 35 'War,' in *Oxford English Dictionary*.

- 36 'War,' in *Oxford English Dictionary*.
- 37 'War,' in *Oxford English Dictionary*; Harper, 'War (Noun)'.
- 38 The morphing of languages due to Roman influence is known as romanticisation. The subsequent languages are referred to Romance Languages, which includes Italian, French, Spanish and Portuguese. These language derived many of their definitions from Latin (or Vulgar Latin as Latin mixed with other languages). Interesting, English, though containing many Latin and Ancient Greek words, is not a Romance Language. It is still technically classified as a 'Germanic (West) Language'. However, its growth has been, and continues to be, influenced by other languages – or as the editor for the Merriam-Webster Dictionary explains, it's a mongrel language. Paraphrase cited from: Heidi Stevens, 'English: The Mongrel Language,' *Chicago Tribune*, 04 Apr 2012 2012. Accessed 30 Sep 2016. http://articles.chicagotribune.com/2012-04-04/features/ct-tribu-words-work-language-history-20120404_1_mongrel-language-second-language-english.
- 39 'War,' in *Macquarie Complete Dictionary*.
- 40 Australian Army, *LWD 1: The Fundamentals of Land Power*, ed. Directorate of Future Land Warfare, Land Warfare Doctrine (Canberra, ACT, Australia: Department of Defence, 2014), 9.
- 41 Thomas C. Schelling, 'The Diplomacy of Violence,' *Arms and Influence*, Henry L. Stimson Lectures (New Haven, Connecticut, USA: Yale University Press, 1966), 26-34.
- 42 This analogy is a form of analogical reasoning, or an explicit **conceptual metaphor**, that is used to assist in explaining the abstract idea of the study of conflict and its multi-discipline overlaps. For more information on conceptual metaphors and there effect on thinking see: George Lakoff and Mark Johnson, *Metaphors We Live By*, Kindle Edition ed. (Chicago, USA: University of Chicago Press, 1980); Alan D. Beyerchen, *Why Metaphors Matter - Understanding the Power of Implicit Comparison and its uses within the Marine Corps*, vol. 5, Perspectives on Warfighting (Quantico, Virginia, USA: Marine Corps University, 1997); Nicholas J. Bosio, 'Clausewitz and the CoG: Marriage Stability for Over 180 Years', *Land Power Forum*, 2016, Accessed 08 Nov 2016, <http://www.army.gov.au/Our-future/Blog/Articles/2016/02/Clausewitz-and-the-CoG>.
- 43 There are many summary studies and articles that outline the wide range of issues covered by 'conflict and peace studies'. The following provides an overview only: Christine Cardone and Julie Nemer, eds., *Issues in Peace and Conflict Studies: Selections From CQ Researcher*, Annotated ed., CQ Researcher (Thousand Oaks, California, USA: SAGE Publications, 2010).; Global Issues, 'Issues on the Global Issues Website - Social, Political, Economic and Environmental Issues That Affect Us All,' Global Issues, Accessed 15 Jun 2016, <http://www.globalissues.org/issue>. accessed 16 Jun 2016; Mehreen Khan, 'These are the four biggest threats to the world right now,' *The Telegraph*, 15 Jan 2015 2015. Accessed 15 Jun 2016. <http://www>.

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- 44 This aligns with the key findings by Angstrom and Widen with respect to the themes of military theory, particularly its links to political science and war studies more generally. See: Angstrom and Widen, *Contemporary Military Theory*, 4-9.
- 45 These broad findings align with Angstrom and Widen findings on understanding military theory's links to social science more broadly. See: *Contemporary Military Theory*, 177.
- 46 von Clausewitz, *On War*.99.
- 47 Daniel Coetzee and Lee W. Eysturid, 'Set Introduction,' in *Philosophers of War: The Evolution of History's Greatest Military Thinkers*, ed. Daniel Coetzee and Lee W. Eysturid (Oxford, England, UK: Praeger, 2013), 1-2 to 1-3.
- 48 Handel, *Masters of War*, 3-6.
- 49 Jordan, 'Military Science,' 881.
- 50 This is suggested throughout the discussion of military theory. However, two particular works highlight this best: Vego's article on military theory and Milevski's discussion on the development of grand strategy and strategic thought. It is also reinforced by Angstrom and Widen's military themes. See: Vego, 'On Military Theory,' 62-64; Lukas Milevski, *The Evolution of Modern Grand Strategic Thought*, Kindle eBook ed. (Oxford, England, UK: Oxford University Press, 2016), Loc 87-245; Angstrom and Widen, *Contemporary Military Theory*, 168-174, 177.
- 51 Agenda-Setting Theory, and its extension and adaption into analysis of military education and theorists, is an appendix to the PhD research and may be released as an Australian Army Journal. A draft version is available from the author.
- 52 Abstract from McCombs (2003); cited in: Amber M. Freeland, 'An Overview of Agenda Setting Theory in Mass Communications' (Monograph, University of North Texas, 2012), 2.
- 53 Stephen J. Hoch, 'Availability and Interference in Predictive Judgment,' *Journal of Experimental Psychology* 10, no. 4 (1984): 658-660; Derrick Farnell, 'How Belief Works,' *THINK* 12, no. 35 (2013): Section 9.
- 54 Raymond S. Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises,' *Review of General Psychology* 2, no. 2 (1998): 176-177.
- 55 Although Agenda-Setting Theory was originally focused on the media and communication studies, its theoretical underpinnings are already being used to consider how agendas and the perception of importance occurs in other areas of study. See: Neta Kligler-Vilenchik, Yariv Tsfati, and Oren Meyers, 'Setting the Collective Memory Agenda: Examining Mainstream Media Influence on Individuals' Perceptions of the Past,' *Memory Studies* 7, no. Early Release (2014): 9-11; Sebastiaan Princen and Mark Rhinard, 'Crashing and Creeping:

Agenda-setting Dynamics in the European Union,' *Journal of European Public Policy* 13, no. 7 (2006): 1120-1123.

- 56 A full detail analysis that transitions Agenda-Setting Theory into military education, and the influence this has on future research, as available from the Author. It is an appendix to the wider PhD research and uses causal loop diagrams to demonstrate the effect, and reinforcement, of military theorists on future study.
- 57 Ryan, *The Ryan Review*, 25 (endnote 32), 33.
- 58 The request was formally sent by the Australian Department of Defence's International Policy Division to the Defence Attaches of 37 countries to seek information from their staff colleges.
- 59 The requests were sent via the Australian Army's Directorate of International Engagement. The countries contacted were: Canada, Indonesia, Japan, Malaysia, New Zealand, Singapore, Thailand, United Kingdom, and the United States of America.
- 60 Both Australia and Russia were not formally requested to provide information. However, Australia's 2013 staff college course curriculum was available for review. In addition to this, Timothy Thomas' book, *Recasting the Red Star*, provides extensive analysis of the theoretical underpinnings, and associated influential theorists, that continue to shape Russian military thinking. Furthermore, for Thailand, Indonesia and Japan, an informal method was used to ascertain the list of theorists and, for Thailand and Indonesia, the areas of study the theorists are related to. The information was gained on a not-for-attribution basis. Using these sources the approaches of five staff colleges could be inferred: Australia, Russia, Thailand, Indonesia and Japan (Army). For Thomas' book, see: Timothy L. Thomas, *Recasting the Red Star: Russia Forges Tradition and Technology through Toughness* (Fort Leavenworth, KS, USA: Foreign Military Studies Office, 2011), 23-81.
- 61 The eight staff colleges are: Australian Command and Staff College (Joint), Canadian Forces College (Joint), New Zealand Command and Staff College (Joint), the United Kingdom Joint Services Command and Staff College (Joint), and the four US service staff colleges (Army, Navy, Air Force and Marine Corps)
- 62 Full details of the data, as well as the information collected, is available from the author and is included in the ongoing PhD research work entitled 'On War's Theory: Finding a Relationship Between Military and Systems Theory'. The final 14 staff colleges used in the study was: Australia, Brunei, Canada, Germany, Indonesia, Japan (Army), the Netherlands, New Zealand, Russia, Thailand, Singapore, Spain and the United States of America (US Army and US Marine Corps).
- 63 It is noted that Mahan was not studied at the Japanese Army Staff College. Although no information was provided by the Japanese Naval or Air Force Staff Colleges, it is inferred that the Naval staff college is highly likely to have studied Mahan.

- 64 Jordan, 'Military Science,' 881.
- 65 The key fields of study are listed in the Military Science entry: 'Military Science,' 883-885.
- 66 See: Angstrom and Widen, *Contemporary Military Theory*.
- 67 Basil H. Liddell Hart, *Strategy*, 2nd Revised (1st Meridian) ed. (London, UK: Meridian, 1967; repr., Meridian 1991), 321-322.
- 68 Nicholas J. Bosio and Mark Ascough, 'Providing the golden thread: Strategic deterrence as the new strategic concept', *Land Power Forum*, 2015, Accessed 15 Jul 2016, <http://www.army.gov.au/Our-future/Blog/Articles/2015/11/Providing-the-golden-thread>.
- 69 Australian Army, *LWD-1*, 19-20.
- 70 The lay definition of land/sea/air power relates to a nation having an important and powerful army, navy and/or air force. These definitions come from the entries for Land Power, Sea Power and Air Power, cited in: Susan Butler, *Macquarie Complete Dictionary*, (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 71 Bosio and Ascough 'Providing the golden thread: Strategic deterrence as the new strategic concept'.
- 72 11 of the 14 institutions provided enough data to either directly deduce this, or infer it from theorist categorisation.
- 73 Full analysis is available from the author and is detailed in the ongoing PhD research entitled 'On War's Theory: Finding a Relationship Between Military and Systems Theory'.
- 74 Figure 4.2 uses a stacked graph. Using this graph, it is possible to highlight the relative weight each theorist has within a specific military study theme. Because domain theory covers the three physical domains, it was necessary to level the analysis so that the ranking of land, sea and air power theorists was the same. This was achieved by setting the highest ranked theorist within the relevant domain to 4, and then using this to rank the rest of the theorists in descending order. A similar graph for all 20 theorists is available from the author and as a part of the wider research.
- 75 The first is often referred to as 'Clausewitzian', while the second is 'Jominian'. A discussion on these differences is provided by Willmott and Barrett (briefly), Otero (briefly) and Nomura (detailed). Nomura's discussion on the different methods is interesting. Although he highlights that Clausewitz's methods are deductive and Jomini is inductive – meaning Clausewitz is technically aligned with scientific methods – Nomura outlines that Clausewitz remains qualitative compared to Jomini's research that develops specific principles. H.P. Willmott and Michael B. Barrett, *Clausewitz Reconsidered* (Santa Barbara, California, USA: Praeger Security International, 2010), 22-24; Christopher Otero, 'Reflections on Clausewitz and Jomini: A Discussion on Theory, MDMP, and Design in the Post OIF Army,' *Small Wars Journal* 2011, no. May (2011): 6;

- Ryan C. Nomura, 'Issues in Strategic Thought: From Clausewitz to Al-Qaida' (Master Thesis, Naval Postgraduate School, 2012), 20-22, 124.
- 76 Vego describes the development of both 'war as a science' and 'war as an art'. Milan N. Vego, 'Science vs the Art of War,' *Joint Force Quarterly* 3rd Quarter 2012, no. 66 (2012): 62-63, 66.
- 77 'Science vs Art,' 69.
- 78 See Voelz's article: Glenn Voelz, 'Is Military Science "Scientific"?,' *Joint Force Quarterly* 4th Quarter 2014, no. 75 (2014).
- 79 Angstrom and Widen, *Contemporary Military Theory*, 170-174.
- 80 Some examples are: Eric Cummings and Michael Cummings, 'The "Art" vs. the "Science" of War', *On Violence*, 2010, Accessed 05 Aug 2016, <http://onviolence.com/?e=188>; desaxx, 'The Art and Science of War', *International Relations, National Security, and Military Art*, 2010, Accessed 05 Aug 2015, <http://desaxx.blogspot.com.au/2010/09/art-and-science-of-war.html>.
- 81 Some examples are: Stephen Mumford, 'Art versus Science?', *UoN Blogs-Arts Matters*, 2012, Accessed 05 Aug 2016, <https://blogs.nottingham.ac.uk/artsmatters/2012/03/06/art-versus-science/>; Anna Mar, 'Inspiration vs Perspiration (Flash of Genius versus The Repeatable Innovation Process)', *Simplicable*, 2011, Accessed 05 Aug 2016, <http://business.simplicable.com/business/new/inspiration-vs-perspiration>.
- 82 For the purposes of this discussion, art is defined as '...a skill or knack; a method of doing a thing'. Science is defined as '...the systematic study of the nature and behaviour of the material and physical universe'. Cited in (in order): 'Art,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014); 'Science,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 83 Vego, 'Science vs Art,' 65; Voelz, 'Is Military Science "Scientific"?,' 89.
- 84 Vego and Voelz indicate that Clausewitz, Sun Tzu, Moltke the Elder, Machiavelli and Corbett as 'art' theorists. Meanwhile, they indicated that Liddell-Hart, Jomini, Mahan, Douhet, Fuller, Napoleon and Mitchell as 'science' theorists. See: Vego, 'Science vs Art,' 64; Voelz, 'Is Military Science "Scientific"?,' 85-87; Vego, 'On Military Theory,' 65.
- 85 The remaining eight theorists are: Mao, Boyd, Thucydides, Svechin, Mackinder, Guderian, Lawrence and Tukhachevsky. Thucydides is allocated to the 'art' category to align with the other realist political theorist, Machiavelli. Mao, Svechin, Mackinder and Lawrence are also allocated to the art category as their theories are not necessarily time or technology specific. Boyd is aligned to the science category due to the strong systems framework that underpins the OODA loop. Furthermore, Guderian and Tukhachevsky are also allocated to science due to the technological links with their ideas.
- 86 Lange discusses a discussion on ideal-types and its use to compare theory

and patterns. See: Matthew Lange, *Comparative-Historical Methods*, Kindle ed. (London, England, UK: Sage Publications, 2013), Loc 827.

- 87 Angstrom and Widen, *Contemporary Military Theory*, 4.
- 88 Reynolds provides significant discussion on the two strategies represented in the side bar. He outlines the broad methodologies behind the strategies, their philosophical viewpoints on the relationship between the real world and knowledge, and discusses the difficulties associated with both strategies. The sidebar provides an overview of this work and places it within the military theory context. See: Reynolds, *Theory Construction*, 140-151.
- 89 A discussion of using history, either directly or through analogy, effectively as well as the failures can be seen in the books *Thinking in Time* and *Analogies at War*. Both books use case studies that effectively highlight the failures that can occur where history is used without rigours methodologies to validate the ideas. Both these books provide useful discussion on how to effectively consider applied history for policy making. See: Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision Makers*, Kobo eBook ed. (New York, New York, USA: The Free Press, 1986), 13-16 to 13-21; Yeun Foong Khong, *Analogies at War: Korea, Munich, Dien Bein Phu, and the Vietnam Decisions of 1965* (Princeton, New Jersey, USA: Princeton University Press, 1992), 211-227, 245-250, 253-256.
- 90 Ryan, *The Ryan Review*, 48-49; Bosio 'Want the edge? More 'ME' in 'PME'.
- 91 Angstrom and Widen, *Contemporary Military Theory*, 173.
- 92 Influence is seen as a broad construct, with coercion being a sub-section. The concept that military power is solely for coercive matters does not align with the historical uses of militaries throughout history. In fact, military power has been used to shape perceptions through engagement. This is the wider use of the term *influence*, and goes beyond the traditional view of military power as a purely *coercive* force. See: Schelling, 'The Diplomacy of Violence,' 1-34; Lewis A. Dunn, *Deterrence Today: Roles, Challenges and Responses*, ed. IFRI Security Studies Center, PDF ed., vol. Summer 2007, Proliferation Papers (Paris, France: IFRI Security Studies Center, 2007), 20-22; Angstrom and Widen, *Contemporary Military Theory*, 169-170.
- 93 These are cited in Angstrom and Widen's work, with a discussion on their practicalities. This forms the basis of the sidebar in the chapter. See: *Contemporary Military Theory*, 170.
- 94 This is advocating a move towards dialectic analysis, as used by Clausewitz, where a thesis (military theorem) is placed against an antithesis (external idea on power/influence) and the two are critically considered, leading to a synthesis of ideas.
- 95 The Romance Languages identified in the list are: Italian and French.
- 96 The 12 are: Clausewitz, Sun Tzu, Jomini, Moltke the Elder, Mao, Thucydides, Machiavelli, Douhet, Napoleon, Svechin, Guderian, Tukhachevsky.

- 97 The eight are: Clausewitz, Sun Tzu, Moltke the Elder, Mao, Thucydides, Svechin, Guderian, Tukhachevsky
- 98 The study of the normalising of Eastern and Western ways of war would be seen as a furthering of military theory. The cultural effect of European theorists on Asian militaries, though interesting, would not be considered to be part of military theory based on the definition. However, it is very relevant for political science and anthropology, particularly how this may either flow into wider society, or create a divergence between militaries and their societies.
- 99 Robert Cordray III and Marc J. Romanych, 'Mapping the Information Environment,' *IOSphere* 2005, no. Summer (2005): 7.
- 100 Zoltan Kovecses, *Metaphor: A Practical Introduction*, (Oxford, UK: Oxford University Press, 2002). <http://site.ebrary.com/lib/anua/detail.action?docID=10387244>. 4.
- 101 Lakoff and Johnson, *Metaphors We Live By*, 10-11; Beyerchen, *Why Metaphors Matter*, 5, 1-2.
- 102 Barry Newell, 'Simple Models, Powerful Ideas: Towards Effective Integrative Practice,' *Global Environmental Change* 2012, no. 22 (2012): 777.
- 103 'Congruence,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 104 This is reinforced by Angstrom and Widen's military theme of *Methodology of Military Theory*. See: Angstrom and Widen, *Contemporary Military Theory*, 170-172.
- 105 'Epistemology,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 106 Steup, 'Epistemology.'
- 107 Peter B. Checkland and Jim Scholes, *Soft Systems Methodology in Action*, 5th Reprint with 30th Retrospective ed. (Chichester, London, UK: John Wiley and Sons, 1990), 23-25; Peter B. Checkland, *Systems Thinking, Systems Practice*, Kindle ePub 30th Retrospective ed. (Chichester, West Sussex, UK: John Wiley and Sons, 1993), Loc2550-2603.
- 108 Lange, *Comparative-Historical Methods*, 39.
- 109 Cordray III and Romanych, 'Mapping the Information Environment,' 7-8.
- 110 'Invariant,' in *Macquarie Complete Dictionary*, ed. Susan Butler (Sydney, NSW, AUST: Macquarie Dictionary Publishers, 2014).
- 111 Peter M. Senge, *The Fifth Discipline*, Kobo ePub ed. (London, England, UK: Random House Business Books, 1990), 8.
- 112 Bosio, 'Realistic Balance Scorecards,' 30-32.
- 113 Steven E. Wallis, 'Toward a Science of Metatheory,' *Integral Review* 6, no. 3 (2010): 78.
- 114 Cordray III and Romanych, 'Mapping the Information Environment,' 7

- 115 Kovecses, Metaphor: A Practical Introduction. 252
- 116 Metaphor: A Practical Introduction. 252-253.
- 117 'Theory.'
- 118 Reynolds, Theory Construction, 10-11.

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