

DRAWING LESSONS FROM THE LONG WAR: WHAT
OPERATIONAL EVALUATION METHODOLOGY
SHOULD THE AUSTRALIAN ARMY USE TO LEARN
FROM AFGHANISTAN AND IRAQ?

A Monograph

by

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ABSTRACT

DRAWING LESSONS FROM THE LONG WAR: WHAT OPERATIONAL EVALUATION METHODOLOGY SHOULD THE AUSTRALIAN ARMY USE TO LEARN FROM AFGHANISTAN AND IRAQ? by MAJ Michael J. Buchanan, Australian Army, 56 pages.

The Australian Army faces a future where potential adversaries are not clear, new technology makes military equipment more expensive, and funding for the military is likely to decrease. This dictates that the Australian Army will be made to innovate with less resources and greater ambiguity about the nature of the enemy that they will face and the type of warfare that they will be required to conduct.

An operational evaluation should seek to identify lessons that may inform military innovation. The Australian Army has contributed forces to coalition operations in Afghanistan and Iraq for over a decade, making this Australia's longest war. Therefore, the establishment of a logical and holistic methodology for the operational evaluation of the Australian Army's contribution to these conflicts is important in order to inform military innovation once operations in Afghanistan are completed.

The conduct of operational evaluation by the United States Army in the 20th century provided a number of examples that allowed analysis of the process to identify lessons learned and the implementation of fixes. The establishment of the Superior Board for the review of American Expeditionary Force operations post the First World War and the General Boards for the review of United States Army operations in the European Theatre during the Second World War provided a holistic systems thinking approach to operational evaluation.

The methodology for the operational evaluation of the Australian Army operations in Afghanistan and Iraq should concentrate on establishing the correct composition of the review organization, identifying processes and procedures to ensure the effective conduct of the review, and formulating an effective implementation process to coordinate the required change to fix the lessons identified.

The establishment of a holistic and objective operational evaluation to identify the correct lessons from operations in Afghanistan and Iraq should be the first step for the Australian Army innovation in the upcoming interwar period. The study of historical examples such as the Superior Board of the American Expeditionary Force and the General Boards of the United States Army in the European Theater of the Second World War will assist in ensuring that the lessons are not only identified but truly learned.

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I am tempted to declare that whatever doctrine the Armed Forces are working on, they have got it wrong. I am also tempted to declare that it does not matter that they have got it wrong. What does matter is their capacity to get it right quickly when the moment arrives. It is the task of military science in an age of peace to prevent the doctrine being too badly wrong.¹

—Michael Howard, *Military Science in the Age of Peace*, 1974

INTRODUCTION

The Australian Army faces a future where potential adversaries are not clear, new technology makes military equipment more expensive, and funding for the military is likely to decrease. This dictates that the Australian Army will be made to innovate with less resources and greater ambiguity about the nature of the enemy that they will face and the type of warfare that they will be required to conduct.² The Australian Army has contributed forces to coalition operations in Afghanistan and Iraq for over a decade, making this Australia's longest war. Therefore, the establishment of a logical and holistic methodology for the operational evaluation of the Australian Army's contribution to these conflicts is important in order to inform military innovation once operations in Afghanistan are completed.

An operational evaluation should seek to identify lessons that may inform military innovation. Adam Grissom in his article, *The Future of Military Innovation Studies*, defined military innovation as significant changes to the function of military formations in the field that create greater military effectiveness. Grissom also asserted that all models of military innovation utilize a top-down process. Military organizations are structured as large bureaucracies that are designed not to change. The top-down process provides the required direction and supervision

¹Michael Howard and Major-General A.J. Wilson, "Military Science in the Age of Peace," *The RUSI Journal* 119, no. 1 (March 1974): 3–12. This article was written after the Vietnam War and was often quoted in innovation and revolution of military affairs articles from 1980 until today.

²Williamson Murray and Alan R Millet, *Military Innovation in the Interwar Period* (Cambridge; New York: Cambridge University Press, 1998), 3-41.

from higher levels of command to overcome this organizational inertia and implement the change that is inherent in innovation.³ The top-down process also assists in assigning priorities because the specific problem that a military organization faces is difficult to define.

Innovation is most effective when conducted in an environment where a specific problem is identified. Military organizations are rarely able to identify the specific problem that they will face. If a military organization ties innovation to a specific threat that is not the next adversary, the initiatives implemented may be redundant or even counter-productive.⁴ Therefore, the organizational culture required within a military organization to enable effective innovation is unique and should be closely monitored to ensure it is operating within the direction and intent of senior commanders. This organizational culture extends to the conduct of the operational evaluation used to identify the lessons to inform the innovation.

The operational level of war was not defined in the First or Second World War. The analysis of operational evaluations from the First and Second World War aim to transpose the contemporary concept of operational level over the primary sources from both wars seeks to differentiate between tactical, operational level lessons. The operational level of war for the First and Second World War is viewed as the military headquarters inside the theater of operations that controlled the campaign for each nation.⁵ For the First World War the operational level for the

³Adam Grissom, "The Future of Military Innovation Studies," *Journal of Strategic Studies* 29, no. 5 (October 2006): 905–934. Grissom identified the four schools of military innovation as the Civil-Military model, the Interservice model, the Intraservice model and the Cultural model. The cultural model aligned closely with the Senge model for learning organizations. Grissom gives examples of bottom up innovation being effective but concludes that the top-down process is common to all schools of military innovation.

⁴Murray and Millet, *Military Innovation in the Interwar Period*, 45-49.

⁵Justin Kelly and Mike Brennan, "Alien: How Operational Art Devoured Strategy" (Monograph, Strategic Studies Institute Carlisle, PA, 2009), 20-21, <http://www.strategicstudiesinstitute.army.mil/pdffiles/pub939.pdf> (accessed February 2, 2014).

Australian Army was the headquarters of the Australian Imperial Force, and for the United States it was the headquarters of the American Expeditionary Force.

The United States Army conducted effective operational evaluation and innovation when it transformed from a small Army deployed on the Punitive Expedition in Mexico in 1916 to a military super power post the cessation of the Second World War. In 1916, the United States Army was lacking in all fundamental areas of capability to be able to conduct modern warfare. These areas included personnel, equipment, doctrine and education.⁶ Over the next forty years and two major conflicts, the United States Army transformed through effective operational evaluation and innovation. The United States Army provided a model for operational evaluation through the conduct of operational evaluation by both the American Expeditionary Force during the First World War and the United States Army in the European Theater during the Second World War. The thorough operational evaluation and subsequent implementation of the lessons learned during the constrained interwar periods provided an example of a holistic and integrated approach to operational evaluation.

What operational evaluation methodology should the Australian Army use to capture operational level lessons from the wars in Afghanistan and Iraq in order to best inform innovation? What lessons on operational evaluation and establishing a learning environment can be learned from the United States Army analysis of operations in the twentieth century? What are the most effective methods for the implementation of the identified operational lessons and how can the Australian Army become a learning organization at all levels?

⁶Peter Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II* (Lawrence: University Press of Kansas, 2010), 9.

Learning Organizations

Peter Senge, author of *The Fifth Discipline: The Art and Practice of the Learning Organization*, identified the contemporary United States Army as a highly sophisticated learning organization. The United States Army utilizes well-developed learning infrastructure to enable innovation. The learning infrastructure includes the process of training and formal military education, the conduct of research to analyze both successful and unsuccessful practices from contemporary and historical activities, capturing assumptions and beliefs in doctrine, and the practice of debriefing and learning after each activity in order to identify lessons at all levels. The constant refinement of institutions, policies and processes by the United States Army to enable a learning environment shows the conviction to learn lessons from both contemporary activities, but also through historical events.⁷

Innovation is an evolutionary and cumulative process that relies heavily on organizational culture and the commitment of the organization to promote both individual and collective mastery in order to establish a learning climate. Lessons from both past and contemporary conflicts should inform the innovation process.⁸ The method for deriving these lessons should aim to establish the correct context to ensure that any assessment identifies only valid and relevant lessons.

Senge asserted that the organizational culture required for establishing a learning climate should incorporate five foundational building blocks: personal mastery, the use of mental models, building shared vision, team learning, and systems thinking.⁹ The Australian Army has a strong tradition of individual and collective training that promote personal mastery and team learning. The hierarchical nature of the Australian Army and the execution of command and control, in

⁷Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization*, Rev. and updated. (New York: Doubleday/Currency, 2006), 312-314.

⁸Senge, *The Fifth Discipline*, 272 -280.

⁹Ibid., 5-11.

particular the use of commander's intent in both written and verbal communication, ensures that the building of a shared vision is habitual. Establishing a methodology to identify lessons from a systems theory perspective is particularly important in a military context given the complex and non-linear nature of military operations.

An effective operational evaluation should incorporate systems thinking to account for the complex and non-linear nature of military operations. The concept of systems thinking is based on the assertion that within an organization the whole cannot be calculated by adding its individual parts, it must be measured as a whole. The interconnectedness of variables within a system dictates that any change in a single variable or the relationship between two variables will produce change in other parts of the system. These changes and relationships between variables are often not anticipated and are known as second or third order effects.¹⁰ Two systems within the context of operational environment need to be considered by an operational evaluation. The first system is the deployed military element in isolation, with the parts of this system being the warfighting functions or battlefield operating systems, joint attachments and inter-agency elements. The second system is the operational environment within which the military element is operating. Systems theory has significant implications for any operational evaluation methodology. Operational evaluation should identify valid lessons from within the complex systems being examined and consider the effects that proposed fixes have on other parts of the system.

The ability to identify variables and the relationship between variables within the complex environment within which military organizations operate is aspirational. This directly affects the ability to distill valid lessons from military operations and shows the need for a deliberate operational evaluation process. The Australian Army Future Land Operating Concept

¹⁰J. Gharajedaghi, *Systems Thinking: Managing Chaos And Complexity: A Platform for Designing Business Architecture* (Burlington, MA: Elsevier/Butterworth-Heinemann, 2006), 29-55.

detailed an adaptation cycle to provide a model to assist in learning lessons within a complex environment.¹¹ A key element of both the sense and adapt steps of the cycle is the process for learning lessons. The cycle proposed methods to identify lessons by acting on the system and sensing feedback within the system and proposing a fix for the lesson. The adapt step aims to assess the effects on the system that the implementation of the proposed fix has had. The adaptation cycle identified establishing an effective implementation plan as a part of an operational evaluation methodology should include constant review of identified lessons for their validity, applicability and correctness.

The communication of the findings of the operational evaluation is an important step of the implementation process. The precise communication of findings is important in establishing a shared understanding throughout the organization. The traditional communication of lessons learned in a list as independent lessons is contrary to systems thinking and does not establish the mental model required for effective implementation. The provision of a narrative providing the context from which the lessons were derived, recommended solutions, and anticipated effects on other parts of the system are key elements that should be included in the communication of the findings of the evaluation. The narrative style of communication assists in establishing a mental model for the reader. Senge asserts that the mental model will form the blueprint for the implementation of lessons learned.¹²

¹¹Head Modernisation and Strategic Planning - Army, "Army's Future Land Operating Concept" (Australian Army Headquarters, September 2009): 32-35, http://www.defence.gov.au/opex/exercises/caex/publications/adaptive_campaigning-future_land_operating_concept.pdf (accessed October 1, 2013). The Adaptation cycle consists of four steps – act, sense, decide and act. The adaptation cycle aims to solve the right problem in a complex environment by acting first, forcing the system to respond and then sensing in order to identify both the parts of the system but also the relationship between the parts. The adaptation cycle was designed to complement, not replace, the Boyd Cycle.

¹²Senge, *The Fifth Discipline*, 164-167.

The Current Australian Army Operational Evaluation Methodology

The capstone document of Australian Army doctrine asserted that forces that identify and implement operational lessons more rapidly than the enemy would enjoy a decisive advantage in combat.¹³ The Australian Defence Force joint doctrine on operational evaluation details the requirement for the process to inform force structure, doctrine, procurement, preparedness, and readiness. The evaluation should include analysis across single service issues, joint operations and interaction, multinational operations, and multiagency integration.¹⁴

A recent inquiry into a combat incident involving Australian soldiers in Afghanistan identified that the lessons learned architecture of the Australian Army is flawed. The inquiry officer was a colonel appointed by the Chief of the Defence Force. The Colonel asserted that the learning structures the analyze Australian Defence Force Operations was ineffective.

A culture exists which links responsibility and resources for evaluating Australian Defence Force lessons on operations to specific 'lessons learnt' cells and structures across Defence. These cells and structures are internally focused to the observation and findings of Australian Defence Force Operations. The presence of these cells did not enhance the effectiveness of Australian Defence Force command decision making, inherent within command and control architectures and staff functions at the operational and strategic level within the Australian Defence Force.¹⁵

This assessment illustrates the importance of identifying the correct lessons but also that temporal lessons identified during combat need to be considered in the correct context to confirm that they are enduring lessons. The assessment also illustrates the importance of communication and dissemination of lessons. The methods of distilling lessons, how the recommendations will be

¹³Department of Defence, Land Warfare Doctrine 1 - *The Fundamentals of Land Warfare* (Canberra: Australian Army, 2008): 15.

¹⁴Department of Defence, Australian Defence Doctrine Publication 00.4 - *Operational Evaluation* (Canberra: Australian Defence Force Warfare Centre, 2007): 1-5 - 1-7.

¹⁵Colonel unnamed, "Inquiry Officer Inquiry Report Matter Concerning Joint Operations Command (Redacted for Public Release)" (July 27 2012): 23, <http://www.defence.gov.au/coi/reports/Inquiry%20Report%20Into%20Green%20on%20Blue%20Incidents%2029%20Oct%20and%2008%20Nov%2011.pdf> (accessed 14 Aug 2013).

communicated, and how the information will be disseminated should be identified prior to beginning the process. The contribution of the Australian Army to both Afghanistan and Iraq should be considered while designing the methodology for operational evaluation in order to capture the tacit knowledge of the large number of individual rotations at operational level headquarters.

The Australian Army contribution to coalition operations in Afghanistan and Iraq is an important element in establishing the context for an operational evaluation. The Australian Defence Force established Joint Task Force 633 in 2002 to perform the role of national command element for all Australian military forces within the Middle Eastern area of operations. Joint Task Force 633 had limited tactical control of deployed land forces, with these elements attached for the command and control of relevant coalition command components in both Afghanistan and Iraq. Joint Task Force 633 was an operational level joint headquarters that provided national command functions and gained limited experience in the command or planning of tactical actions.¹⁶ The Australian Army elements committed to the land operations within both Afghanistan and Iraq were a combination of individual staff positions and unit deployments of up to battalion size elements.

The Australian Army provided embedded staff officers at numerous coalition operational level headquarters within Afghanistan and Iraq. The headquarters included International Security Assistance Force (ISAF), ISAF Joint Command, Regional Command South, Multinational Force–Iraq, Multinational Corps–Iraq, and Multinational Division South East.¹⁷ The embedded staff officer positions were individual rotations. The Australian Army provided formed elements as a

¹⁶House of Representatives Committee Report, “Australia’s Commitment to the War on Terrorism” (Australian Government Printing Office, 2002), 7-15, http://www.aphref.gov.au/house_committee/jfadt/terrorism/report/chapter2.pdf (accessed September 12, 2013).

¹⁷House of Representatives Committee Report, “Australia’s Commitment to the Reconstruction of Iraq” (Australian Government Printing Office, 2008), 7-10, http://www.aphref.gov.au/house_committee/jfadt/terrorism/iraqdelegation/chapter2.pdf (accessed September 12, 2013).

part of the Headquarters of Combined Team Uruzgan, a brigade size element, taking command of this in 2012. The Australian Army deployed combined arms battalion size elements and Special Forces task forces to both Iraq and Afghanistan.¹⁸ The operational evaluation should identify commonality of tasks across the range of organizations and individuals that deployed to enable comparison and contrast to attempt to identify accurate lessons. Operational evaluation was consistently conducted within the formed body tactical-level elements but not completed at the operational level because of the disparate nature of the individual deployments to headquarters operating at the operational level.

There has been no collective operational level assessment completed due to the individual and isolated nature of the embedded personnel in the coalition headquarters. A key factor for the design of any operational evaluation for the Australian Army operations in Afghanistan and Iraq is the mitigation of the lack of a collective operational level evaluation. While many Australian Army Officers have had individual experience at the operational level, this experience forms tacit knowledge for those individuals not explicit knowledge for the organization. One of the aims of the operational evaluation should be to form explicit knowledge for operational level headquarters within the Australian Army. This will require the compilation and validation of individual tacit knowledge and reviewing the lessons of coalition partners who deployed operational level headquarters.

Claim

The Australian Army should establish an operational evaluation methodology to review operations in Afghanistan and Iraq to identify operational level lessons to inform innovation. The methodology for the operational evaluation of the Australian Army operations in Afghanistan and

¹⁸House of Representatives Committee Report, “Australia’s Commitment to the War on Terrorism.”(2008), 8-15.

Iraq should concentrate on establishing the correct composition of the review organization, identifying processes and procedures to ensure the effective conduct of the review, and formulating an effective implementation process to coordinate the required change to fix the lessons identified.

The conduct of operational evaluation by the United States Army in the 20th century provided a number of examples that allowed analysis of the process to identify lessons learned and the implementation of fixes. The establishment of the Superior Board for the review of American Expeditionary Force operations post the First World War and the General Boards for the review of United States Army operations in the European Theatre during the Second World War provided a holistic systems thinking approach to operational evaluation.¹⁹ The boards provided consolidated operational lessons across a broad range of perspectives. This enabled the lessons identified to guide decisions relating to the future direction of the United States Army in terms of organization, doctrine, tactics and equipment.²⁰

The most effective method for the implementation of recommendations from the operational evaluation is most likely through the revision of doctrine to incorporate the lessons identified. The operational concepts to be utilized in combat, force structure and procurement plans may be established once revised doctrine has been established. The operational evaluation should not detail prescriptive changes to organization or new equipment required but provide observations and recommendations relating to the current doctrine of the Australian Army. The five fundamental building blocks for creating a learning environment should be the basis for creating change within the Australian Army, with particular emphasis placed on developing a

¹⁹For example see “General Board Reports Study No.15: Organization, Equipment and Tactical Employment of the Infantry Division” (United States Forces, European Theater, 1946), 1-16.

²⁰American Expeditionary Forces Superior Board, “Report of Superior Board on Organization and Tactics” (General Headquarters American Expeditionary Forces, 1920), 1-15, <http://cgsc.contentdm.oclc.org/utis/getfile/collection/p4013coll7/id/808/filename/809.pdf>. (accessed August 7, 2013).

conceptual approach to lessons learned in line with systems thinking and creating a shared mental model.²¹

REVIEW OF OPERATIONAL EVALUATION METHODOLOGIES FOR THE FIRST WORLD WAR

The Australian Army Review Methodology of the First World War

At the commencement of the First World War in 1914, Australia was a dominion of Great Britain. Australia achieved federation on 1st January 1901 and was considered relatively immature as a nation. The King of England was the head of state and was represented in Australia by a Governor General, but Australia governed itself and was able to dictate its own political and military organization and decide on its own policy. Both the political and military links between Australia and the United Kingdom remained very strong and it was believed by the international community that the United Kingdom provided physical and political protection to Australia. Australia was free to conduct its own foreign relations but largely deferred this to the United Kingdom in an attempt to leverage their diplomatic power. By law if Great Britain was at war, Australia and all other British Commonwealth dominions were also at war. While legally bound to go to war with the United Kingdom, there was no stipulation, legal requirement or agreement on the military contribution to be made by Australia to any British war effort. In one of its first tasks post federation, the Australian Government established a small professional army to support the national interests of Australia.²²

The Australian Army of 1914 was a small conscription army that was seen by Australian politicians and its population as a home service army. The organization of the Australian Army

²¹Senge, *The Fifth Discipline*, 167-171.

²²Charles Edwin Woodrow Bean, *Official History of Australia in the War of 1914-1918. Volume I - The Story of ANZAC from the Outbreak of War to the End of the First Phase of the Gallipoli Campaign, May 4, 1915.*, 11th ed., vol. I, XI vols. (Sydney, Australia: Angus and Robertson Ltd, 1941), 1-5, https://www.awm.gov.au/histories/first_world_war/AWMOHWW1/AIF/Vol1/ (accessed August 2, 2013).

was established on the advice of Field Marshal Horatio Herbert Kitchener, 1st Earl Kitchener. The Australian Army's only expeditionary experience prior to the First World War was from the Boer War in South Africa between 1899 and 1902. Post the Boer War, the Australian Government resisted the pressure from the United Kingdom to establish a standing Commonwealth Army that would remain under control of the British Government. All British Commonwealth dominions agreed to establishing the Imperial General Staff that regulated training within the Commonwealth and enabling mobilization of combined elements from the Commonwealth in a reduced timeframe.²³

The Imperial General Staff sought to regulate organization, equipment, training and education within Commonwealth Armies. There was a particular focus on officer education, establishing a common lexicon and creating mutual understanding between the Commonwealth Armies. The Boer War experience and the regulatory processes within the Imperial General Staff were the major contributors to the Australian Army lessons learned process prior to the First World War. The Australian Army was not organized for expeditionary war in 1914 and required a significant mobilization to allow forces to be committed to the First World War.²⁴

The Australian Government received an official telegram from the British Government on 2nd August 1914 warning of imminent conflict and the requirement for increased defense of ports and prudent planning for mobilization. Great Britain declared war with Germany on 4th August 1914, dictating that Australia was also at war with Germany. The Australian Government continued correspondence and diplomacy with Great Britain to determine what military role Australian forces would undertake in the conflict. The Australian Imperial Force was raised and committed to the First World War by the Prime Minister of Australia on 15th August 1914. The

²³Bean, *Official History of Australia in the War of 1914-1918. Volume I - The Story of ANZAC from the Outbreak of War to the End of the First Phase of the Gallipoli Campaign, May 4, 1915*, 7-12.

²⁴Ibid., 9-14.

size of the Australian Army in August 1914 was approximately 45,000. The initial composition of the Australian Imperial Force was determined at 20,000 consisting of an infantry division and a light horse brigade. The Australian Division was combined with a New Zealand force of 12,000 to form the Australian New Zealand Army Corps.²⁵ Although the combat forces of the corps were all provided by the Australian or New Zealand Armies, the command and staff element of the corps headquarters were provided by the British Army.

The commander of the Australian New Zealand Army Corps was a British officer, General William Riddell Birdwood. The majority of his staff were British officers but all subordinate commanders Australian and New Zealand officers. The structure of the Australian New Zealand Army Corps was very similar to the organization employed in the Boer War. The organization of the Australia New Zealand Army Corps, in particular the appointment of a British commander, was a major influence on the manner in which the Australian Army conducted operational evaluation within the First World War. By the end of the First World War, the Australian Imperial Force had grown to approximately 330,000 soldiers consisting of five infantry divisions and two light horse divisions. Lieutenant General John Monash, the senior Australian officer in theater, was promoted from division commander to Commander of the Australian New Zealand Army Corps in May 1918. Due to the limited time for preparation or mission specific training, the Australian Imperial Force did not conduct operational evaluation prior to deploying.²⁶

The Australian Imperial Force conducted an operational evaluation whilst in combat and post their return to the Australia. The Australian Imperial Force used three methods for the

²⁵Bean, *Official History of Australia in the War of 1914-1918. Volume I - The Story of ANZAC from the Outbreak of War to the End of the First Phase of the Gallipoli Campaign, May 4, 191*, 37-41.

²⁶“Australian Imperial Force War Diaries 1914-18 War - Chief of General Staff, Australia. July-August 1914” (Australian War Memorial, September 1914), <https://static.awm.gov.au/images/collection/bundled/RCDIG1003235.pdf> (accessed August 2, 2013).

conduct of their reviews. The first method was receiving lessons from the Imperial General Staff, the second method was identifying lessons learnt in combat through the conduct of a series of after action reviews to identify immediate lessons of the war, and the third method was through the release of personal memoirs of prominent leaders post the completion of the war. The mobilization, establishment of a forward operating base in Egypt and the conduct of training prior to the commencement of combat were the elements of the Australian Imperial Force operations that were most heavily influenced by the lessons provided by the Imperial General Staff.²⁷

The first method of operational evaluation employed by the Australian Army was implementing lessons provided by the Imperial General Staff. These lessons were first applied in the mobilization of the Australian Imperial Force. The mobilization was characterized by logical and effective training that was constrained by a lack of equipment and poor administration particularly in the planning and execution of the movement plan to deploy elements to Egypt. The staff of the Australian Imperial Force immediately turned to the Imperial General Staff to identify effective processes and procedures for mobilization because of the limited experience that the Australian Army had in expeditionary warfare. The lessons that the General Staff provided were effective in establishing a training program to ensure that both individual and collective training standards were increased prior to deployment. The lessons from the Imperial General Staff relating to the loading and movement plan led to confusion and inefficiency. The Imperial General Staff had observed the conduct of mobilization within the confines of Great Britain, mostly within England. This dictated that the distance between ports was small relative to the distance between ports in Australia. When the lessons regarding the use of multiple ports concurrently to increase throughput were applied in the mobilization of the Australian Imperial Force, it led to mass confusion, the inefficient use of time and ultimately the delay of the

²⁷Bean, *Official History of Australia in the War of 1914-1918. Volume I - The Story of ANZAC from the Outbreak of War to the End of the First Phase of the Gallipoli Campaign, May 4, 1915*, 61-63.

deployment due to coordination and synchronization issues. The troops designated for the first contingent were ready to deploy on 21st September 1914, but were delayed until late October due to issues relating to the coordination of maritime assets and the plan to use multiple ports. This demonstrated the importance of establishing the correct context for the operational evaluation process. Without the correct context being established by the commanders of the Australian Imperial Force, incorrect lessons were applied resulting in negative results. The operational evaluation of the Australian Imperial Force changed once it arrived in Egypt for mission rehearsal training.²⁸

The second method of operational evaluation employed by the Australian Imperial Force was identifying lessons learnt in combat through the conduct of a series of discrete after action reviews. After action reviews began during training in Egypt in December 1914. These reports detailed a range of lessons from the training conducted including tactical lessons particularly in relation to the integration of artillery support, the conduct of Australian soldiers in Egypt and the slow buildup of supplies at the mounting base in Egypt. The lessons were integrated into future training conducted in Egypt, but there is no evidence of these lessons being disseminated to Australia to inform training and education of individuals and collective bodies prior to their deployment. The reviews continued throughout the war and included specific reviews of battles, commentaries on campaigns, translations of both French and German documents, and reports on the employment of new technology such as machine guns. The reports were temporal and there is no evidence of a coordinated approach and limited evidence of any integration of findings from separate reports identify holistic lessons.²⁹

²⁸Bean, *Official History of Australia in the War of 1914-1918*, 82-85.

²⁹*Ibid.*, 85 -92.

The after action reviews are limited to during the war, with the collation and collective analysis of reports conducted after the war. There was no board conducted at the completion of the war to validate the findings of the numerous after action reviews conducted during the war or to conduct a discrete operational evaluation of the Australian Imperial Force operations. While the experience of the First World War clearly shaped the Australian Army, the lack of a consolidated report meant that there was limited change to doctrine post the war and the majority of the influence was the result of tacit knowledge of individuals deployed as a part of the Australian Imperial Force.³⁰

The third method of operational evaluation utilized by the Australian Imperial Force was through the release of memoirs by prominent leaders. The production of individual memoirs of experiences from the First World War provides valuable insight into the lessons from the Australian Imperial Force, mitigating the lack of an organizational review. The majority of lessons identified in the after action reports were related to the tactical-level of war. The memoirs of Lieutenant General Sir John Monash was the best example of individual memoirs. The operational level lessons learned by the Australian New Zealand Army Corps were reported through the British chain of command due to the appointment of a British corps commander. The Australian Army did get access to these reports through the Imperial General Staff but this was delayed and often included in general trends of the British Army rather than as a discrete report. The appointment of Monash as the commander of the Australian New Zealand Army Corps marked an important milestone in the understanding of command at the operational level for the Australian Army. Monash's memoirs, *The Australian Victories in France in 1918*, provide a chronological narrative of the development of Monash as a commander but also the mistakes

³⁰War Office Committee, "War Office Committee - Lessons of the War 1914-1918": <http://recordsearch.naa.gov.au/SearchNRetrieve/Interface/DetailsReports/ItemDetail.aspx?Barcode=5181295> (accessed August 12, 2013).

made by his staff and the corrections made. Monash provides detail on lessons learned on integration of combined arms maneuver at the Battle of Hamel and the problems of planning of last major offensives of the war. Monash was well qualified to provide these lessons after over three years combat experience as a brigade and division commander and working under the excellent mentorship of General Birdwood.³¹ The lack of an official operational evaluation makes these memoirs the most valuable source of lessons, particularly operational level, from the Australian Imperial Force. The objective collation of the official history of Australian involvement in the First World War was an important companion to the subjective analysis to identify the lessons of the Australian Imperial Force.

An important and often overlooked facet of the operational evaluation performed by the greater Australian military community post the First World War was the official history edited by Charles Bean. The official history is a twelve volume series covering the prelude to the war, mobilization, combat events, and political events that occurred in Australia during the war. The project was completed between 1920 and 1940 and was completed entirely by authors who had lived during the period of the First World War. Bean had experience as a journalist, which heavily influenced the style and tone of the narrative. The objective nature of the official history provides an important context of the time and enables the assessment of events from the First World War using contemporary concepts.³² An important element that enabled the official history to remain impartial, objective and transparent was the lack of affiliation of any of the authors to the military. Although historians have criticized the official history since it was published for its

³¹John Monash, *The Australian Victories in France in 1918 (Illustrated Edition)* (Pickle Partners Publishing, 2013), 12-28.

³²Bean, *Official History of Australia in the War of 1914-1918*, I -V. The introduction by Dr Ken Inglis provides some of the background of Bean and the effect that the book has had on Australian society.

inaccuracies and prejudice, it remains an important part of the operational evaluation completed of the Australian Imperial Force.

The operational evaluation conducted by the Australian Army after the First World War was thorough but lacked coordination and integration. The most glaring omission was an overarching post-war review that provided a holistic review of the conduct of Australian operations. A possible reason for the lack of a holistic review was that the Australian Army subscribed to the British view that they would not contribute forces to war on continental Europe in the medium term. This belief ensured that no sense of urgency for the learning of lessons and potentially a belief that the lessons learned from the First World War were not relevant to the future. The individual after action reviews provided clear lessons that could be applied and assessed but it is difficult to establish a context for each report. The overall context of the lessons were confusing because the Australian Army was heavily influenced by the British Army and the Imperial General Staff before, during and after the war, and relied heavily on these organizations to provide lessons and recommendations for the Australian Army to adopt. The appointment of a British Commander of the Australian New Zealand Army Corps dictated that the Australian Army did not have an operational level commander until 1918. The parallels of the limited operational level headquarters during the First World War can be drawn with the Australian Army involvement in Afghanistan and Iraq. This shows the importance of reviewing coalition operational level headquarters in both theaters to identify pertinent lessons and inform innovation. The communication of the lessons learned was clear and precise and enabled effective implementation. The lack of a consolidated report or significant change to doctrine dictated that no context was established and therefore a consistent mental model was not created throughout the Australian Army.

The United States Army Review Methodology of the First World War

Prior to the commencement of the First World War, The United States Army was a small army with experience in fighting insurrections in the Philippines and Mexico. The United States Army operations in Mexico from March 1916 to February 1917, known as the Punitive Expedition, was an important prelude to the First World War. It was a proving ground for the future commander of the American Expeditionary Force, General John Pershing. The United States declared war against Germany on 6th April 1917 and the first American Expeditionary Force contact occurred in November 1917. The declaration of war set in motion a large mobilization of the United States military, in particular the United States Army.³³

The size of the United States Army at the outbreak of the war in 1914, including both active duty and national guard, was approximately 200,000 personnel. By April 1917 when the United States declared war on Germany, the army had grown to approximately 300,000 personnel because of the National Defense act of 1916. By July 1918, approximately four million men had been drafted and over one million soldiers were in combat on the Western Front, with 10, 000 men arriving in France per day. In October 1918, over two million United States soldiers had arrived in France, but a large number of these soldiers did not see combat. The Allies pressured the United States to provide men rather than armies. The Allies sought to have United States soldiers fill gaps within British and French formations under Allied command rather than discreet United States formations conducting discrete operations. Both President Woodrow Wilson and Pershing resisted this amalgamation and insisted that the United States army was allocated their own sector. The United States Army of 1917 was not organized to support large formation conducting regular warfare. The army did not include any field armies, army corps, field divisions or brigades. The largest organized formation was a regiment that were small compared

³³John S. D. Eisenhower, *Yanks: The Epic Story of the American Army in World War I* (New York: Free Press, 2001), 8-17.

to those of European armies.³⁴ The insistence on independent operations and the organization of the United States Army was an important context for the operational review that the American Expeditionary Force conducted prior to deployment to the Western Front.

The American Expeditionary Force conducted deliberate reviews of operations on the Western Front of the First World War prior to employment, whilst in combat and post their return to the United States. The American Expeditionary Force used three methods for the conduct of their reviews. The first method was absorbing lessons from the British and French forces that had been conducting operations on the Western Front since 1914. The second method was identifying lessons learnt by soldiers in combat, adjusting tactics, techniques and procedures, and disseminating the changes throughout the entire organization. The final method was the conduct of a series of after action reviews to identify the larger lessons of the war, with the Supreme Board being the most formal of these. The third method in particular was driven by the overwhelming belief amongst the United States Army Officer Corps that they would return to Europe to fight another large war in the short to medium term. The leaders of the American Expeditionary Force identified pertinent lessons from the three years of experience from allied operations on the Western Front to incorporate into their planning and training prior to deployment.³⁵

The United States Army absorbed lessons from the British and French Armies combat experience on the Western Front prior to deploying to Europe. The British and French had been committed to the war for three years, with the majority of the recent combat as of April 1917 involving static trench warfare, but this was about to change. Pershing was adamant that he

³⁴Mark E Grotelueschen, *The AEF Way of War: The American Army and Combat in World War I* (Cambridge: Cambridge University Press, 2010), 10-25.

³⁵Kenneth E. Hamburger, *Learning Lessons in the American Expeditionary Forces* (Washington, D.C.: Center of Military History, 1997), 5-8.

wanted the American Expeditionary Force to conduct maneuver to break the trench mentality that had developed within the Allies. President Woodrow Wilson directed Pershing to avoid the amalgamation of elements of the American Expeditionary Force with either the British or French Army once in theater. This dictated that the American Expeditionary Force would conduct operations in a discrete sector, allowing Pershing to fully implement his own doctrine without the burden of operating with Allied forces. Because of this decision, Pershing directed that not all of the lessons that the British and French Armies advocated were relevant or good lessons. Pershing gave clear direction that all lessons were to be validated prior to being implemented by the American Expeditionary Force. The establishment of the context for the operational evaluation was an important facet of the successful operational evaluation completed by the American Expeditionary Force. While Pershing set the specific context for the operational evaluation conducted by the American Expeditionary Force staff, a broader context within the United States military for the First World War had been established through the publication of articles in military journals and bulletins.³⁶

The developments of the First World War were published in a range of military journals and bulletins within the United States. The journal articles articulated general information on events that had occurred in the war on both the eastern and western fronts. This information included analysis on tactical and technological developments, with important deductions made from the operations of the German and Russian Armies in addition to the British and French. The United States Army published translations of documents from the Russo-Japanese War and from the German Army in the First World War. The lessons derived from these documents informed training prior to the commitment to the First World War and the mobilization of the American Expeditionary Force. The information brought from the Eastern Front was particularly important

³⁶Hamburger, *Learning Lessons in the American Expeditionary Forces*, 6-8.

to the operational evaluation process. The relatively static nature of the Western Front dictated that the lessons derived by the British and French Armies were very focused on trench warfare, whereas the lessons from the Eastern Front were derived from maneuver. Pershing identified this and gave clear direction to the staff, establishing the context that was to be used when identifying valid and relevant lessons. The analysis of the operations of other military forces is a valuable tool to inform the operational evaluation process and should be incorporated into any review methodology. In addition to establishing an awareness of events, the journal articles informed the education system that was a key enabler for the innovation process for the American Expeditionary Force.³⁷

The education system of any military organization is a critical factor for the implementation of initiatives identified during operational evaluation. Pershing asserted after the First World War that, “A school system would have been desirable in the best armies, but it was indispensable in an Army which had to be created almost wholly from raw material.”³⁸ The officer graduates of the Command and General Staff School were well prepared for the First World War but only formed a small percentage of the officer corps deployed as a part of the American Expeditionary Force. The Command and General Staff School trained officers were not only instrumental in the preparation and performance of the American Expeditionary Force, they were central to the operational evaluation and in ensuring that the correct lessons were learned and disseminated to appropriate schools in the United States.³⁹ The experience and lessons of the American Expeditionary Force were codified in doctrine and formed the basis for the education

³⁷“The United States Army | Fires Bulletin,” <http://sill-www.army.mil/firesbulletin/previouseditions.html> (accessed November 2, 2013).

³⁸John J. Pershing, *My Experiences in the First World War*, 1st Da Capo Press ed. (New York: Da Capo Press, 1995), 154.

³⁹Timothy K. Nenninger, *The Leavenworth Schools and the Old Army: Education, Professionalism, and the Officer Corps of the United States Army, 1881-1918*, Contributions in military history ; no. 15 (Westport, Conn: Greenwood Press, 1978), 122-142.

of officers and soldiers in the interwar period. The American Expeditionary Force experience demonstrated the central role of education facilities such as the Command and General Staff School in operational evaluation particularly in the implementation phase.⁴⁰ Once the American Expeditionary Force was deployed they assessed and refined the lessons that they inculcated in pre-deployment training.

The second method of operational evaluation employed by the American Expeditionary Force was the implementation of lessons learned in combat. The processes for learning lessons in combat were both informal and formal. The informal process involved headquarters of tactical units proactively capturing the tacit knowledge of soldiers and identifying the lessons they had learned. These lessons were codified and sent to higher headquarters for dissemination. The formal process involved investigation teams analyzing each combat incident. The investigation team provided a report with findings and recommendations for changes to tactics, techniques and procedures. This process began from the first contact of the American Expeditionary Force on 3rd November 1917. Pershing ordered the investigation and prescribed the format of the report. The report included recommendations on procedural and organizational modifications to the American Expeditionary Force. The identification process was supported by a thorough dissemination process that ensured that all elements in theater received the information and the army education system in the United States received the information. This enabled the refinement of course syllabus to support the mobilization process and limit the training liability of elements when they arrived in theater. This process demonstrated the importance of operational evaluation being a top-down driven process to enable the terms of reference for investigations to identify accurate and to coordinate effective dissemination of approved lessons. The third method was the

⁴⁰Peter Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II* (Lawrence: University Press of Kansas, 2010), 31-35.

assessment and validation of American Expeditionary Force operations post the cessation of hostilities.⁴¹

The third method of review of American Expeditionary Force operations was a post war review that identified the larger lessons for the United States Army. The review included a series of after action reviews to identify positive elements, improvements and failures in material, tactics, techniques and procedures. The analysis and findings of these reports were used in the formulation for doctrinal publications. The Infantry Drill Regulations manual of 1918 and the Field Service Regulations of 1923 are the two doctrine publications that were most heavily influenced by the findings of these reports. This method included personal combat accounts of the war that were included as a part of memoirs published after the war. The accounts in these memoirs are not validated and may not be an accurate account of events, but provide a primary source that if corroborated with other sources can be used as evidence as a part of evaluation. The myriad of post activity reports produced after the war were difficult to track and required an entire section of the General Staff to study and integrate during the preparation for the Second World War between 1939 and 1941. This demonstrated the importance of a holistic approach that captures lessons in a consolidated form as opposed to a de-centralized approach that requires consolidation prior to the next conflict. The most formal and holistic of the post war reviews was the Superior Board on Organization and Tactics that provided recommendations on the organization and doctrine post the completion of the First World War.⁴²

The Methodology and Conclusions of the Superior Board

The Superior Board was the most formal and holistic assessment conducted as a part of the operational evaluation of the American Expeditionary Force operations. The board was

⁴¹Hamburger, *Learning Lessons in the American Expeditionary Forces*, 24-25.

⁴²Ibid.

commissioned by Pershing and coordinated by the General Headquarters of the American Expeditionary Force. The superior board was established by General Order No 68 on 19th April 1919 and conducted its first meeting on 21st April 1919. The board met numerous times over a period of approximately one year with time between meetings used for further research and reflection on issues discussed in board meetings. The report of Superior Board on Organization and Tactics was submitted in June 1920. The composition of the Superior Board demonstrates the importance that Pershing placed in the conduct of operational evaluation.⁴³

The Superior Board consisted of three major generals, two brigadier generals and two colonels. All of the generals on the Superior Board were combat arms officers and the colonels were representatives from the engineer branch and signal corps that were able to provide advice on integration of the technical capabilities of their respective organizations. Pershing provided clear direction in General Order No 68 that established the aim of the board and the context in which board members were to identify lessons. Pershing also provided a covering letter to the Superior Board report, known as the wrapper endorsement that established the context under which the lessons in the report were identified, to assist future readers in the assessment of the relevance of the lessons to the situation that they encountered. Most importantly, Pershing listed the limitations of the lessons learned by the American Expeditionary Force and provided a summary of where the lessons may not be relevant. Pershing also articulated his disagreement with some of the Superior Board findings.⁴⁴ The difference in operational level planning and execution between the Punitive Expedition and the First World War is possibly the reason that Pershing understood the importance of clearly articulating the context for both the board

⁴³American Expeditionary Force, "Report of Superior Board on Organization and Tactics.": 1-3.

⁴⁴Ibid., 1-5.

conducting the review and its audience. The Superior Board conducted independent analysis but used after action reviews and previous boards as a start point for their review.

The previous boards that had been completed by the General Headquarters of the American Expeditionary Force during the conduct of operations informed the Superior Board. The boards already completed included staff organization, field artillery, heavy artillery, cavalry, infantry, Signal Corps, Engineer Corps and Medical Corps. The Superior Board used the previous reports to promote discussions and begin the integration of lessons across different functions and echelons. The Superior Board report had some significantly different recommendations to the boards completed while operations were being conducted. The recommendations in the earlier reports were made in isolation and made sense for an isolated part of the system but when considered in the context of the whole system were considered detrimental by the Superior Board. The Report of the Superior Board on Organization and Tactics effectively communicated the findings of the board and established the context for the reader.⁴⁵

The Report of the Superior Board on Organization and Tactics was a thorough document that was effective in establishing the mental model to assist in the implementation of the lessons identified by the board. The report was split into five sections to enable the clear communication of the context, assessment, and recommendations. These sections of the report were the directing head, the separate arms of the combat forces, the arms combined, the administrative services and the supply services. The report described each part of the American Expeditionary Force system individually and then provided a holistic summary of the system. The majority of recommendations were related to the parts of the system rather than at the system as a whole.⁴⁶

⁴⁵American Expeditionary Force, "Report of Superior Board on Organization and Tactics.": 4-15.

⁴⁶Ibid., 17-105.

The report of the Superior Board deliberately established and articulated the context that the board used while conducting operational evaluation. The context that the Superior Board established for all observations and recommendations was that future conflicts are likely to be great wars that will be so large that several field armies will be required. This context was created by the belief that the United States Army would return to Europe to fight a war in the short to medium term, establishing a sense of urgency for the learning of lessons. The board dictated that the field armies would be composed of three corps of four divisions each. The prescriptive context was important to understand the lessons derived from the evaluation completed by the board. The establishment of this context allowed for future generations to identify which lessons were pertinent to their situation. The communication of the lessons identified by the board was as important as the conduct of the assessment. The board articulated their findings in a detailed report that assisted in establishing the mental model for the implementation of the fixes for the lessons identified.⁴⁷

The recommendations of the Superior Board covered the complete range of capabilities and services that deployed with the American Expeditionary Force. The directing head section of the report equated to the contemporary warfighting function of mission command. The board reinforced the importance of unity of command, close personal relations of commanders with subordinate commanders, and the importance of establishing trust with junior commanders and keeping them informed. The report detailed the type of staff that were employed in the General Headquarters of the American Expeditionary Force, the role of the chief of staff, and the roles and responsibilities of the different staff sections. The report did not mention or recommend a plans section but noted the problems of coordinating the different staff sections to concentrate on future actions. The report also provided commentary on the effective employment of different types of

⁴⁷American Expeditionary Force, "Report of Superior Board on Organization and Tactics.": 104-125.

headquarters. The report identified two types of headquarters that were employed, the main and advanced headquarters. This was the first section of the report and was followed by the separate arms and combined arms sections.⁴⁸

The separate arms sections of the report were split into infantry, artillery, cavalry, air service, engineers, signals and medical. The report also included separate sections on tanks and machine guns. The report provided a comprehensive summary of operations coupled with tactical lessons learnt during the war, predominately from an infantry perspective. The lessons included descriptive recommendations related the advantages of envelopment and combined arms maneuver. The report also included prescriptive recommendations for the organization of units from company to corps level, including what combat enablers were required for both offensive and defensive. These recommendations were in the form of a table of organization and equipment, providing precise numbers of personnel and equipment needed. While the majority of the lessons were valid and correct, there are isolated lessons that were questionable. The report identified that future planning should be conducted within staff sections and there was no need for collaboration and was wary of combined arms maneuver below the division level. The method of communication used in the report of the Superior Board significantly enhanced the overall product and assisted in creating a shared mental model.⁴⁹

The Report of the Superior Board on Organization and Tactics was the product of a holistic review methodology that was motivated by the belief that the United States Army would be engaged in combat on the European continent. The review was established with a clear context and remit from General Pershing. The board conducted a thorough and integrated analysis of the operations of the American Expeditionary Force including previous assessments conducted

⁴⁸American Expeditionary Force, "Report of Superior Board on Organization and Tactics." 4-15.

⁴⁹Ibid., 101-125.

during combat. The board was able to discard temporal lessons, while keeping holistic lessons and distilling additional lessons. While systems thinking was not employed, the method used initially analyzed each part of the American Expeditionary Force individually, before examining the whole system. The findings and recommendations were communicated in an effective manner that provided context and provided a shared mental model for readers of the report. The quality of the analysis conducted is evinced by the fact that many of the lessons identified by the board are still relevant today.

THE INTERWAR PERIOD AND THE OPERATIONAL EVALUATION METHODOLOGIES OF THE SECOND WORLD WAR

The Australian Army during the Interwar Period and the Second World War

Fiscal constraint and political indifference towards military matters dominated the interwar period for the Australian military. The Australian public had seen the hardships of waging war and were willing to believe that it would not be repeated. The Great Depression of the 1920s limited government spending, particularly on military manning and capabilities. Australian society largely believed that the Australian military was only required in the extreme case of an attack against Australian sovereignty. The Australian government assessed an attack of this nature was unlikely in the near future.⁵⁰ The Australian government established strategic guidance in the interwar period that limited the ability of the Australian Army to implement lessons learned as a part of the operational evaluation of the First World War.

The Honorable William Hughes, Prime Minister of Australia, set the initial strategic guidance for the Australian military in a series of speeches and statements in September 1920. He identified the need for Australia to be able to defend itself, but also the strong links to the British

⁵⁰Paul M.C. Hasluck, *Australian Army in the War of 1939-1945. Volume I: The Government and the People, 1939-1941* (Sydney, Australia: Halstead Press, 1965), 1-15, http://www.awm.gov.au/histories/second_world_war/AWMOHWW2/Civil/Vol1/ (accessed November 12, 2013).

Empire that would assist in this task. He stressed that Australia would enjoy support from British forces in particular the Royal Navy but the cost of this support was for Australia to reciprocate defend the empire if called.⁵¹ These statements were influential and from an Australian Army perspective further cemented the tie to the Imperial General Staff and ensured that the largest influence on Australian Army doctrine, organization and education remained the British Army.

The most influential Australian defence policy of the interwar period was established after the 1920 Imperial Conference. The prime minister confirmed that the primary defence of Australia was the Naval and Air Arms conducting parallel tasks, denying an adversary access to the Australian coastline. The Army was seen as a reserve to be used as a last resort, and given the physical size of Australia only able to protect assigned cities rather than conduct offensive operations.⁵² This meant that from 1920 until 1935 the Australian Army was the lowest in priority for resources within the Australian military organization. The limited resources afforded to the Australian Army dictated changes to organization and role of the Australian Imperial Force.

The Australian Imperial Force was demobilized in 1921. The 330,000 officers and soldiers that were enlisted at the end of the First World War were reduced to a cadre of approximately 3,000 and a militia of 100,000. The militia was recruited from untrained men who were too young to fight in the First World War. The militia was only obliged to fight in defense of Australia and was not expeditionary.⁵³ The downsizing of the Australian Army meant that the Australian Army of 1921- 1935 was largely concentrated on individual training of new militia recruits and not collective training. This limited the impact of the lessons of large conventional

⁵¹Hasluck, *Australian Army in the War of 1939-1945. Volume I: The Government and the People., 1939:-1941* (1965), 1-6.

⁵²*Ibid.*, 10-14.

⁵³Gavin Merrick Long, *Australia in the War of 1939-1945. Series 1 - Army*, 1961 reprint., vol. Volume I - To Benghazi (Canberra: The Australian War Memorial, 1952), 3-7, http://www.awm.gov.au/histories/second_world_war/AWMOHWW2/Army/Vol1/ (accessed November 12, 2013).

warfare learnt in the First World War. The cadre of the militia who were veterans of the Australian Imperial Force had the tacit knowledge but little was done to codify the lessons in doctrine or to include them as a part the curriculum of the Australian Army education courses.

The Australian Government defence budget had halved from 7.9 million pounds in 1926 to 3.2 million pounds in 1933.⁵⁴ By 1933, the assumptions that were used to formulate the Australian defence policy of the 1920s were questioned, mainly as a result of the Japanese invasion of China and withdrawal from the League of Nations. In 1933, the Australian Government identified a clear threat in Japan and the Imperial Staff began circulating signal traffic on a resurgent Germany. The readiness of the Australian Army was poor. The Army could not mobilize a brigade without the use of civilian vehicles. A three year plan to improve the readiness of the Australian Army increased stocks of ammunition, motor vehicles and other modern technical equipment. While resources for the Army increased, the Australian defence policy remain unchanged with the naval defence of the Australian coastline the main strategic priority.⁵⁵ The increased spending on equipment for the Australian Army was offset by reduced spending on personnel.

By 1935, the continuing budget restrictions placed on the Australian Army had forced the cadre to be reduced to 1,800 permanent members and the militia to 27,000.⁵⁶ This reduction in personnel meant that the size for the Australian Army in 1935 was smaller than at any time since 1910. Continued instability throughout Europe and Asia forced increased spending on Australian Army equipment, personnel and readiness. By 1939 the re-investment in the Australian Army had improved overall readiness, but the Army was at a similar size, level of training, and capability as

⁵⁴Hasluck, *Australian Army in the War of 1939-1945. Volume I: The Government and the People, 1939:-1941* (1965), 41.

⁵⁵Long, *Australia in the War of 1939-1945. Series 1 - Army*, Volume I: - To Benghazi, 19-21.

⁵⁶ *Ibid.*, 24.

the Australian Army of 1914. The Australian Army of 1939 was essentially a defensive force that was able to man coastal defensive positions and await the arrival of an enemy.⁵⁷ The operational evaluation of the First World War conducted by the Australian Imperial Force identified lessons at the tactical and operational levels of war, the implementation of the fixes for these lessons in the interwar period was inadequate.

The interwar period for the Australian Army shows three important aspects that had a detrimental effect on the implementation of the operational evaluation of the First World War. The first two being the lack of incorporation of lessons learned into doctrine or the education curriculum of the Australian Army. The third relates to the failure to create a sense of urgency for the learning of lessons from the First World War. The immediate demobilization of the Australian Imperial Force, the lack of resources, and the influence of the Imperial General Staff that military force would not be committed by the British government to any conflict on continental Europe meant that the Australian Army had little motivation to promote the learning of lessons. While senior leaders published memoirs and conducted analysis of Australian Imperial Force operations, there was no commander directed to take responsibility for the innovation and no clear direction on what actions were to be taken to implement the fixes identified by the operational evaluation conduct during and post the First World War. This omission early in the interwar period affected the preparation for the Second World War and meant that many lessons that were learned by the Australian Imperial Force were re-learned by the Second Australian Imperial Force during the next mobilization.

The decision on the Australian contribution to support the United Kingdom was problematic because of the readiness of the militia and the dual threat of Germany and Japan. The warning signs of imminent German aggression allowed for the incremental increase of the

⁵⁷ Long, *Australia in the War of 1939-1945. Series 1 - Army*, Volume I: - To Benghazi, 30-32.

defensive posture of Australian military units and advanced planning for possible contingencies on the declaration of war. The United Kingdom declared war with Germany on 3rd September 1939. This dictated that Australia was also at war and began a mobilization for the Australian Army. The Australian Government considered options to support the United Kingdom in war against Germany but also to retain a capable military to defend against the threat posed by Japan. The Australian Government confirmed that Australia would provide a Second Australian Imperial Force to support the United Kingdom on 15th September 1939.⁵⁸ The Government gave clear guidance that this expeditionary force was not to degrade the capability of the militia.

The mobilization of the Second Australian Imperial Force was conducted in a similar to that of the first. Some of the lessons were from the mobilization of the First Australian Imperial Force were applied, but the new context was not considered. Lessons such as moving stores and equipment to the ports was applied but proved problematic because the majority of the stores and equipment loaded had been designated as equipment for the militia.⁵⁹ This was a constant source of friction throughout the conduct of operations during the Second World War, the Australian Army applying lessons from the First World War that did not apply to the context of the Second World War.

The operational evaluation methodology used by the Australian Army in the Second World War was similar to the methodology employed by the Australian Imperial Force. The four discernible methods used were the use of lessons from the First World War, use of lessons from Imperial General Staff, the lessons by elements in combat, and the integration of lessons from multiple theaters conducted by the headquarters of Australian Military Forces.⁶⁰

⁵⁸Long, *Australia in the War of 1939-1945. Series 1 - Army*, Volume I: - To Benghazi, 33-42.

⁵⁹Ibid., 42-46.

⁶⁰Australian Army, *Australian Army at War 1939 - 1944* (New York), <http://babel.hathitrust.org/cgi/pt?id=mdp.39015024833348;view=1up;seq=1> (accessed November 2, 2013).

The United States Army in the Interwar Period and the European Theater of the Second World War

The interwar period for the United States Army was also characterized by fiscal constraint, an anti-war sentiment among the general population, and political indifference towards military matters. The constraints of the interwar period meant that the United States Army found it difficult to modernize, implement lessons identified by the operational evaluation of the First World War, and was a constant battle to maintain an adequate personnel strength. These constraints caused frustration within the officer corps of the United States Army, particularly those who had served in the American Expeditionary Force. The veterans of the First World War believed that hostilities had ended prematurely and that it was likely that the United States Army would return to continental Europe in the near future.⁶¹ The major constraints led to significant decreases in personnel and equipment in the United States Army during the decade post the First World War.

The Report of the Superior Board heavily influenced the interwar period. The findings of the report informed both doctrine and education of the United State Army. The three most influential findings were the likelihood of the next war being fought by formations of corps or larger, the pivotal role that logistics played in supporting the operation of these large formations, and the importance of mobilization given the relatively small size of the standing United States Army to generate these large formations. The appointment of General Pershing as Chief of Staff of the Army in 1921 ensured that the lessons identified by the Superior Board were applied in the correct context and that the limited resources were prioritized to support innovation post.

Pershing's observation of the excellent performance of Leavenworth graduates on the American Expeditionary Force meant that he recognized the importance of education. Pershing ensured that

⁶¹Peter Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II*, 22.

education was made a high priority, at times to the detriment of collective training of the field army. Many other key positions within the United States Army were filled by American Expeditionary Force veterans ensuring a shared understanding of the context and intent that Pershing established.⁶²

The impacts of the fiscal constraints and government strategic policy can be seen by the changes in the personnel strength of the United States Army. The Army end strength peaked in 1919 with approximately three million officers and soldiers aggregate of the active duty and reserve. From this high, by 1920 the Active Duty Army had reduced to 103, 247 and the reserve was in such a state of flux it is difficult to find an accurate figure. Over the next seven years the United States Army continued to reduce to an aggregate of 134, 829. Many officers, including Dwight D. Eisenhower and George Patton, accepted demotion to continue service. The promotion rates for officers and soldiers were very slow, with the time in rank for a Lieutenant in the interwar period up to seventeen years. There was a commensurate decrease in budget over the period that restricted the training and procurement.⁶³ Pershing's belief in the importance of education coupled with the restriction on training resources led to the education of officers being a priority and acting as a leading agent for innovation.

While the rest of the Army suffered under the imposed constraints, officer education at both the Command and General Staff School and the War College received the priority for operating and a share of resources that enabled the conduct of effective courses. Instructor positions at the Command and General Staff School were the third priority for assignments behind War College instructors and General Staff, ensuring the quality of the personnel selected as instructors. The selection process for instructors was thorough and treated like a board for

⁶²M.R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945*, Campaigns and Commanders (University of Oklahoma Press, 2011), 41.

⁶³*Ibid.*, 45-47.

promotion. The selection process denied officers of the caliber of George Patton the opportunity to instruct. Instructors were often distinguished graduates of the course and were held in high esteem by the students. The faculty in the early 1920s was almost entirely composed of officers from the AEF ensuring that the implicit lessons learned during the First World War, and explicit lessons codified by the Report of the Superior Board, were inculcated as a part of the curriculum.⁶⁴ The decision to give priority of manning to officer education over the field army was a key contributor to the effectiveness of the officer education continuum. The doctrine established after the First World War was the basis for the curriculum of the Command and General Staff School.

The First World War experience polarized the United States Army officer corps with regard to doctrine. Officers who had deployed as a part of the American Expeditionary Force were convinced that doctrine should reflect a combined arms maneuver approach to warfare, in particular the advantage of using firepower rather than maneuver to defeat the enemy. The officers that had not seen combat saw no reason to change the pre-war doctrine that emphasized the methodical approach to battle, and the need to close with the enemy in order to destroy them. The first major change to doctrine was the 1923 Field Service Regulations that introduced the concept of combined arms maneuver, stressed the importance of gaining the initiative, identified forms of maneuver, the relationship between maneuver and logistics. The manual also articulated the idea of using firepower to neutralize the enemy but this idea did not gain leverage because of the lack of capabilities within the United States Army at the time to deliver the required effects.⁶⁵ The mobilization for the Second World War would provide the capabilities required to enable the use of firepower to destroy the enemy.

⁶⁴Peter Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II*, 86-99.

⁶⁵Grotelueschen, *The AEF Way of War*, 352 - 364.

The innovation during the interwar period intellectually prepared the United States Army for major combat operations in Europe during the Second World War. The education, doctrine, and influence of key members of the American Expeditionary Force ensured that the officers selected to fill key command and staff appointments for the mobilization and in the United States Army in the European Theater of Operations were well prepared for the intellectual challenges of the Second World War. The implementation of the lessons learned from the First World War was effective, despite the constraints of the post war period. The three major reasons for the successful implementation were the investment in officer education and doctrine, the influence provided by Pershing in his position as a senior commander and the sense of urgency created by the impression of senior officers from the American Expeditionary Force that the First World War has terminated prematurely. The successful operational evaluation and implementation conducted by the United States Army after the First World War heavily influenced the review methodology used for by the United States Army in the European Theater after the Second World War.

The United States Army in the European Theater employed similar methods to the American Expeditionary Force for the conduct of their operational evaluation. This is not surprising given that the majority of senior commanders were veterans of the First World War and also attended the Command and General Staff School, where the curriculum was influenced by the Report of the Superior Board. The three methods of capturing lessons learned were referring to United States Army doctrine and lessons learned from the First World War, the use of after action reviews and dissemination of lessons learned in combat, and the conduct of the General Boards, which were a post war holistic review of operations. The major changes from the methods used by the American Expeditionary Force were the use of United States Army doctrine to guide mobilization and operations and the lack of consultation with international partners to

establish lessons learned during combat.⁶⁶ The use of the doctrine in the preparation and conduct of operations in the Second World War has been covered previously. The adaptation of the United States Army in the European Theater was conducted through the conduct of a series of after action reviews.

The United States Army in the European Theater conducted after action reviews at the conclusion of all major actions. These reviews allowed for adaptation through the optimizing of tactics, techniques and procedures. The after action reviews were more refined than those completed by the American Expeditionary Force and included a more detailed discussion of the background and planning for the activity. Most reports included the higher headquarters order that initiated the action and some included minutes of the planning. The common themes across these reports were command and control issues, the use of new technology particularly communications. The reports covered both tactical and operational level issues.⁶⁷ The dissemination of the lessons learned was again a strength with headquarters at all levels pushing after action reports down to the lowest levels. There was clearly a culture of learning within the United States Army on the European Theater. The General Boards completed the most comprehensive analysis of the combat operations on continental Europe in the Second World War just after the completion of hostilities.

The Methodology and Conclusions of the General Boards

The General Boards were a series of 131 separate boards conducted to review the operations of the United States Army in the European Theater. The aim of the boards were to conduct analysis at both the strategic and tactical levels of operations in Europe to identify both

⁶⁶Mark S. Watson, *Chief of Staff: Prewar Plans and Preparations*, United States Army in World War II. The War Department (Historical Division, Department of the Army, 1950), 380-386.

⁶⁷General Dwight D. Eisenhower, "Report by the Supreme Commander to the Combined Chiefs of Staff on the Operations in Europe of the Allied Expeditionary Force 6 Jun 1944 to 8 May 1945" (Center of Military History, 1994), 1-42.

strengths and weaknesses. Each board produced its own report, with an index provided to identify where topics were discussed in multiple reports. The General Boards were implemented by Headquarters European Theater of Operations, United States Army General Order 178 dated 17th June 1945. There were two further General Orders released that amended the composition and scope of the boards. The last of these orders was released on 23rd November 1945. The majority of the reports of the General Boards were released in late 1945 or early 1946.⁶⁸

The composition of each of the individual boards was similar to the Superior Board. Each board consisted of between two and sixteen officers, ranging from the rank of Captain to Brigadier General. The boards listed all officers that were consulted to inform board discussion, with the majority of these being commanders up to the rank of Major General. The boards ranged in duration from three weeks to eight months, with minutes of each meeting capturing the matters that were considered and the differing opinions of the members of the board. The board reports did not capture this disagreement and gave a firm position or recommendation on all issues. Each board was given their own mission and conducted in isolation from any related boards.⁶⁹ The amount of detail covered by all of the individual boards did not allow an overarching report to provide a holistic assessment, as had been the case for the Report of the Superior Board on Organization and Tactics.

Either a functional area or a branch sponsored the individual boards. The breakdown of topics within the General Boards was logical. The functional areas, G1 to G5, sponsored boards that provided an overview of theater operations and branches sponsored boards dealing with more specific, mostly tactical issues. All functional areas had a board that assessed their organization and operations. Many of the topics that were sponsored by functional areas were contemporary

⁶⁸The General Board, "Index to the Reports to the General Board" (1946), 1-32, <http://www.cgsc.edu/carl/eto/eto-Index.pdf> (accessed September 19, 2013).

⁶⁹Ibid., 1-32.

issues that are being analyzed today by the United States Army. Some of these topics were the study of the Women's Army Corps in the European Theater of Operations, salvage and evacuation of equipment, and procedures followed by civil affairs and military government in the restoration, reorganization, and supervision of indigenous civil administration.⁷⁰

The G3 cell conducted the analysis of infantry operations, the only branch to be analyzed by a functional area. The G3 cell conducting analysis of infantry may have links back to the Superior Board, which clearly articulated the importance of infantry operations being the central component to the combined arms approach. The analysis was separated into the infantry division and the airborne division, with a summary of operations and a recommended table of manning and equipment provided for each organization.⁷¹

Each branch and support agency, except infantry, conducted their own analysis of operations within the European Theater. This analysis incorporated separate boards on equipment and organization. Branches also conducted their own specific boards for tactical issues such as gunnery for armored and artillery and technical policies for engineers. The boards conducted by supporting agencies included reports from the Army Exchange Service, information and education, special services, and publicity and psychological warfare.⁷²

The majority of the key lessons identified in the General Board built on the lessons of the Superior Board. The most obvious exception was the rejection of infantry always being central to combined arms maneuver. The themes of combined arms maneuver and the use of firepower to neutralize the enemy, that were articulated in the report of the Superior Board, were expanded

⁷⁰ The General Board, "Index to the Reports to the General Board" (1946), 1-12.

⁷¹"General Board Reports Study No.15: Organization, Equipment and Tactical Employment of the Infantry Division." (United States Forces, European Theater, 1946), <http://www.cgsc.edu/carl/eto/eto-015.pdf> (accessed August 12, 2013).

⁷²The General Board, "Index to the Reports to the General Board" (1946), 13.

and refined in the reports of the General Boards. The importance of combined arms was emphasized at both the tactical and operational levels of war in most combat arms reports.⁷³

The mobilization of the United States Army for the Second World War provided enough capability to deliver the firepower required to test the theory of whether firepower rather than maneuver could be used to neutralize the enemy. The advantages and disadvantages of the firepower theory were provided from both a maneuver, artillery, and air perspective.⁷⁴ The United States Army core competency of combined arms maneuver, as detailed in unified land operations, is a combination of the maneuver and use of fires themes articulated during the General Boards. Many of the recommendations included in the General Boards form part of the contemporary doctrine of the United States Army.⁷⁵

The General Boards were a comprehensive and well coordinated study of the operations of the United States Army in the European Theater. The methodology of the General Boards was similar to the Superior Board but on a much larger scale. The reports of the General Boards provided a large amount of information at both the operational and tactical levels that informed the post war review of doctrine and organization. The complexity of operations and the sheer amount of information made it difficult to integrate the findings of the individual reports into a single holistic report.

⁷³“General Board Reports Study No.48: Organization, Equipment and Tactical Employment of Armored Divisions” (United States Forces, European Theater, 1946), <http://www.cgsc.edu/carl/eto/eto-048.pdf> (accessed August 12, 2013)

⁷⁴“General Board Reports Study No.59: Organization and Equipment of Field Artillery Units” (United States Forces, European Theater, 1946), <http://www.cgsc.edu/carl/eto/eto-059.pdf> (accessed August 12, 2013)

⁷⁵Department of the Army Headquarters, *Army Doctrine Reference Publication (ADRP) 3-0, Unified Land Operations* (Washington, D.C.: Government Printing Office, 2012), 2-8 - 2-9.

CONCLUSION

The operational evaluation of Australian Army operations in Afghanistan and Iraq should aim to drive innovation by establishing relevant operational level lessons. The methodology for the operational evaluation should establish a balanced composition for the review organization, identify processes and procedures to ensure the effective conduct of the review, and formulate a thorough implementation process to coordinate the required changes to remedy the lessons identified.

The composition of the review organization enables the successful conduct of the review and coordination of the implementation of the lessons learned. The review organization should be large enough to analyze the complexity of the operational environment, in a timely manner, using the principles of systems thinking. The inclusion of subject matter experts to analyze parts of the environment will assist in dealing with complexity. The balancing of ranks within the review organization will assist with the effective interaction between board members and deterring groupthink. The inclusion of personnel with experience in either theatre should be balanced by the personnel with no experience to allow for an objective analysis and contrary opinions. The leader of the review organization must have sufficient influence to form a coalition for the implementation of the lessons learned. The establishment of a balanced review organization will enable the effective conduct of the review.

The processes and procedures employed for the conduct of the review will heavily influence the lessons learned from the operational evaluation and their utility as a part of the innovation process. The processes and procedures are not only internal to the review organization but also incorporate the guidance provided to the evaluation process. The context for the review should be provided by the highest levels within the Australian Army. The establishment of the context is important in enabling the lessons identified to be applied in suitable circumstances in the future. The board should apply the principles of systems thinking by conducting an

assessment to identify lessons at both the holistic level and also for the individual parts of the system. The lessons should attempt to determine fixes that are required to be applied, and ideally assessment methods to identify feedback that determines the effectiveness of any fixes implemented. As a part of the systems approach, the board should look to collate lessons learned by staff officers embedded on coalition operational level headquarters and capture relevant operational level lessons from coalition partners to inform doctrine for Australian operational level headquarters. The final process of the review organization is the compilation of the report.

The communication of the understanding established by the review organization is a key element of the process and is the interface between analysis and the actions taken to fix identified issues. The report should aim to provide a mental model for readers to enable the effective implementation of the board's recommendations. The report should clearly articulate the context that the lessons were identified within and establish the boundaries in which the lessons are considered relevant. The report should communicate the holistic observations, only providing the detailed observations of the parts of the system when it enhances clarity. The report should provide integration and coordination and establish the shared mental model for the change required within the organization. The report of the review organization is central to the implementation process.

The implementation process is likely to be the longest and most detailed step of the operational evaluation. The analysis of the case studies showed that the implementation process was the step most likely to determine the effectiveness of the operational evaluation. The implementation step aims to coordinate the change management process, informed by the understanding gained by the review organization and the lessons detailed in the review report. The case studies show that the implementation step is most likely to be effective if a sense of urgency can be created to employ the lessons and understanding established by the review. The implementation step should aim to effect change by informing doctrine in the long term, and

refining the education system in the short term. The assumption of any operational evaluation should be that post major conflict military organizations will face reduced budgets and the implementation process will need to prioritize scant resources, meaning that training for large elements is difficult but education is relatively inexpensive. The implementation process should not be an ad hoc process that relies on the report to coordinate and integrate the recommendations of the review. The implementation process should be planned and resourced as a priority.

The four case studies showed effective processes across all three areas of operational evaluation. The strongest element in all four cases was the conduct of the review. Establishing a balanced composition and the implementation were generally the weaker elements in the cases examined. The most successful examples of operational evaluation from the case studies gained their advantage through the effective conduct of the implementation. The Superior Board of the American Expeditionary Force provided the best example of a complete process. The manner in which the Superior Board established the composition of the board, a clear context for the lessons, and the implementation process all set an excellent example to emulate.

The Australian Army has now withdrawn all conventional forces from Afghanistan, with training elements and staff officers remaining. It has now entered the interwar period and should begin to look for lessons to inform the innovation that should be a part of this period. The establishment of a holistic and objective operational evaluation to identify the correct lessons from operations in Afghanistan and Iraq should be the first step in this innovation. The study of historical examples such as the Superior Board of the American Expeditionary Force and the General Boards of the United States Army in the European Theater of the Second World War will assist in ensuring that the lessons are not only identified but truly learned.

Recommendations

The analysis of the operational evaluation of the Australian Army and the United States Army post the First and Second World Wars revealed two learning organizations that used effective methodologies to identify lessons and implement the required fixes. The following is a list of recommendations for the Australian Army operational evaluation of Afghanistan and Iraq, taken from the analysis of the four methodologies analyzed. The recommendations have been split into three categories: the composition of the review organization, the conduct of the operational evaluation, and the implementation of the lessons.

Composition of the Review Organization

The establishment of the composition of the review organization is an important step in the initiation of operational evaluation. The composition should be directed by the headquarters who is responsible for the operational evaluation process. Ideally, this headquarters would be the operational level headquarters in theater, but in this case, that is not possible. The direction should be prescriptive, identifying the most suitable personnel by name and directing them to positions within the review organization. The duration of the review will require a significant commitment of time. The positions on the review organization are likely to be an additional role and in addition to the workload of their current position. The length of the review and the required commitment should be considered when choosing individuals. Changing the composition of the review organization during the methodology may undermine the process.

The ranks of those involved is an important consideration. The leader of the organization needs to be of sufficient rank to ensure that the report has credibility and carries enough influence to build a coalition for the implementation of the recommendations. Brigadier is assessed as the

appropriate rank for the leader of the organization. The remainder of the board should constitute a mix of ranks but it is preferable that key advisors are of equivalent rank so that unrestrained dialogue is undertaken. The Superior Board and the General Boards did not have senior non-commissioned officers on the boards. The inclusion of senior non-commissioned officers on the board will provide another perspective on issues and assist in breaking groupthink.

Consultation is a key element of the review process. The review organization should identify personnel who filled key positions or are subject matter experts to inform the dialogue of the review. Their experience and knowledge can be captured through the consultation process, therefore the members of the review organization do need experience in either theater. The composition of the board should not be decided by experience of individuals, but on their ability to apply critical thinking and conduct analysis. The capture of the tacit knowledge of personnel who completed individual roles on coalition operational level should be a key element of the consultation completed. Consultation with other coalition nations should also be considered to broaden the analysis. Other Australian government departments should also be consulted to assess the current mechanisms for the whole of government approach.

The size of the review organization is dependent on the scope of the review and the complexity of the activities being reviewed. It is difficult to estimate the size of the organization required for the review of the Australian Army operations in Afghanistan and Iraq until the scope is confirmed. The large amount of complexity resident in both theaters indicates that the board would be larger than the boards used for the Superior Board and the General Boards. The method used in the General Boards of numerous discreet boards with limited scope may have utility in this case given the two areas of operation and complexity involved. The organization must be large enough to coordinate and integrate the identification of lessons and assist in the implementation of fixes.

A board construct is assessed as the most effective organization for the operational evaluation of the Australian Army commitment to Afghanistan and Iraq. The board should be conducted separate from any review process conducted by Joint Operations Command. Once the scope is confirmed, an analysis on whether a single board with a large scope or multiple boards with a smaller scope can be completed. Given the complexity of the operational environment, the board should be at least 15 members.

Conduct of the Board

The board should establish the lessons and the context within which the analysis was conducted. The lessons identified should aim to inform doctrine, education and organization of the Australian Army. To do this effectively the context within which the lessons were identified is important. The Report of the Superior Board on Organization and Tactics and the wrapper endorsement from General Pershing provide an excellent example of how to establish context.

The board should begin by reviewing the after action reports of units that have been deployed to Afghanistan or Iraq. These reports will provide lessons and an initial start point for understanding. This should be followed by the conduct of consultation with personnel who filled key positions and subject matter experts. The consultation phase is likely to be the most important step in establishing the correct context.

The after action reviews of units that deployed formed a key element of the short feedback loop. Other elements of this feedback loop were journal articles and internet blog sites. These sources may assist in refining both lessons and the context. A common element to the four methodologies analyzed was the effective adaptation that occurred once in combat. This adaptation was enabled by effective dissemination. Recent technological advances have changed the methods used for dissemination markedly. The board for the Australian Army Operations in Afghanistan and Iraq should codify the dissemination methods for lessons learned in theater and assess their effectiveness.

The unique nature of the individual rotations through the coalition operational level headquarters will necessitate a larger than normal consultation effort. Headquarters JTF 633 formed the operational level headquarters for Australian military forces for both conflicts. This headquarters filled the role of a national command element but did not control tactical actions. Therefore, the only methods to capture operational level headquarters lessons is through consultation with coalition partners or collating the experiences of the personnel who completed individual rotations. A key part of this operational evaluation will be the capture of the tacit knowledge of the personnel who completed individual rotations and transforming it into explicit knowledge to inform operational level doctrine for the Australian Army.

The consultation with international partners should not be limited to the function of operational level headquarters. This extended period of combat has generated extensive analysis and the capture of lessons. These lessons may be learned under different conditions so the context for these lessons is important. Acquiring these lessons will provide a different perspective and broaden the perspective of the board.

The objective capture of the events of both theaters should be considered as a part of the coordination of the operational evaluation. While it is unlikely that producing a historical record of the conflicts will be within the remit of the board, coordination and sharing of information with the relevant historical organization is important. A common theme among the four evaluation methodologies analyzed was the utility that the objective capture of information in a historical document had provided. This allowed for analysis to be conducted after the event using a different perspective, that established different lessons than those that were identified by the operational evaluation of the conflict.

The communication of the findings of the board is important in establishing the shared vision required to implement change. The report delivered from the board should provide context, background, identify the lesson, identify a possible fix for the issue and recommend any changes

to doctrine or organization. The minimum output from the board should be a summary of the recommended changes to doctrine, education, organization, and equipment.

Implementation of the findings

Establishing a sense of urgency for the changes was shown to be a key element for successful implementation plans. One of the differences between the implementation plans that worked and those that did not was the establishment of a sense of urgency. The belief of United States Army Officers that they would return to continental Europe to fight another war established a sense of urgency. This sense of urgency assisted in modifying the officer education courses to ensure that officers were prepared for the rigors of the Second World War. The role of Pershing in championing this sense of urgency was also important. A senior commander becoming directly involved in the implementation process, in particular establishing a sense of urgency was the most effective implementation of change observed. Establishing a sense of urgency assists in creating a shared vision and unity of effort to assist in making the required changes.

The key area that implementation should aim to affect is the doctrine of the Australian Army. By changing doctrine, the changes will affect all areas of the Australian Army because doctrine drives operations, training, education, and procurement. The implementation should seek to incorporate lessons identified to either refine or change doctrine. Providing a long list of lessons does not achieve change in doctrine, but providing new concepts by combining multiple lessons is more likely to change doctrine.

The implementation process should seek to influence the education system of the Australian Army, in two ways. The first, ensuring that veterans from Iraq and Afghanistan fill instructor positions, dictating that their tacit knowledge is passed to the students. Secondly, making changes to the curriculum in the short term. If the implementation process is successful in changing doctrine the curriculum will change with doctrine, but changing doctrine is a long

process. The implementation will influence officers and senior non-commissioned officers most quickly by changing the education curriculum. These officers and senior non-commissioned officers will act as agents for change in the field army by virtue of the education they have received, starting the process of change before the refined doctrine is released.

The implementation process is the most time consuming step of the operational evaluation. All four methodologies studied were constrained in the implementation process by a lack of resources. The assumption of any operational evaluation should be that post major conflict military organizations will face reduced budgets and the implementation process will need to prioritize scant resources. This further highlights the need to carefully plan and coordinate the implementation of the lessons identified.

BIBLIOGRAPHY

Primary Sources

Archives

American Expeditionary Forces Superior Board. "Report of Superior Board on Organization and Tactics". General Headquarters American Expeditionary Forces, 1925. <http://cgsc.contentdm.oclc.org/utills/getfile/collection/p4013coll7/id/808/filename/809.pdf> (accessed August 12, 2013).

The General Board. "Index to the Reports to the General Board", <http://www.cgsc.edu/carl/eto/eto-Index.pdf> (accessed September 19, 2013).

Third United States Army. "After Action Report, August 1944- May 1945, Volume 1, Operations", June 1945.

"Australian Imperial Force War Diaries 1914-18 War - Chief of General Staff, Australia. July-August 1914". Australian War Memorial, September 1914. <https://static.awm.gov.au/images/collection/bundled/RCDIG1003235.pdf> (accessed August 2, 2013).

"General Board Reports Study No.1: Strategy of the Campaign in Western Europe 1944-1945". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-001.pdf> (accessed August 12, 2013).

"General Board Reports Study No.15: Organization, Equipment and Tactical Employment of the Infantry Division". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-015.pdf> (accessed August 12, 2013)

"General Board Reports Study No.17: Types of Divisions - Post-War Army". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-017.pdf> (accessed August 12, 2013)

"General Board Reports Study No.2: Study of the Organization of the European Theater of Operations". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-002.pdf> (accessed August 12, 2013)

"General Board Reports Study No.48: Organization, Equipment and Tactical Employment of Armored Divisions". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-048.pdf>. (accessed August 12, 2013)

"General Board Reports Study No.59: Organization and Equipment of Field Artillery Units". United States Forces, European Theater, 1946. <http://www.cgsc.edu/carl/eto/eto-059.pdf>. (accessed August 12, 2013)

Books

- American Battle Monuments Commission. *American Armies and Battlefields in Europe*. Washington, DC: US Government Printing Office, 1938.
- Bean, Charles Edwin Woodrow. *Official History of Australia in the War*. 12 vols., https://www.awm.gov.au/histories/first_world_war/ (accessed August 18, 2013).
- . *Official History of Australia in the War of 1914-1918. Volume I - The Story of ANZAC from the Outbreak of War to the End of the First Phase of the Gallipoli Campaign, May 4, 1915. 11th ed. Vol. I. XI vols.* Sydney, Australia: Angus and Robertson Ltd, 1941. https://www.awm.gov.au/histories/first_world_war/AWMOHWW1/AIF/Vol1/ (accessed August 2, 2013).
- Blumenson, Martin. *The European Theater of Operations: Breakout and Pursuit. U.S. Army in World War II*. Washington, DC: Department of the Army Historical Division, 1951.
- Eisenhower, GEN Dwight D. "Report by the Supreme Commander to the Combined Chiefs of Staff on the Operations in Europe of the Allied Expeditionary Force 6 Jun 1944 to 8 May 1945". Center of Military History, 1994.
- General Headquarters, American Expeditionary Force (AEF). *Liaison for All Arms*. France: GHQ, AEF, 1918.
- Harrison, Gordon A. *The European Theater of Operations: Cross-Channel Attack. U.S. Army in World War II*. Washington, D.C: Department of the Army Historical Division, 1951.
- Hasluck, Paul M.C. *Australian Army in the War of 1939-1945. Series 4 - Civil. Vol. Volume I - The Government and the People, 1939-1941* (1965 reprint). V vols. Sydney, Australia: Halstead Press, 1965. http://www.awm.gov.au/histories/second_world_war/AWMOHWW2/Civil/Vol1/ (accessed November 12, 2013)
- Long, Gavin Merrick. *Australia in the War of 1939-1945. Series 1 - Army. 1961 reprint. Vol. Volume I - To Benghazi*. Canberra: The Australian War Memorial, 1952. http://www.awm.gov.au/histories/second_world_war/AWMOHWW2/Army/Vol1/ (accessed November 12, 2013)
- Palmer, Robert R., and Kent R. Greenfield. *The Army Ground Forces: The Organization of Ground Combat Troops. U.S. Army in World War II*. Washington, D.C: Department of The Army Historical Division, 1947.
- Palmer, Robert R., Bell I. Wiley, and William R. Keast. *The Army Ground Forces: The Procurement and Training of Ground Combat Troops. U.S. Army in World War II*. Washington, D.C: Department of the Army Historical Division, 1947.
- Pershing, John J. *Final Report of General John J. Pershing, Commander-in-Chief, American Expeditionary Forces*. Washington, DC, 1920.

———. *My Experiences in the First World War*. 1st Da Capo Press ed. New York: Da Capo Press, 1995.

Pogue, Forrest C. *The European Theater of Operations: The Supreme Command. U.S. Army in World War II*. Washington, D.C: Department of the Army Historical Division, 1954.

Watson, Mark S. *Chief of Staff: Prewar Plans and Preparations. United States Army in World War II*. The War Department. Historical Division, Department of the Army, 1950.

Documents

Australian Army. *Australian Army at War 1939 - 1944*. New York: Director General of Army Public Relations, 1944. <http://babel.hathitrust.org/cgi/pt?id=mdp.39015024833348;view=1up;seq=1> (accessed November 2, 2013).

Australian House of Representatives Committee. "Australia's Commitment to the War on Terrorism". Australian Government Printing Office, 2012.

Department of Defence. *Adaptive Campaigning 2009 - Army's Future Land Operating Concept*. Canberra: Head Modernization and Strategic Planning - Australian Army, 2009.

———. *Australian Defence Doctrine Publication 00.4 - Operational Evaluation*. Canberra: Australian Defence Force Warfare Centre, 2007.

———. *Land Warfare Doctrine 1 - The Fundamentals of Land Warfare*. Canberra: Australian Army, 2008.

Head Modernisation and Strategic Planning - Army. "Army's Future Land Operating Concept". Australian Army Headquarters, September 2009. http://www.defence.gov.au/opex/exercises/caex/publications/adaptive_campaigning-future_land_operating_concept.pdf. (accessed October 1, 2013)

Headquarters, Department of the Army. *Army Doctrine Reference Publication (ADRP) 3-0, Unified Land Operations*. Washington, D.C.: Government Printing Office, 2012.

House of Representatives Committee Report. "Australia's Commitment to the Reconstruction of Iraq." Australian Government Printing Office, 2008. http://www.aphref.gov.au/house_committee/jfad/terrorism/iraqdelegation/chapter2.pdf. (accessed September 12, 2013)

———. "Australia's Commitment to the War on Terrorism." Australian Government Printing Office, 2002. Accessed September 12, 2013. http://www.aphref.gov.au/house_committee/jfad/terrorism/report/chapter2.pdf. (accessed September 12, 2013)

Pershing, John J. *Final Report of General John J. Pershing, Commander-in-Chief, American Expeditionary Forces*. Washington, D.C., 1920.

War Office Committee. "War Office Committee - Lessons of the War 1914-1918." 1919. <http://recordsearch.naa.gov.au/SearchNRRetrieve/Interface/DetailsReports/ItemDetail.aspx?Barcode=5181295>. (accessed August 2, 2013)

Secondary Sources

Books

- Allen, Robert S. Colonel. *Lucky Forward: The History of Patton's Third Army*. New York: McFadden-Bartell, 1971.
- Berlin, Robert H. *U.S. Army World War II Corps Commanders: A Composite Biography*. Fort Leavenworth, KS: Combat Studies Institute, 1989.
- Blumenson, Martin. *Patton, the Man behind the Legend, 1885-1945*. New York: Morrow, 1985.
- Coffman, Edward M. *The War to End All Wars the American Military Experience in World War I*. Lexington, KY: University Press of Kentucky, 1998. <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=50522>. (accessed July 28, 2013)
- Cohen, Eliot A. *Military Misfortunes: The Anatomy of Failure in War*. New York: Free Press, 2006.
- Cooke, James J. *Pershing and His Generals: Command and Staff in the AEF*. Westport, CT: Praeger, 1997.
- Corum, James S. *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform*. Lawrence, KS: University Press of Kansas, 1992.
- Van Creveld, Martin. *Command in War*. Cambridge MA; London: Harvard University Press, 1985.
- . *Fighting Power: German and US Army Performance, 1939-1945*. Contributions in military history no. 32. Westport, CT: Greenwood Press, 2007.
- Eisenhower, John S. D. *Yanks: The Epic Story of the American Army in World War I*. New York: Free Press, 2001.
- Ellis, John. *Brute Force: Allied Strategy and Tactics in the Second World War*. New York: Viking, 1990.
- Gharajedaghi, Jamshid. *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture*. 3rd ed. Burlington, MA: Morgan Kaufmann, 2011.
- Greenfield, Kent Roberts. *American Strategy in World War II: A Reconsideration*. Malabar, FL: Krieger Pub. Co, 1982.
- Grotelueschen, Mark E. *The AEF Way of War: The American Army and Combat in World War I*. Cambridge: Cambridge University Press, 2010.
- Grotelueschen, Mark E. *Doctrine under Trial: American Artillery Employment in World War I*. Contributions in military studies no. 203. Westport, CT: Greenwood Press, 2001.

- Hamburger, Kenneth E. *Learning Lessons in the American Expeditionary Forces*. Washington, DC: Center of Military History, 1997.
- Harbord, James G. *The American Army in France: 1917-1919*. Boston: Little, Brown, and Company, 1936.
- House, Jonathan M. *Combined Arms Warfare in the Twentieth Century*. Modern war studies. Lawrence, KS: University Press of Kansas, 2001.
- Keegan, John. *The First World War*. New York, NY: Vintage, 2000.
- . *The Second World War*. New York, NY: Penguin Books, 2005.
- Linn, Brian McAllister. *The Echo of Battle the Army's Way of War*. Cambridge, Mass.; London: Harvard University Press, 2007. Accessed July 29, 2013. <http://site.ebrary.com/id/10314260>.
- MacDonald, Charles Brown. *A Time for Trumpets: The Untold Story of the Battle of the Bulge*. New York: William Morrow, 1985.
- . *Company Commander*. Short Hills, NJ: Burford Books, 1999.
- Marshall, George C. *Memoirs of My Services in the World War, 1917-1918*. Boston: Houghton Mifflin, 1976.
- . *The Papers of George Catlett Marshall*. Baltimore: Johns Hopkins University Press, 1981.
- Matheny, M.R. *Carrying the War to the Enemy: American Operational Art to 1945*. Campaigns and Commanders. University of Oklahoma Press, 2011.
- Miller, Robert A. *August 1944: The Campaign for France*. Novato, CA: Presidio Press, 1996.
- Mosier, John. *The Myth of the Great War: A New Military History of World War I*. New York: Perennial, 2002.
- Murray, Williamson, and Alan R Millet. *Military Innovation in the Interwar Period*. Cambridge; New York: Cambridge University Press, 1998.
- Murray, Williamson, and Allan Reed Millett. *A War to Be Won: Fighting the Second World War*. Cambridge, Mass.: Belknap Press of Harvard University Press, 2000.
- Nenninger, Timothy K. *The Leavenworth Schools and the Old Army: Education, Professionalism, and the Officer Corps of the United States Army, 1881-1918*. Contributions in military history ; no. 15. Westport, CT: Greenwood Press, 1978.
- Palmer, Frederick. *Our Greatest Battle (the Meuse-Argonne)*. Cranbury, NJ: Scholar's Bookshelf, 2006.
- Patton, George S. *War as I Knew It*. Boston, MA: Houghton Mifflin, 1995.

- Perret, Geoffrey. *There's a War to Be Won: The United States Army in World War II*. New York: Ivy Books, 1991.
- Schifferle, Peter J. *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II*. Lawrence: University Press of Kansas, 2010.
- Stanton, Shelby L. *World War II Order of Battle, U.S. Army (ground Force Units)*. Mechanicsburg, Pa: Stackpole Books, 2006.
- Strachan, Hew. *The First World War*. New York: Penguin Books, 2005.
- Thomas, Shipley. *The History of the A.E.F.* Nashville, TN;: Battery Press, 2000.
- Trask, David E. *The AEF and Coalition Warming 1917-1918*. Lawrence: University Press of Kansas, 1993.
- Weigley, Russell Frank. *Eisenhower's Lieutenants: The Campaign of France and Germany, 1944-1945*. Bloomington: Indiana University Press, 1990.
- Makers of Modern Strategy: From Machiavelli to the Nuclear Age*. Princeton, N.J: Princeton University Press, 1986.
- United States Army in the World War 1917-1919: Organization of the Allied Expeditionary Forces*. Washington, DC: Historical Division, Department of the Army, 1948.

Journal Articles

- Bolger, Daniel. "Zero Defects: Command Climate in the First US Army, 1944-45." *Military Review* 71 (May 1991): 61-73.
- Cox, Gary P. "Of Aphorisms, Lessons, and Paradigms." *The Journal of Military History* 56, no. 3 (July 1992): 389-402.
- Grissom, Adam. "The Future of Military Innovation Studies." *Journal of Strategic Studies* 29, no. 5 (October 2006): 905-934.
- Kelly, Justin, and Mike Brennan. "Alien: How Operational Art Devoured Strategy." (Monograph, Strategic Studies Institute, 2009).
<http://www.strategicstudiesinstitute.army.mil/pdffiles/pub939.pdf>. (accessed February 2, 2013)
- Marshall, George C. "Profiting by the War Experience." *Infantry Journal* 18 (January 1921): 34-37.
- Nenninger, Timothy K. "Tactical Dysfunction in the AEF 1917-1918." *Military Affairs* 51 (October 1987): 177-181.