

Advances in Military Geosciences

Stuart Pearson
Jane L. Holloway
Richard Thackway *Editors*

Australian Contributions to Strategic and Military Geography

 Springer

Advances in Military Geosciences

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Australian Contributions to Strategic and Military Geography



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Contents

1	Introduction	1
	Stuart Pearson, Jane L. Holloway, and Richard Thackway	
2	Australian Contributions to the History of Military Geography	13
	Stuart Pearson	
3	‘A Country Girt by Sea’: An Overview of Australian Maritime Exploration and Policy Drivers	35
	Peter Kenshole	
4	Reflections on Strategic Military Geography 2.0	49
	Jane L. Holloway	
5	Climate Change as a Hyperthreat	69
	Elizabeth G. Boulton	
6	Religion and Australia’s Near Region	91
	Dan Cassidy	
7	Geographies of Irregular Warfare	103
	David Kilcullen	
8	Strategic Military Geographies in the South China Sea	109
	Greg Austin	
9	Australia’s Most Southern Shores: The Strategic Geography of Antarctica and the Southern Ocean	129
	AJ Press	
10	The Evolution of Geospatial Intelligence	143
	Robert S. Coorey	
11	Characterising the Environmental Values of the National Defence Estate, with Emphasis on Native Vegetation	153
	Richard Thackway and Frederick Ford	

12	Australia's First and Most Important War	177
	Henry Reynolds	
13	The Climate-Security Teleconnections of El Niño Southern Oscillation	187
	Michael Thomas	
14	From Skin to Strategy: Repositioning the Terrain and Temporality of Heat Stress through Social Practices	201
	Elspeth Oppermann and Matt Brearley	
15	Sustainably Managing the Defence Estate: Selected Case Studies	217
	Richard Thackway and Stuart Pearson	
	Index	241

Chapter 1

Introduction



Stuart Pearson, Jane L. Holloway, and Richard Thackway

There is a moment, in the emergence of a new ontological or epistemological approach, when a potential transformation is framed by the past, informed by the present and inspired by potential futures. Australian strategic and military geography may be at that moment. This book presents the case for a resurgence of strategic and military geography in Australia, principally by examining a few conceptual aspects, a first approximation of a history, indicative contributions from some specific domains of expert knowledge and some recommendations for future developments.

Australian contributions to strategic and military geography are diverse and eclectic; encompassing matters of interest in the strategic, operational and tactical domains; from micro to macro; theory and practice. Some inform and contradict each other. These are essential parts of an integrative role and the contest of systemic coherence in the geographical discipline.

In the writers' collective opinion, Australia has contributed, and will continue to contribute, to strategic and military geography. Geography remains fundamental in today's world – particularly in a defence and security context – and even at transmission speeds faster than humans can engage with. The strategic, operational and tactical worlds change relative to expectations people have about defence and security.

This contribution was inspired to present, and nudge, different ways of thinking about the changes in Australia's defence and security environments. The context of

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this volume about Australia's contribution to strategic and military geography is strongly shaped by the people and discussions that brought it together. These contributions include the emergence of 'wicked problems' and the increasing use of a systemic or holocentric heuristic in response, the rise of cyber, the increasingly intrusive connectedness of human endeavours around the globe and emerging Earth system reactions, leading to non-linear changes in biophysical, human and cyber geography (Holloway 2017, Chap. 4). These are accompanied by increasing complexity, an emerging multipolar world, increasing capabilities in computing and communication, force asymmetry, stand-off methods of war, confidence in design thinking, artificial intelligence and paradoxes in security, connectedness, prosperity and health. An often neglected, but nevertheless vital part of our strategic and military geography is the degree to which acquisitions of land-based assets and periodic ecologically-based assessments of their extent and condition are meeting the current strategic and projected future training needs (Thackway and Pearson 2017, Chap. 15).

Each chapter is a standalone contribution and collectively the chapters share numerous and common themes, memes and concepts in terms of strategic and military geography. Viewed as a whole, the chapters are variegated and reflect differences in formality, style and accessible detail. This volume as a whole presents observations and ideas representing a wide scope and diversity of skills and expertise across numerous disciplines. It characterises current thinking in Australian strategic and military geography.

The authors comprise researchers from universities, industry, former and serving military officers and public (or civil) service policy makers. Their initial purpose was to share and discover what was of interest and prospective for further discussion and research. Australia, compared to the US and UK, has a small inconspicuous strategic and military geography sub-discipline at this time. This community were keen to be informed of what is happening elsewhere and to become part of a larger conversation and community.

This book describes, without being excessively narrow or exceptionalist, Australian contributions to strategic and military geography. Our contention is that Australia has further contributions to make. We seek to demonstrate it in this book, in the material the authors cite, in their observations and what they recommend. The book provides applied knowledge, and each author contributes points that are actionable and written for readers with military, public or academic perspectives.

1 The Australian Way

Australia has a highly variable and dynamic environment making it difficult to generalize about its geography or its biophysical or human characteristics (Thackway and Ford 2017, Chap. 11). Australia's land and sea estate spans the tropics to the South Pole, 5% of the world land and 10% of the world ocean area. Australia has a multicultural society spread across many regional bio-climates and

human-environment sub-systems. It has global strategic interests and it also has an interest in the increasingly obvious global, regional and continental impacts of collective human activity. Globalisation and other connectedness is changing the world: overwhelming some Earth system boundaries; driving cybernetic and technological singularity with upside and downside risks; and challenging our old ways of thinking, finding out, taking action and evaluating the results may be part of the problem rather than the solution (Holloway 2017, Chap. 4). The drivers for new ontological and epistemological insights raised by authors in this volume concern strategic and military matters, but they are also set within a larger (global and transformational) context and also in a small, very human, set of constraints.

Continental Australia has supported indigenous peoples for over 60,000 years. Those original inhabitants, who have the oldest living cultures in the world, shaped the continent's social and biophysical landscape into the biggest estate on earth (Gammage 2011). The perspectives of these original peoples and their ancestors are not routinely incorporated into modern Australian society. Knowledge of their geography and history has been variously misrepresented, disregarded and suppressed. Their cultures, languages and knowledge, which are overwhelmingly oral and place-based and closely linked into the biophysical landscape, have often been misunderstood or deliberately misappropriated since the advent of European settlement (Henry Reynolds 2017, Chap. 12). With the overturning of the 'terra nullius' (literally empty land) precept in Australian law, Aboriginal and Torres Strait Islander peoples are increasingly able to reconnect to their ancestral lands. Conversations about what are described as Frontier Wars – continued in this volume – are becoming better understood and accepted. That is not to imply that the Frontier Wars are over. Australian institutions and legal arrangements, mostly derived from the United Kingdom (mainly England), still retain inherent biases against the ancient cultures that pre-dated Britain's forcible acquisition of the continent. A lesser violence continues in Australia that results in the starkly inequitable inter-generational outcomes for Australia's indigenous peoples, much of it related to social and economic marginalisation, loss of language, culture, place and space, and disconnection from their ancient songlines and dreaming ancestral dreamtime and country.

When the British Empire established their port cities in Australia from 1788 they did so under their flag, used the para-military forces of the state and the immigrants to suppress the indigenous people and the environment to make their systems of land tenure, race, religion and agriculture work. Australian environments (of course including the social environment) were reshaped in novel ways – imposing private land ownership, building towns and cities, developing the land by clearing trees, impounding waters and establishing intensive agriculture.

New arrivals, including some outcast criminals and some trained in the military who had served in foreign wars, followed a colonial path and contributed to the culture of frontiersmen, bushmen and militarists in Australia. Distance from the Empire was in many ways the defining issue of Australian human, cultural and physical geography (Blainey 1966). Australia started a to become more independent in thought and action with remarkable changes shaped by new geographies. The

events and processes of developing Australia's Anglo-European human geography are already well described.

Today Australia's prosperity – geographically, economically and socially – is best served by an open, globally-enabled trade economy with air-sea borders that suit a wealthy and multicultural population. Australians pride (and sometimes delude) themselves on their individualism, anti-authoritarian larrikinism, egalitarian mateship, tolerance of cultural difference, commitment to a fair go, freedoms of speech and privacy, and human rights. At scales beyond the nation state, Australia strongly supports the UN system and was a significant actor and supporter in its creation (Pearson 2017, Chap. 2 and Press 2017, Chap. 9). Australia has a self-narrative of being a good international citizen, a middle power that “punches above its weight”, and an honest broker who, because of its limited military power and geographic position, contributes a useful voice to the rules-based global order.

Australia's strategic and military position has continued to change. The dominant mantra is about being a middle power, a good neighbor and participant in the rules-based global order with a focus on its geographical region. Australia's interests are dictated by its: English-speaking legal, political and other cultural heritage; position as a globally competitive supplier of commodities (coal, iron, education, food and fibre) – especially to China and Japan; location in the Asian sphere; maritime isolation and responsibilities; reliance on imported products and fuels; and enduring alliances with the USA, United Kingdom, New Zealand and Canada, especially in the areas of Defence and security. Australia also maintains close military and other ties with neighbours such as Indonesia, Papua New Guinea and Singapore particularly.

2 A Future of Contribution

Australians use mobs of idioms – one, “she'll be right” – is used to describe a (possibly naïve but droll) optimism, apathy or an acceptance of what might be called ‘a fit for purpose’ standard (rather than perfection). The use of the feminine pronoun in that idiom might further suggest that the future may be fickle or productive; unpredictable and lucky. Australians have changed: The old bush-city banter of Lawson and Paterson in the pages of national papers (1892–3) is nothing more than an artifact to most contemporary urban Australians. Beyond immediate interest in North Korea's nuclear and intercontinental missiles, the scourge of home-grown extremism and terrorism in the region – Australia's near-term future view includes: China's and India's emergence as military powers with strategic needs and maritime ambitions; African nations' ongoing struggles; failing states in the region, megacities and insurgent wars; and the emergence of climate change-strengthened natural disasters that appear to be on a pathway to become an existential threat (DoD 2016). Future strategy and military work – including Australian Defence Force (ADF) deployments – will require additional technical and cultural literacy. It is our contention that geography's methods, skills and attitudes are more useful than they have

been for nearly 60 years when the world was at war and geographers were mapping the islands of Australia's northern approaches.

3 Australia's Defence and Security Environment – New Frames

Two important documented processes frame the ADF; numerous Defence reviews and the Defence budget; both are frequently published and widely accessible. Yet reading the policy or the doctrine is often less informative than following the money (Thomson 2017). Australia's expenditure on Defence is over 34 billion dollars or 1.9% of Australia's GDP and that is, according to a recurrent report, Ninety-five million, thirty-two thousand, five hundred & ninety-one dollars & seventy-eight cents per day (Thomson 2017). Rapid growth in preparedness required and new capabilities strains the organization's ability to spend the money. New procurements of submarines, fast jets, cyber security and other domestic security measures are growing with proposals for stronger homeland security arrangements.

Defence is review rich – it has had more than 36 reviews since 1973 (Conroy 2015), one of the most recent is *The First Principles Review* that recommended it become a 'holistic, fully integrated One Defence system' centralized to strengthen accountability and top-level decision-making (DoD 2014). Judgement on its failings will come from an Audit of its performance due in March 2018 (ANAO 2018). Failures, inefficiency and poor accountability characterise previous reports. A relatively large civil-military organisation is a cumbersome thing to change in peace time and perhaps even harder when there is a high tempo of overseas deployments (Pearson 2017, Chap. 2).

The development and implementation of the Australian Defence White Paper 2016 involved some fundamental rethinking about Australia's geographical place in the modern context of a rising China, climate change and cyber security. Defence White Papers are Australia's principal public policy document regarding defence and security. They present the Government's assessment of Australia's strategic environment, long-term strategic direction and commitments for Defence (Table 1.1), as well as setting out future capability requirements. White Papers include policy guidance on strategy, capability, industry, innovation, posture and international engagement.

The detailed strategic analysis of experts such as Alan Dupont (Dupont and Reckmeyer 2012; Dupont 2015), Paul Dibb (Dibb 2006), Hugh White (White 2012), Adam Lockyer (Lockyer 2017) and others cannot be synthesized here – in summary there is a smorgasbord of alternatives and a shortage of diners prepared to commit themselves. Choice-making and then investing adequately and staying the chosen course appear as central criticisms of Defence and of the Australian political system more generally.

Table 1.1 Australia's strategic defence framework (DoD 2016)

Strategic Defence Interests		
A secure, resilient Australia, with secure northern approaches and proximate sea lines of communication.	A secure nearer region, encompassing maritime South East Asia and the South Pacific.	A stable Indo-Pacific region and a rules-based global order.
Strategic defence objectives		
Deter, deny and defeat attacks on or threats to Australia and its national interests, and northern approaches.	Make effective military contributions to support the security of maritime South East Asia and support the governments of Papua New Guinea, Timor-Leste and of Pacific Island countries to build and strengthen their security.	Contribute military capabilities to coalition operations that support Australia's interests in a rules-based global order.

Australia's current contribution to the broader global Defence and the security environment can be understood using three contemporary frames. These emerging requirements are not comprehensively covered in this volume but we hope they will be in future applied to military geography research.

3.1 Frame 1 – Cyber Geography and the Security Boomerang

Cyber Geography has emerged over the past 15–20 years (e.g. Kitchin 1998) and it is being increasingly securitised, including through the development of Australia's first Cyber Security Strategy (Department of Prime Minister and Cabinet 2016). In 2016–7, following well-reported global cyber security incidents, the Australian Signals Directorate, situated in Defence, was directed “to use its offensive cyber capabilities to disrupt, degrade, deny and deter organized offshore cyber criminals” (Payne 2017). Use of this capability was previously limited to helping target, disrupt and defeat terrorist organisations. This new directive maintains consistency with Australia's international legal obligations, and is subject to stringent legal oversight. And yet it also illustrates the ‘boomerang effect’ of capabilities being deployed abroad by the military subsequently ‘coming home’ and crossing into civilian life even when they may be at odds with Australian values (Kilcullen 2016).

3.2 Frame 2 – Homegrown Threats

Endogenous threats; home grown militants, returning nationals who have fought in foreign conflicts, civil emergency, natural disasters and humanitarian crises have changed the expectations for the kinds of tasks the military are allocated. The increasing likelihood of extreme and unrelenting climate and other Anthropogenic changes to Earth systems, the faith in the military to work when all else fails (an

idea described clearly for the US by Brooks 2017) and an awareness (often beyond the capability to respond) that complex human and biophysical systems are at work.

In addition, there is an emerging global and scientific consensus that planetary boundaries, that have provided a relatively safe and stable operating space for the human race for thousands of years, are being progressively and irreversibly exceeded. These complex, intertwined and novel challenges have obvious – and cascading – consequences to defence and security. The implications at local, national, regional and global scales involve the United Nations, member governments and sub-national groupings (cities, local or provincial governments) who are increasingly mobilizing to address national responses. Sometimes these include whole-of-government activities and military organisations, some of which – like the US Navy – have led identification and analysis of impacts. The ADF is designed and indoctrinated to fight foreign (and mainly state-based) threats – is it appropriately equipped and tasked to extend the concepts of defence and security to potentially catastrophic changes in (global and regional) biophysical geography?

3.3 *Frame 3 – Integration and Applied Science*

Geography, as an integrative and applied science, is able to use the tools and understanding of human and biophysical sciences. It draws on the knowledge of many disciplines, to solve and resolve problems that defy discipline-specific solutions. Working with complex adaptive systems and system-of-systems approaches provides an engaging, effective and appropriate way to consider global change (Holloway 2014). Strategic and military geography offers *tools* to know place and space, *time* and *scale* that can be used to identify and work with systems of interest, and purposeful application to achieve desirable outcomes. While not specifically referencing the discipline of strategic and military geography, the ADF uses equivalent tools, systems, disciplinary experts and teams to achieve end states through applying their own conceptual understandings. The ADF's involvement, along with its allies, in recent decades with disaster relief, humanitarian assistance, peace-keeping and counter-insurgency warfare (Kilcullen 2017, Chap. 7) have honed these skills, doctrines and resources.

Geography has a strong focus on places and it also has highly permeable boundaries – it facilitates innovation, cross-disciplinary work and often seeks application and feedback from practitioners. These characteristics are demonstrated in the chapters of this book. The use of geography in war is ancient and it forms one of the foundations for all military education and training. Much of military geography is highly transferable through history and internationally. Australian targeting doctrine, for example, includes quotations by Sun Tzu, a strategist from 2500 years ago and 200-year-old advice from Clausewitz. Some aspects of military geography, however, are born of perspectives closely shaped by a country's geography, its resources and people, and its modern – and ancient – history.

4 Reviving Geographical Concepts

Landscapes and geography are foundations of human experience, learning and discussion in society. Geography is compulsory in Australian primary and secondary education (Holmes 2015) and everyone is expected to be a geographical thinker. Others, sometimes former geography graduates but also from agricultural and forestry systems disciplines, go on to apply the language and insights of geography in strategic studies, humanities or engineering. People use geography's essential understandings of spatial arrangement as a lens and use the traditional strengths of inter-disciplinarity, scalar analysis, synthetic capabilities, acceptance of multiple knowledges (including traditional, scientific, religious, modelled) and a willingness to be (self-) critical and constructive.

Holmes (2002, 2016) and Pearson et al. (2005) have described the challenges of being geographers in Australian universities. In summary, coupled human and biophysical academic traditions in geography in Australia delaminated during the 1960–80s, with social and cultural geographers making their connections to the humanities, critical or Marxist approaches, and physical geographers finding stronger affinities to physical sciences and environmental systems disciplines.

In Australian universities, former geography disciplines have split into humanities and physical sciences and now these disciplines are rarely in the same organizational unit. Integrated human and biophysical analyses are now typically being done as isolated units without reference to 'Geography' for reasons suggested by Holmes (2002). The proposal explored by the authors in this book is part of a nascent movement to re-engage across disciplines and agencies to share geographically-related insights and support people working on places, problems, science and arts of military and strategic geography.

A brief overview of the history of Australian contributions to the sub-discipline of military geography provides some initial structures to consider (Pearson 2017, Chap. 2). An historical approach might also help ensure only new mistakes are made (rather than repeat the same ones) and help build on previous thinking rather than restarting the work. Australian Geography's academic foundation is largely attributed to Griffith Taylor who wrote, often controversially, about Australia's population, especially its distribution, and other human and biophysical geography issues.

Strategic Military Geography has developed as a heuristic model for discussing and preparing for military responses to global changes; including biophysical, climate, biodiversity and land use since 2012 (Holloway et al. 2015). That model was highly successful through engagement of senior Defence force planners and policy makers. It continues to be revised and improved (Holloway 2017, Chap. 4) for use by Defence and with other military organisations, other government agencies, researchers and industry. A particular focus in this endeavour is the likely consequences for defence preparedness (readiness) and future operations. Military preparedness requires response options to global biophysical, socio-cultural and

cyber-geographic changes, including those provoked by climate change, biodiversity loss, land use change, aerosols and synthetic chemicals.

5 ‘Looking out’ and ‘Looking in’ – Perspectives of the Authors

The contributions presented in this book provide two broad perspectives on strategic and military geography. Some authors have taken the vantage point of ‘looking out’ from Australia’s shores (e.g. Peter Kenshole, Greg Austin, David Kilcullen), while other authors have taken a perspective of ‘looking in’ on Australia (Michael Thomas, Tony Press, Henry Reynolds and Stuart Pearson, Richard Thackway and Fred Ford). For example, (Richard Thackway and Stuart Pearson 2017, Chap. 15) explore the application of well-developed civilian technology and assessment frameworks into the Defence estate to meet the increasing demand for Defence to be an environmental Estate manager and to prove that publicly.

Other chapters are agnostic to these two perspectives and take global perspectives (e.g. geospatial intelligence by Rob Coorey (2017, Chap. 10); hyper-threats by Elizabeth Boulton (2017, Chap. 5); and security implications of El Nino by Michael Thomas). Coorey’s experience as a Defence-related business is brought to life in his work on GEOINT, a domain of rapid technological advance and civilian application. In a more philosophical way, Boulton’s chapter (2017, Chap. 5) has developed new ways to conceptualise the challenges of climate change. Boulton’s hyper-threats show the power of a team and book authoring project to drive discussions between disciplines. Thomas’s chapter (2017, Chap. 13) explores global circulation that creates security teleconnections that can worsen or provide opportunities in the ADF’s strategic and operational environments. This kind of work is very useful to an agency that builds capabilities years ahead. Together Oppermann and Brearley (2017, Chap. 14), Boulton, and Thomas provide inputs to the broader consideration of climate change and ground their research in their military practice, thus providing some original Australian contributions to the resurgent sub-discipline of strategic and military geography.

Dan Cassidy’s (2017, Chap. 6) examination of cultural and spiritual differences, between Australian and our near neighbours, provides strategic insights for ADF deployments. Tony Press (2017, Chap. 9) shows the strategic nature of Australia’s scientific work in Antarctica and suggests this collaborative approach to national interaction can deliver Australia’s interests. While Henry Reynolds (2017, Chap. 12) shows the value of synthesizing his knowledge of Indigenous history and the Frontier Wars providing valuable insights into how Australia’s cultural and physical geography influenced the range and nature of those wars.

6 Where to from Here?

The sub-discipline of strategic and military geography is loosely drawn together in Australia using an informal study group, associated with the Institute of Australian Geographers. There are connections to global communities such as the American Association of Geographers, the British Association of Geographers and the European Geophysical Union. This will enable the conversations started in and by this book to be continued and expanded into the future. Some specific considerations for a strategic and military geography community, both locally and internationally, include:

1. Definitions and key tenets of the sub-discipline and relationships to other disciplines and approaches including regional geography, systems science and learning philosophies.
2. Leadership – intellectual and practical – and community building.
3. Community engagement to elicit key questions for future research.
4. International collaborations

7 Conclusions

The re-emergence of military geography, particularly at the strategic level, in Australia is described in this book using conceptual, historical and empirical evidence. It shows that Australia has contributed expert knowledge, skills and an attitude that promises future development in geography. The authors share a belief in the potential for geography to provide boundary-crossing opportunities for future contributions and have helped identify the domains that look particularly prospective.

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Chapter 2

Australian Contributions to the History of Military Geography



Stuart Pearson

1 Introduction

War is an intensely practical, human and physical activity affected by geography, history, weather and terrain (Smith 1990). The importance of geographic place, space, areas and concepts in military thought and practice makes an appreciation of the history of strategy and military geography fundamental. The evolution of military geography and its growth as a discipline is shaped by new values and technology. This chapter suggests that, so far, the themes, periods and individual cases in Australia's contributions to strategic and military geography have grown more like garlic than an onion. The cloves I consider in this metaphor formed around individuals and during periods of time in response to events and problems. The sub-discipline of military geography in Australia has a substantial tradition, a heritage of practitioners, scholars, and growing demand. It is surprising then that academic geography in Australia has contributed so little flavour to military geography. Internationally, military geography's epistemological and ontological questions are hotly contested; the sign of a healthy discipline.

Conventional military geography defined, 'as the application of geographical tools and techniques to the solution of military problems' (Galgano and Palka 2012) has a very long history in the discipline of geography. Maps are critical to the concepts and work of the military. Other spatial technology continues as a revolutionary driver in the military domain. Woodward (2016), in response to human geography's apparent disinterest in military issues in the post-war period, is leading a critical turn to define military geography narrowly as, "the study of the ways in which militarism and military activities are geographically constituted and expressed", but a

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broadier definition is appropriate and helpful – as illustrated in the chapters of this book.

In Australian geography the sub-discipline of military geography is very inconspicuous compared to the United States and British traditions. Australian universities' geography is driven by various factors (Holmes 2016) and a decline in integrated (human and biophysical) approaches such as regional geography, natural hazards or relevant methodological approaches (such as geographical information science) invites further concern about the contribution geography makes to strategic and military geography.

In 2015, when Geographers from universities, geo-intelligence company representatives, former and serving military officers and others gathered in a military geography session of the Institution of Australian Geographers conference it was a small group. They wanted to rediscover the history of Australian military and strategic geography and ensure they built on previous thinking. They wanted to avoid old mistakes and know the opportunities and threats of a new sub-discipline. Secondly, the group wanted to consider if strategic and military geography's past in Australia was an important resource for its possible futures. Also, during discussions with the American Association of Geographers military geography study group, it became clear there were some uniquely Australian contributions to strategic and military geography.

This is an initial scoping of Australian contributions to military geography and is not comprehensive or definitive; it is based on a review of the literature and from experience in military, educational and research efforts. It omits a discussion of school and university geography content (Hay 2012) and Australian School Cadets (but see Stockings 2007) as contributors to military geography. It is inspired by John Holmes's great insights into flood and ebbs in Australian geography and its sub-disciplines (Holmes 2002; Holmes 2014; Holmes 2016).

I asked venerable Professors of Geography for their considered opinions about the history of military geography and what they shared shows the subtle nature of an Australian contribution to strategic and military Geography. One said, "I think in the past Australian geography has been more about peace than war. That is exemplified early on by Griffith Taylor." Another had the opinion that Griffith Taylor had done more harm than good. With their suggestions in mind I dived into the literature. Subsequently, colleagues have patiently discussed whether individuals, themes and periods were *in* or *out* of the military geography domain and then whether these were *Australian* contributions or *strategic* in nature. I reiterate that this is an initial exploration and a provocation.

2 Synergies with Australian Military History Contributions

Australia's military history is well recorded and pervades Australian culture. History strongly contributes to strategic and geographic insights. The extraordinary Charles Bean (Bean 1983; Stanley 2017), the work of the Australian War Memorial and the

support of an active cadre of quality historians (Grey 1999) results in Australia having a mature historiography (Holbrook 2014; Kent 1985) that has described the military experience and Wars, critiqued the silences of Frontier Wars (Reynolds 2006), the mythologising and commercialisation of wars, and commemoration (Stockings 2012). The discussions of the *landscapes of legends* (Stockings 2012) and what this means to the present and future (Brown 2014) show the mature characteristics of Australian military history with its strong geographic connections.

Monuments in Australian landscapes to war (Bulbeck 1991; Inglis and Brazier 2008) are imbued with strategic and geographical significance and these strongly contribute to the way contemporary military and political issues are framed (Ubayasiri 2015). This is evident at many scales. The military unit histories are woven with geographical insights; for example the Australian military surveyors (Coulthard-Clark 2000) and military lawyers (Oswald and Waddell 2014) commissioned histories are richly regional narratives. Even the Defence industry (Coulthard-Clark 2003) have commissioned their own histories that provide (sometimes selective) portals into the values, knowledge and the strategic contributions of these military groups. Military geography discovers its values in its history.

3 Military Geography in Early and Colonial Australia

People arriving in Australian waters more than 60,000 years ago were geographers by nature and their travel was strategically intentioned. These earliest Australians arrived at times and using technology that is the subject of ongoing research (Hiscock et al. 2016). More recently from 1642, Dutchman Abel Tasman was one of the first Europeans to contribute Australia's position: he mapped substantial portions of Australia, New Zealand and Pacific Islands into Europe's strategic and geographic knowledge. The exceptional chart and journal work of the British naval officer James Cook shows he was one of greatest-ever maritime explorers in the region (Beaglehole 1992). Later the phenomenal Matthew Flinders circumnavigated Australia (Flinders and Flannery 2001; Morgan 2016) and produced maps of enduring civil and military value (Kenshole 2017 this volume). Flinders contributed to making the title 'Australia' stick to the continent. A separate chapter in this volume plumbs the maritime geography further (Kenshole 2017).

On land many military-trained cartographers, most notably Thomas Mitchell (Baker 1997), reported geographic knowledge of Australia's land and people. The importance of these early maps to knowledge and visions of Empire in this period of colonialism can scarcely be exaggerated. Their records and geographical contribution was followed by settlement—settlers, soldiers, convicts and explorers. Soon the fears of colonialists triggered construction of forts (Burke 2008), indigenous Aborigines were dispossessed (Reynolds 2017 this volume), new tenure arrangements were made and the geospatial aspects of civilian and military geography spread. Throughout this process the mapping of changing interests continued. Australia's military geography still responds to changing domestic interests, values

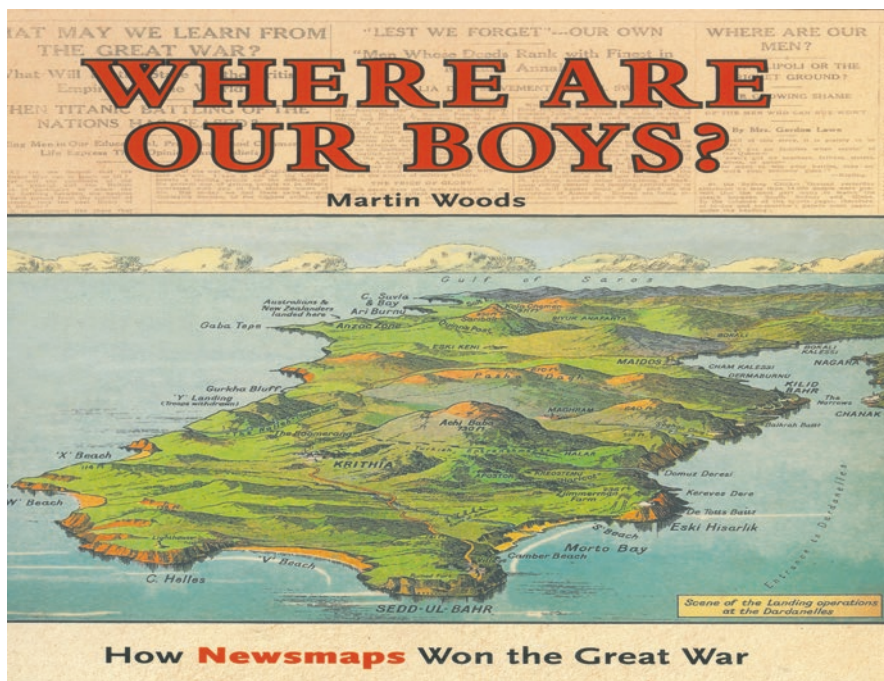


Fig. 2.1 The insatiable demand for newspaper maps of military topics during WW 1 is shown in the beautifully illustrated book by Martin Woods (2016). The cover image (a block diagram in the style made popular by Griffith Taylor) shows the Dardanelles—a landscape now imbued with so many meanings through military experience

and purposes. Maps are key artefacts for military geography. This strong historical tradition of mapping continues, as described in maritime maps (Kenshole 2017 this volume), Defence Estate management (Thackway and Ford 2017 this volume) and geospatial intelligence (Coorey 2017 this volume) and in the maps Australian's use to describe their strategic interests (Austin 2017; Kilcullen 2017; Press 2017- all in this volume).

The insatiable demand for newspaper maps of military topics during World War 1 (WW1) is illustrated in an excellent book by Martin Woods (2016) and its cover (Fig. 2.1) This remarkable collection demonstrates the demand and value of virtual military geography, communicated by map and media, to the people 'back home'. Australian's appetite for 'newsmaps' is a continuation of the use of maps as ways of sharing information, as icons and as tools of war.

The factors that stunted military geography in Canada, as explained by Jean Martin (2004), probably also apply in Australia: Canada was dominated by Imperial needs until the 1930s and therefore was not involved in world strategy or territorial ambition, and was isolated from threats of invasion. Under these circumstances Imperial Military Geography focused national military geographers on mapping and surveying that was largely done by engineers and delivering a narrow set of

geographical insights. Jean found it difficult, despite the demand, to find an academically trained geographer or one in academia interested in military applications in Canada. She proposed a revival was necessary. The South African military geography experience is similar and they are also suggesting a revival is underway (Jacobs et al. 2002; Smit et al. 2016).

4 Australia's Endogenous Contribution

The rise of Australian strategic and military thinking that could be described as independent of the British Empire thinking grew after Federation in 1901 and the Defence Act 1903. Horner (1990) describes how two strategic views (the *Imperialists* and the *Australianists*) formed during this period and continued to generate what became known as Australia's strategic military gap that he observes today. Through overseas deployments alongside powerful allies the Australian Defence Force has developed a reputation for tactical excellence, however there have been few theatre-scale and political-scale opportunities for leadership and limited independent operational experience (Horner 1990). That has implications for the components and scale of military geography because the focus on tactics and operations defined the necessary set of geography skills. Strategic training has instead been managed by studies in the disciplines of history, politics and international relations.

In addition to the shortage of experienced strategic military leaders, Australia has a disdain for tall poppies in popular culture (Feather 1994) that has shaped the development of military geography. Australian identity is focused on the experience of Diggers - not the officers (Inglis and Brazier 2008). This was perhaps reinforced by Australia's suffering the grief of WW1 soon after Federation and Charles Bean's (Inglis 1970) deliberate war history approach that focused on the common soldier. This disdain carries into the focus of public monuments and sentiments to the Diggers. There are few officers with hero status: people like Sir John Monash (WW1 General) or "Weary" Dunlop (WW2 Medical Colonel) are rare in Australian popular culture (Dean 2010), and recognised for operational and humanitarian distinction rather than strategic achievement. Private John Simpson and his donkey, gathering wounded at Anzac Cove, has become an icon and Peter Cochrane's (2013) book explores the complexities of that icon's contribution to history, geography, politics and culture.

Most of the geographers I will mention here are much less well known than those leaders or historians. The past is being invigorated and reinterpreted through a growing remembrance industry that includes battlefield pilgrimages for youth, support for military service and overt nationalism (Brown 2014; Jennings et al. 2015) and it is unclear how this relates to the military geography needed for emerging Defence's roles in conflict prevention, change capacity development and reconstruction missions, social leadership and climate change (Boulton 2017, Thomas 2017).



Fig. 2.2 Griffith Taylor during the survey of the national capital on a horse, [Canberra](#), 1913. (Source Professor Griffith Taylor collection, [National Library of Australia](#))

It is useful to use some examples to explore the nature of strategic and military geography in Australia. I have chosen Griffith Taylor, Donald Thomson and the group of war-time Geographers to scope what an Australian contribution to military geography may involve.

5 Griffith Taylor

Thomas Griffith Taylor deserves a special place in any history of Australian Geography as founding Associate Professor of Geography at Sydney University Australia. His contribution is already well and graphically described by Carolyn Strange, if a little irreverently (Strange [2010](#); Strange and Bashford [2008](#)). Griffith Taylor's career included frontier exploration of Antarctica, surveying Canberra (as it became the national capital, Fig. [2.2](#)), two World Wars and their aftermath. Professor Tim Flannery, describes Griffith Taylor as “one of the greatest and most courageous scientists that Australia ever produced” (Strange and Bashford [2008](#)).

Griffith Taylor's ambition, multi-disciplinary engagement (nurtured by Professor Edgeworth David, the Professor of Geology and Physical Geography, 1893–1924), pugnacious behaviour and sometimes overly-wide scope in life and work could personify Australia's strategic contributions to geography (Strange and Bashford [2008](#)). However some things would be missing—things Griffith had but are currently missing in contemporary Australian Geography—strong regional insights, political and social engagement and grounded approaches (Carruthers [2009](#)). Griffith Taylor's pyrolytic contributions to Australian population and sustainable agriculture debates, his demolition of racial pseudo-science, his position on environmental determinism and scientific national planning saw him lampooned by detractors.

Taylor's work in northern Australian for the Bureau of Meteorology, on request from Chief of General Staff Major General James Legge, triggered his interest in northern and central Australia and generated the research evidence he used against boosters of development potential in those areas. His participation in the debates of the period was sensational. His opposition to the White Australia policy, based on anthropo-geographical evidence and his rejection of racial differences through empirical analysis (*Environment and Race* 1927), are unequalled in Australia. Using his press-ready personality and popular promotion of Antarctic exploration, he delivered superior evidence-based arguments against predictions of 'Australia Unlimited' whilst inspiring public interest in scientific endeavor. He attacked the unrealistic population predictions of the boosters and cemented his contribution in Australian geography. However Taylor made enemies and his environmental possibilism was too close to environmental determinism for the social geographers of the post-war period. He, and geography generally, was tarnished by association with Karl Haushofer, the geographer who informed Nazi policy-makers (Strange and Bashford 2008).

Griffith Taylor was not a military man but he was supportive during WW2 and active in planning the peace (Strange and Bashford 2008). After the war, Griffith Taylor espoused Geopacifism to his profession in what he described as, "an attempt to base the teachings of freedom and humanity upon real geographical deductions; it is humanized Geopolitics" (Taylor 1946). He proposed a rational set of crop and power-related regions to prevent conflict in Europe by ensuring that neither race nor nations would cause conflicts and proposed that "we should study environmental control so as to advance in harmony with our environment" (Taylor 1946).

In his presidential speech to the Institute of Australian Geographers titled 'Geographers and World Peace: A Plea for Geopacifism' (Taylor 1963) he said,

...so few geographers are prepared to explore public problems which touch on geography as much as on most other disciplines. This is certainly the case with the problem of world peace."

And he went on to recommend,

"that all university students are exposed to a course of lectures on civilization, preferably of an objective graphic type such as I have tried to offer in my studies of geopacifism. If this type of scientifically-derived data is grafted on to the age-long teachings of religion, we shall, I hope make real progress towards a world at peace." (Taylor 1963)

Griffith Taylor edited the magisterial book, *Geography in the Twentieth Century* (1951), that included a dendrogram showing the many branches of Geography (on which there was no 'military geography'). He had predicted the future settlement pattern of Australia in 1919 and 30 years later could marvel at his prescience (Taylor 1951). His emphasis on futures linked to his scientific determinism (Taylor 1951:12), and his work in Antarctica and deserts was repeatedly used to show the importance of environmental considerations in considering the management of marginal lands.

Taylor (1951:18) described Geography as a 'liaison subject'; with geographers working as "buccaneers or pirates with other sciences and philosophy". He promoted himself, geography and science relentlessly for the betterment of civilisation,