Cover picture: HRH Prince Philip, Duke of Edinburgh inspecting a trial Bristol Bloodhound surface-to-air guided missile mounted on its launcher at RAF North Coates, Lincolnshire, November 1958. Within the group of RAF officers are: (second left) Air Officer Commander in Chief of RAF Fighter, Command Air Chief Marshal Sir Thomas Pike; (behind HRH) Air Officer Commanding No.12 Group Air Marshal Fraser; and (far right) Station Commander Group Captain J. Leathart. Photo © Imperial War Museum, RAF-T 718

BRITISH JOURNAL FOR MILITARY HISTORY EDITORIAL ADVISORY BOARD

EDITORIAL TEAM

CONTACT US

Find us online at: www.bjmh.org.uk

Letters and communications to the Co-editors should be sent to:

editor@bcmh.org.uk

or

Prof Richard Grayson
School of Education, Humanities and Languages
Faculty of Humanities and Social Sciences
Headington Campus
Oxford Brookes University
Oxford
OX3 0BP
UK

Follow the British Commission for Military History and British Journal for Military History on:

Twitter [@BritJnlMilHist]
Online [www.bjmh.org.uk]

CONTENTS

'Reviews

Submission Guidelines

EDITORIAL[*]

This is our final editorial as co-editors. Five years and fifteen issues have flown by, and we are very proud of what has been achieved in that time. Our deepest thanks go to our editorial team for all that they have done. A vast amount of the journal's work rests on their willingness to give up their time simply for the love of the subject in order to produce a journal which has a wide appeal. We are very pleased to say that two of our current editorial team have been appointed by the British Commission for Military History as the journal's new co-editors: Dr Sam Edwards (Loughborough University) and Dr Andrew Sanders (De Montfort University).

We would like to restate our view that this journal must truly reflect the diversity of military history – both in terms of authors and the subject matter covered. We remain proud that our very first issue featured an article on the diary of a schoolgirl during the Northern Ireland Troubles, as a signal of the work we believe any definition of military history must include if it is to thrive.

This final issue is more operationally focused than some of our previous issues have been, because we know that this remains of interest to many of our readers. We hope readers will find informative the articles on, for example, a battalion-level study of casualties, and the use of horses and mules, both focused on the First World War. But we are also pleased to include pieces on the Cold War which, thankfully, never heated up, covering Soviet nuclear weapons and the post-war air defence of Scotland. As we face more challenging times in the peace and stability of Europe, it is sadly the case that these articles speak to present day concerns more than they might have done just a few years ago.

<div align="right">

RICHARD S. GRAYSON
Oxford Brookes University, UK
ERICA WALD
Goldsmiths, University of London, UK

</div>

The China Gun Lascars 1841-1892

MANDEEP SINGH[*]
Independent Scholar, India
Email*: mandeep502@yahoo.co.in*

ABSTRACT
During the first Opium War four companies of Gun Lascars were sent from India in 1841 to serve with the Third Brigade under Lord Saltoun as part of the British Expeditionary Force and were later used to reinforce the garrison at Hong Kong. One company of the Gun Lascars stayed after the war and served with the Royal Artillery at Hong Kong. The Gun Lascars expanded over the years to include a company raised in 1881 and a company later raised for Singapore. The paper looks at the history of China Gun Lascars that served for over five decades before being re-formed in 1892 as part of Asiatic Artillery.

Introduction
The word 'lascar' derives from *lashkar* the Persian term for 'army or camp followers' while *lav lashkar* came to describe Army followers who moved along with the ammunition and rations. The word *lashkar* was first adopted for usage by the Portuguese, who used the term *lascarim* though it only identified those men specifically from any area lying to the east of the Cape of Good Hope and was used to describe men serving in a military capacity either on land as soldiers or on ships as seamen.[1]

The term lascar also came to be used as a racial slur as it carried connotations of a low, subordinate status and of inferiority to Europeans when it was a belief, almost an acceptable fact, among Europeans that the Asians were not good enough to be sailors

---

[*]Colonel Mandeep Singh, an Indian Army veteran, is an occasional writer and has authored nine books on military history.
[1]Aaron Jaffer, Lascars and Indian Ocean Seafaring, 1780-1860: Shipboard Life, Unrest and Mutiny, (Martlesham: Boydell & Brewer, 2015), p. 1.

or gunners and could only work as lascars. Johnson's Universal Cyclopedia published in 1886 even described Lascars as 'low-caste menials who are cruel and treacherous.'[2] One of the first recorded uses of Gun Lascars in India was in 1742 when the guns from some of the East India Company's (EIC) ships were taken ashore by the Bengal Army under 'gun room crews' to be used by the hastily raised European Militia against the Marathas. Several lascars were enlisted to assist the gun-room crew in working the guns and preparing and looking after the Ordnance stores.[3]

As the use of lascars for the handling of guns became more common, the term 'gun lascars' came to be used to differentiate them from other lascars and was meant only for the men employed with the artillery to help work the guns. Though no definitive record is available, the term 'gun lascar' was first used by the Madras Army in 1748 when orders were received from the Court of Directors of the EIC for the regular establishment of a company of artillery 115 strong (exclusive of gun lascars) under a captain. By 1770, each sepoy battalion had two short brass 3-pounder guns for which a European gunner and a lascar were appointed.[4]

The gun lascars' duties included the construction of gun positions, hauling the guns over short distances, the laying of guns, and the loading/unloading of stores and ammunition, but they never fired the guns themselves. They were ranked below a gunner and were paid less than gunners though their status was more elevated than that of a foot soldier. The lascars had their own ranks which were adopted from maritime usage using Portuguese etymology. These were Gun Lascar (Private), Second Tindal (Corporal), First Tindal (Sergeant) and Syrang (Jemadar).[5]

The Madras Artillery, though nominally a European Corps, had maintained Indian gun lascars though there was no fixed allotment of gun lascars to the artillery companies,

---

[2]Ravi Ahuja, Networks of subordination – networks of the subordinated: The ordered spaces of South Asian maritime labour in an age of imperialism (c. 1890–1947) in Ashwini Tumbe and Harald Fischer Tiné (eds), The Limits of British Colonial Control in South Asia, (Abingdon: Routledge, 2009), pp. 13-14. See also Fredrick A.P. Barnard (ed.), Johnson's (Revised) Universal Cyclopedia, (New York: A.J. Johnson & Company, 1886).

[3]European, Armenian, and Portuguese inhabitants were for the first time embodied into a Militia in 1742 to take up defences against a possible Maratha advance against Calcutta. Arthur Broome, *History of the Rise and Progress of the Bengal Army,* (Calcutta: W. Thacker & Co.,1850), p. 41.

[4]E. G. Pythian-Adams, *The Madras Soldier 1746-1946,* (Madras: Government Press, 1948), p. 141.

[5]Romesh C. Butalia, The Evolution of the Artillery in India: From the Battle of Plassey 1757 to the Revolt of 1857, (New Delhi: Allied Publishers, 1999), p. 120.

and they were provided on an as required basis. By 1831 the number of gun lascars provided for each artillery company had been standardised and they were being used in all campaigns undertaken by the Presidency armies. Similar practice was also followed in the other Presidency Armies.[6]

Figure 1: Madras Gun Lascars 1791-1798[7]

This practice continued as the Presidency Armies remained busy in the expansion of the British Empire in India with the lascars participating in almost all the campaigns. A

---

[6]The proceedings of the Permanent Artillery Select Committee, Assembled by the Order of Brigadier Fredrick Derville, Commandant of Artillery at Artillery Depot, Saint Thomas's Mount, 27th June 1849 - 'On the Organization, Equipment and Proportion of Ordnance for the Madras Artillery, Relatively with the Artilleries of Bengal and Bombay', (Madras: Christian Knowledge Society's Press, printed by Reuben Twigg, 1849).

[7]Lyall, Charles, '1791-8. Madras Gun Lascar Corps' (1903). *Prints, Drawings and Watercolors from the Anne S.K. Brown Military Collection.* Brown Digital Repository. Brown University Library (Public Domain)

major change was to come with the employment of the Presidency Armies for overseas campaigns. As most sepoys, especially Hindus, considered going beyond *Kala Pani* to be against their religious and cultural practices, only those regiments that volunteered were sent on these expeditions. This was especially so in the case of the Bengal Army which had a larger share of Brahmins. Enhanced pay and benefits offered for these campaigns did act as inducements, but for the most part, the Bengal Army Regiments were not very keen on such service. It was for this reason that the British Expeditionary Force sent to China in 1840 included only a small force of about 600 sepoys from the Bengal Army. The British flotilla reached Hong Kong in June 1840 and sailed northward to the mouth of the Bei River but the year-long skirmishes and negotiations with the Chinese failed to yield any decisive results.[8]

In 1841 a select Committee was formed by the First Earl of Ellenborough, the Governor-General of India to look into the conduct of military operations. The select Committee was of the view that the existing force in China was not capable of delivering any decisive results and expressed the apprehension that unless this core issue was addressed and an adequate force level provided for in China, a decisive result would remain elusive. For this, the Committee recommended that the expeditionary force should be provided with four British Regiments and an equal number of regiments should be provided by the Presidency Armies. In this, the Bengal Army was to provide one regiment of volunteers while three regiments were to be provided by the Madras Army. A complement of artillery, sappers and miners amounting to 750 men was also to form part of the expeditionary force, to be accompanied by 500 Gun Lascars from the Madras Army. The select Committee while laying down the timeline for raising this force specified that it should be ready by April 1842 and reach Singapore by mid 1842.[9]

Meanwhile, Ellenborough had also sought advice from the Duke of Wellington on the same issue. The Duke, in response, recommended that the Bengal and Bombay Armies should not be weakened in order to provide troops for China, nor should any native troops be taken from the Bombay Army. The recommendations for milking the

---

[8]The first overseas campaign was undertaken by the Madras Army in 1762 when an expedition under Colonel Draper left Madras on 1 August for the Philippines following the declaration of war with Spain. *Kala Pani* literally means 'Black Water'. For Hindus It was considered unholy to cross the seas to foreign lands and led to the loss of one's caste - social respectability - as well as the deterioration of one's cultural character and posterity. Phythian-Adams, *The Madras Soldier,* pp. 19-20.
[9]Copies or Extracts of further Correspondence and Returns relative to the Supply of Troops, Vessels and munitions of War for carrying on the Military Operations in China, (London: Printed by the orders of House of Commons, Colonial Office, 1843), pp. 16-17.

Presidency Armies were the same as that of the Select Committee with the suggestion that the Gun Lascars be selected from the Horse Artillery and that they should be trained as drivers as well.[10]

A decision was taken therefore to raise four new companies for the Expeditionary Force, as the 5,000 Gun Lascars already raised on the establishment of the Madras Army were all committed and could not be despatched to China.[11]

The formal orders for the raising of the China Gun Lascar companies were issued on 9 March 1841 and they had been recruited and assembled by the end of February 1842 at Mount, Madras.[12] *The Asiatic journal and monthly register for British and foreign India, China and Australasia* of 1842 records:

> Under instructions from the Right Honourable the governor in Council, four companies of Gun Lascars have been raised for service in China, each consisting of 1 subedar, 1 jemadar, 8 havildars, 115 lascars and 2 bheasties. The companies are to be lettered from A to D, and will be under the orders of the officer commanding the Madras Artillery in China for the general duties of the Corps. Officers in command of these companies are authorized to draw an allowance of Rs 30 a month for stationer, &c.[13]

Orders to assemble the Company's regiments earmarked for service in China were issued in March 1842 and, as the lascar companies had to be recruited from scratch, they were amongst the last to reach China in June 1842. The four Gun Lascar companies were commanded by Fred Blundell who had recently been given the local rank of Major while each company was under a *Subedar*.[14]

---

[10]C.A. Colchester (ed.), History of the Indian Administration of Lord Ellenborough; In His Correspondence with the Duke of Wellington, (London: Richard Bentley & Son, 1874), pp. 139-164.

[11]Ibid.

[12]Robert Montgomery Martin (ed.), T*he Colonial Magazine and Commercial – Maritime Journal*, Vol. VII (January-April, 1842).

[13]The Asiatic Journal and Monthly register for British and Foreign India, China and Australasia, Vol. XXXVIII (May-August, 1842), pp. 48-49.

[14]"Journal during the Chinese Expedition in 1841 and 1842 by a Royal Artillery Officer", *The United Service Magazine*, Vol.147 (May-April, 1878), pp. 503-505; *English Chronicle and Whitehall Evening Post* (10 May 1842) and *Army List* (January-July 1842), p. 18.

The lascars were dressed in the same way as the garrison gunners of the time, while the Havildar-Major wore a warrant officers' uniform. The uniform was an unlined navy blue tunic, a white waistcoat, and white trousers worn with ankle boots. During winter white trousers were replaced by blue ones. The Gun Lascars normally wore helmets, but the China Gun Lascars instead wore turbans, though the helmets were to be worn when in the field. Navy blue in colour, a new pattern of turban was introduced by Madras Army Order No 768 of 5 June 1843 with the main objective being that it should be light and comfortable.[15]

The turban was to be tied around a wooden *kutora*, made of *moochie*, with plain cotton stuffing and the lower part being pliable so as to fit the lascar's head. The turban was 6½ inches high from bottom to the bulge and 1½ inches from the bulge to the bottom of the *kutora*. The *kutora* itself was 2 inches with the crescent being ½ inch. To be able to fit properly and be comfortable, the circumference of the bulge to be 4½ inches more than the lascar's head. The *kutora* was to be of the lightest wood procurable (*moochie*). The lower part of the turban was required to be pliable so as to fit the man's head while the stuffing should be of plain cotton 'not pasted rag which retains the heat, is heavier, and breeds insects.' The dimensions were to be:[16]

From bottom to bulge	6½ inches
Bulge to the level of the bottom of *Kutora*	1½ inches
Half ball of *Kutora*	2 inches
Crescent of *Kutora*	¾ inch[11]

The rank chevrons, made of gold-coloured material, were worn on the right arm only; the *Havildar Major* (Sergeant-Major) wearing a four-bar chevron with a crown above on the upper arm with the point downwards, while the others wore the chevron below the elbow with point upwards. The number of bars was the same as for other arms as the *Havildar* (Sergeant) wore a three bar chevron and the *Naique* (Corporal) wore a two bar chevron.[17]

---

[15]The details of the uniform have been taken from a modern print of Madras Gun Lascars by William Hunsley in J. Singh, *Artillery – The Battle Winning Arm,* (New Delhi: Lancer, 2006).

[16]P. E. Abbott, 'Further Notes on the Dress of the Madras Artillery', *Journal of the Society for Army Historical Research*, Vol. 86, No. 348, (2008), pp. 310–314.

[17]Use of the *Tindal* and *Syrang* had by now been replaced by use of army ranks i.e. *Havildar* (Sergeant), *Naique* (Corporal) were now the accepted ranks for Lascars as well. The Indian Officers were called *Subedar* (lieutenant) and *Jemadar* (2 Lieutenant). *Regulations for the Supply of Clothing and Necessaries to the Regular Forces* (London: War Office, Printed under the Supervision of Her Majesty's Stationery Office, 1881), pp. 157, 208, 216, 319.

On reaching China, the Gun Lascars joined the Third Brigade under Lord Saltoun that included the 98th Regiment, two regiments of Madras Native infantry, a battery of Royal Artillery and a troop of Royal Horse Artillery, and they were used for sapper tasks. Their duties included mainly the relief of

> …the Europeans of the more laborious duties connected with the movements of guns, where horses could not be employed, saving all unnecessary hardship and exposure to the gunners, by dragging their pieces, carrying ammunition, mounting guard over stores where the sentry had no cover from the sun, and in a variety of other ways.[18]

There are not many accounts that mention their contribution during the campaign and one of the rare accounts that acknowledges their contribution is a journal by an unknown Royal Artillery officer published in 1878.[19] After the arrival of the relief force in July 1842 the fleet moved up the River Yangtze, the Gun Lascars were employed to prepare the landing places for the guns and horses, and in manhandling the guns and other equipment. The journal mentions that before the fighting troops were required to disembark the Gun Lascars were hard at work to prepare a landing stage and managed to finish it, just, at daybreak when the ships reached the designated place of disembarkation. Later, during the final assault on the Chinkiangfu (Zhenjiang), the lascars helped the battery of Royal Artillery move their guns nearer to the town and they were used for other sapper and labouring tasks during the operation.

The bloody engagement leading to the taking and virtual destruction of the town of Chinkiangfu was the prelude to the major assault on the Yangtze river port of Nanjing. It was there that the treaty which finally ended the First Opium War was concluded on 29 August 1842. The British and Indian troops left Nanjing only after the Chinese emperor's assent to the treaty was received on 15 September. In November the bulk of the British and Indian forces, including the China Gun Lascars, re-assembled at Hong Kong, which had been ceded to the United Kingdom in the treaty that had ended the war. Apart from a garrison left there; the rest of the troops left China on 20 December 1842.[20]

---

[18]John Ouchterlony, The Chinese War: An Account of All the Operations of the British Forces from the Commencement to the Treaty of Nanking, (London: Saunders and Otley, 1844), pp. 329-330.

[19]Anon., 'Journal during the Chinese Expedition in 1841 and 1842 by a Royal Artillery Officer', *The United Service Magazine,* Vol. 147 (May-April, 1878), pp. 503-505.

[20]H. M. Vibart, The Military History of the Madras Engineers and Pioneers, from 1743 Up to the Present Time, Vol. 2, (London: W.H. Allen & Company, 1887), p.181.

The garrison of Hong Kong included part of the British Expeditionary Force under the command of Lord Saltoun, consisting of part of the 98th Foot, the left wing of the 55th Foot, the right wing of the 41st Madras Native Infantry, a company of Royal Artillery, one company of Madras Sappers and Miners and 'B' company of the Madras Gun Lascars. The remaining three Gun Lascar companies set sail from China on 20 December 1842 along with the rest of the expeditionary force. They were disbanded on reaching India. The single surviving China Gun Lascar company was attached to the company of the Royal Artillery on the island.[21]

The contribution of the Madras Army troops, including that of the Gun Lascars, during the campaign was acknowledged by the Commander-in Chief who ordered that 'a salute be fired in commemoration of the highly favourable peace that has been ratified between the British Government and the Emperor of China and for the prominent part the corps of Artillery, Sappers, and Miners, Sepoys, and Gun Lascars belonging to the Madras Army, have taken in bringing the war to so satisfactory a conclusion by their steadiness and gallantry.'[22]

Overall the China Gun Lascars had fared better in terms of casualties compared to the other troops during the expedition of 1841-42 and were 'exceedingly healthy' with the annual casualty rate among the first batch of Gun Lascars amounting to only 1.75% as compared to about 9% sick per annum among the European troops. The reasons for high mortality rates were said to be the unhealthy environs, unsuitable camping grounds surrounded by paddy fields that gave off 'noxious vapours' and the substandard rations including the 'flour that was sour, the biscuits moldy and full of worms. …. the butts spoiled; many had smelled offensively even while being loaded at Calcutta.' The lower casualties among the lascars was attributed to them being from lower castes; that they were more suited to service in China as compared to the other sepoys of caste because the former had no inhibitions in eating 'all sorts of animal food'.[23]

---

[21]Vibart, The Military History of the Madras Engineers and Pioneers, p. 181; K.W. Maurice-Jones, The History of Coast Artillery in the British Army, (Uckfield: Naval & Military Press Ltd, 2005), p. 135.

[22]'General Orders by the Commander-in-Chief', Weekly Chronicle (22 January 1843), p. 2.

[23]S. Rogers & A. Lorimer (eds), The Madras Quarterly Medical Journal, Vol. 5 (April-September, 1843), pp. 376-378; Peter Ward Fay, The Opium Wars 1840-1842: Barbarians in the Celestial Empire in the Early Part of the Nineteenth Century and the War by Which They Forced Her Gates Ajar (Chapel Hill, North Carolina: University of North Carolina Press, 1997), p. 281.

Figure 2: Mat Sheds in Hong Kong.[24]

The good health enjoyed by the lascars did not last long and the initial stay at Hong Kong was especially hard on them. While the European soldiers were permitted to remain on board in the relatively healthier environs of their transport ships, the Indian sepoys and lascars were compelled to stay ashore in mat-sheds made of bamboo, tied together with rattan, with not a nail being used in their construction. They were rather long, with the arms kept down the middle while the lascars slept on either side. The personal belongings were also kept along the sidewalls. As the makeshift sheds exposed the lascars to the rigours of both the hot sun and the torrential rains, the sickness and mortality rate of the Gun Lascars increased.[25]

These sheds were sited on Artillery Hill to the south of Queen's Road. An account mentions that 'while the Sappers and Miners occupied two small brick barracks, facing each other on the west and east sides of a parallelogram 220 by 110 feet in length and

[24]The Illustrated London News, 1857 (Public Domain).
[25]*The Illustrated London News*, Vol. 22; and Vol. 31 (15 August 1857), p. 176.

breadth; the south being formed by the Native Ordnance Hospital and a guard house with the north side left open for the Queen's Road to pass. Behind this square at various distances were two quarters for officers, a storeroom, and mat buildings for Gun Lascars.'[26]

The high mortality rate caused a perpetual shortfall in the number of gun lascars, as a result of which local recruitment was necessary to, resulting in the Company having 'Madrassee Christians, Madrassee Mohammedans, Sayyad Mohammedans, Portuguese half-castes, Jews, Punjabis Mohammedans and Malayee Mohammedans' on its rolls.[27] The Gun Lascars continued to be used for fatigue and menial tasks with an occasional employment for ceremonial duties, as during the celebrations of Queen Victoria's twenty-sixth birthday on 24 May 1845:

> We had a grand parade on the evening of the 24th instant, followed up by a ball and supper, in honour of her Majesty's birthday; the troops in line, the Royal Artillery on the right, 18th Royal Irish Regiment, 42nd Regiment Madras N. I. and China Gun Lascars, on the left; the shipping in the harbour were gaily decorated…[28]

In 1845 the Board of Ordnance decided to raise to raise a new company of Gun Lascars for the Royal Artillery, for service in Hong Kong. It approached the EIC for their cooperation in raising this company with the strength of one *Jemadar*, two *Havildars*, four *Naiques* and 81 lascars. The Royal Warrant informed that 'Pensions and good conduct pay will be granted, and the total expense of the company will be charged on the Ordnance estimates.'[29]

The men were to be of 18 to 25 years of age with a minimum height of 5 feet 4 inches and a chest measurement not less than 32 inches, though particularly athletic men could be taken with a height of 5 feet 2 inches. The officer entrusted with raising and organising the company was allowed a sum of 50 rupees per month to cover all contingencies. The local reports also mentioned that the pay was a fixed sum of 13 rupees per month with clothing, quarters, and free rations, which was considered

---

[26]Thomas Graham, *Transactions of The Medical and Physical Society of Bombay,* (Madras: American Mission Press, 1849), p. 20.

[27]Chi Man Kwong, *Hong Kongers in the British Armed Forces, 1860-1997* (Oxford: Oxford University Press, 2022), p 44, quoting Philip Bruce, 'The Hong Kong and Singapore Battalion Royal Artillery', *History Notes Hong Kong*, Vol. 1 (c.1985), unpaginated.

[28]Although the Queen's birthday was on 24 May the report only appeared four months later – see *Saint James's Chronicle* (18 September 1845).

[29]Maurice-Jones, The History of Coast Artillery in the British Army, p. 135. Also, The Scotsman (10 January 1849), p. 4.

adequate to 'induce the Indians to engage for service in the Colonies for a period of five years.'[30]

The task of enrolling and raising the Gun Lascars was entrusted to Lieutenant-Colonel K.H. Brereton of the Royal Artillery. As it was also planned to enrol Gun Lascars from other colonies, the Board of Ordnance wrote to the Governor of Bengal requesting him to instruct the Governor of Prince of Wales Island to provide all possible assistance to Brereton in the raising of the company.[31]

The new company had an average strength of 80 men and was initially stationed at Victoria, the capital of the Hong Kong territory, but in 1858 a detachment was sent to Canton and stayed there until 1861. The designation of the Gun Lascars underwent a change in 1859 when the unit was re-named the Royal Gun Lascars, but by 1866 it had reverted to its original designation of Gun Lascars.[32]

The fate of the original China Gun Lascar Company is obscure because no records appear to exist detailing what happened to it after 1845. It is not known whether its personnel were sent back to India and the unit was disbanded there, or whether the men were transferred out of the Madras Army and absorbed into the new Gun Lascar Company established in 1845, though some later documents, including pay rolls, do indicate that South Indian personnel continued to serve in the lascar company after 1845.

The Gun Lascars were the only Indian troops in Hong Kong between the period 1850 to 1857 when Indian troops were first sent to Hong Kong in 1857. During this period the Gun Lascars' stay in Hong Kong was uneventful and they continued with their routine duties. A detachment of Gun Lascars was moved to Canton to support the Royal Artillery company, although they were used for menial tasks there. The only

---

[30]Homeward Mail from India, China and the East (30 November 1857), p. 27.

[31]Prince of Wales Island is now called Penang, in Malaysia. In 1857 it was administered by the Bengal Presidency. There are no records of any Malay being enrolled for the company at that time. Letter from The Court of Directors to Governor of Bengal Presidency, 17 June 1846, No. 43, Para. 1, National Archives of India, New Delhi (Hereinafter NAI).

[32]The change in designation is noted in the Report from Committees on 'Mortality in China' 1 February to 10 August 1866, Vol. XV, Ordered by House of Commons, 1866 though the reasons for the change of designation and reverting to original designation are unknown.

noticeable action involving Gun Lascars was during the clearing of the area around the British factories, meaning warehouses, at Canton.[33]

The Gun Lascars' routine at Hong Kong was broken at times by run-ins with the law, as they were often wont to be involved in scuffles and fights with the locals as well as with the police and British troops in Hong Kong. One reason was the ill-treatment and racial abuse they faced, resulting in the lascars taking to violence to try and get even. In most cases, these were in the form of minor scuffles, but it led to some major incidents as well. One of the most well-known of such incidents occurred in 1856 when a group of lascars cornered some half dozen privates of the 59th Regiment and attacked them with bludgeons and stones, killing a young drummer, Haggarty. Three lascars were arrested and tried for the crime.[34]

The Gun Lascars positioned at Canton also find mention in some reports for looting and similar acts of violence. One such incident occurred in 1862 when, after the expedition of Kah, the Gun Lascars were looting a village when a Chinese boy resisted, he was shot at by the Gun Lascars. Such cases of ill-discipline were common not only amongst Gun Lascars but almost all troops in China. 'Avengers in Canton', an article published in *The Illustrated London News*, gave details of the destruction and loot of the city by the British troops:

> British forces in China ... have been destroying, looting, and burning, and are loaded with all manner of property, and all are delighted with their morning's fun, as everything in the fighting or destroying line is humorously called ... Then came such a scene of destruction and looting as would astonish you. These monkeys of coolies were quickly on the house-tops, smashing, crashing, breaking, tearing, and looting …the lascars were cutting, chopping, and knocking down all wood in the shape of posts and pillars ... Every man loaded with something that he had not purchased.[35]

---

[33]Samuel Pasfield Oliver, On and off duty, leaves from an officer's note-book, (London: W.H. Allen & Co., 1881), p. 7; China : Being a Military Report on the North-eastern Portions of the Provinces of Chih-li and Shan-tung, Nanking and Its Approaches, Canton and Its Approaches: Together with an Account of the Chinese Civil, Naval and Military Administrations, and a Narrative of the Wars Between Great Britain and China, Vol. 2, (Calcutta: Quarter Master General's Department, Intelligence Branch, Government Central Branch Press, 1884).

[34]*Caledonian Mercury* (9 July 1856), p. 2.

[35]Report of Shanghai Hospital, Eighth-tenth, Fifteenth, Sixteenth, Eighteenth Annual Report from Jan. 1, 1854 to Dec. 31, 1864, Issues 8-10; Issues 15-16, Shanghai Chinese Hospital, 1865; *Illustrated London News* (15 May 1858).

Figure 3: Avengers in Canton.[36]

The campaign was also marked by the ill-treatment of Chinese prisoners, especially during the capture of Taitsan, which came in for severe criticism. Several journals published articles on the treatment and torture of the Chinese. Major-General Brown, commanding the British Troops in China, in his despatch to the Secretary of State for War refuted the allegations and claimed that not only were the prisoners treated humanely, but some of them were even recruited as Gun Lascars:

> I have no reason to believe otherwise than that the Foutai is equally anxious to be as humane as possible to his prisoners, some hundreds were lately captured at Quang-san, and so far from being cruelly or severely dealt with, have actually, to a great extent, been incorporated by Major Gordon into his own Regiment; and I have also asked for some to be sent down to me from Quang-san to be drilled with, and attached to, the batteries of Chinese artillery Gun Lascars,

---

[36]The Illustrated London News, 1858 (Public Domain)

which are under the command of the Officer Commanding Royal Artillery, who reports them most useful and efficient.[37]

In 1866 a select committee was ordered to be set up by the House of Commons to inquire into the causes of the mortality of the troops in China, including the territory of Hong Kong, and to examine the conduct of the government departments responsible for the welfare of the troops. It found that although the Gun Lascars had a lower mortality rate compared to white troops, they fared worse than other Asian troops. Apart from the problems with their accommodation, which had not improved significantly in the last 20 years, the higher mortality and 'sick rate' amongst the Gun Lascars was attributed to them having 'forsaken the temperate habits of their countrymen, and [that they] have so far acquired the habits of European soldiers as to indulge from time to time in spirituous and other strong liquors'. The hot and moist climate 'no doubt conduces to excite the disease in men accustomed to a warm dry atmosphere'.[38]

The high mortality rate notwithstanding, one major factor in favour of maintaining the Gun Lascars recruited in India, Penang and elsewhere in the region was that it was far less costly than employing British troops in the same role. With the daily pay of one *Havildar Major* at 2 shillings and 3 pence, two *Havildars* at 1 shilling and 4 pence each, one bugler at 11 pence, four *Naiques* at one shilling each and 80 privates at 11 pence each, the total annual regimental pay was £3,036. A sum of £10 was allowed as additional pay, and £120 was provided as a contingency allowance for the Officer of Artillery in charge, making the cost of maintaining the lascars £3,136 per annum. Due to the economics, no change was made in the existing arrangements except resorting to the recruiting from the local population to maintain the company at the required strength. This additionally saved the cost of transportation to and from India of the recruiting parties and the recruits.[39]

The next year another Select Committee was formed; this time to look into the proposal of using Indian and other colonial troops in times of peace to substitute for English troops in the Colonies. It favoured the continuation of using Indian troops for the colonial forces though some members were in favour of using only Sikhs and hill tribes. Interestingly, Sir Richard Graves MacDonnell, C.B., Governor of Hong Kong, was in favour of having a small contingent of Sikhs located in the colony and believed

---

[37]'Despatch by Major-General Brown, Commanding the British Troops in China to Lord Russell by the Secretary of State for War', *The Edinburgh Gazette*, No. 7365 (25 September 1863).
[38]Report from Committees on 'Mortality in China' 1 February to 10 August 1866, Vol. XV, 1866, Ordered by House of Commons, 1866.
[39]Ibid.

that '(we are) throwing money away to raise such corps as the Ceylon Rifles and Gun Lascars.' These prejudices aside, the financial reasons for maintaining lascars were too important to be ignored and the Gun Lascars continued to be enrolled as hitherto.[40]

All the same, a major administrative reform was carried out to revise the pay and allowances of the Army. The new pay and pension admissible to the Gun Lascars was follows:

	28 Days			29 Days			30 Days			31 Days		
	Rupees	Anna	Paise	Rupees	Anna	Paise	Rupees	Anna	Paise	Rupees	Anna	Paise
Havildar Major	30	8	8	31	10	2	32	11	7	33	13	1
Havildar	19	1	5	19	12	4	20	7	3	21	2	2
Naique	14	0	0	14	8	0	15	0	0	15	8	0
Private/ Bugler	12	11	7	13	2	10	13	10	2	14	1	5

Table 1: Pay Scales[41]

	Havildar Major & Havildars			*Naiques*			Privates & Buglers		
	Rupees	Anna	Paise	Rupees	Anna	Paise	Rupees	Anna	Paise
After 21 years' service	4	14	8	4	3	4	3	8	0

Table 2: Rate for Ordinary Pension[42]

The new rates of pay notwithstanding, the Gun Lascars were often short-changed and denied their due entitlements. The reason was the exchange rate adopted for calculating their pay. The Gun Lascars were enlisted on the condition that they would be paid in Mexican or Hong Kong Dollars and the Dollar-Rupee exchange rate was

---

[40]Report from Committees: Army (India and the Colonies) Session 5 February to 21 August 1867, Vol. VII, 1867, p. 236.

[41]'The Army Pay Warrant', *Broad Arrow* (27 May 1876); *Naval & Military Gazette* (20 September 1876), p. 10.

[42]'The Army Pay Warrant', *Broad Arrow* (27 May 1876); *Naval & Military Gazette* (20 September 1876), p. 10.

fixed at 2s 1½ d to a rupee.[43] In November 1877 the War Office directed that the men were to be paid in dollars at the current rate of exchange that was 1s 2d to a rupee at that time. The Gun Lascars protested against these orders with seventeen of them even refusing to receive the reduced pay. No action was taken against the dissenting lascars; but they were not paid their full dues either. This was the first instance of a mutiny – for want of any other word – for the collective disobedience of orders by the Gun Lascars.[44]

The Gun Lascars may not have received their dues as far as pay was concerned, but they did get a revised scale of personal kit. The 'free kit' authorized to the recruits joining the China Gun Lascars is given below.

1 Tin of blacking	1 Clasp Knife
1 Pair of Braces	1 Knapsack with board & slings
1 Button Brass	4 White cotton shirts
1 Blacking Brush	2 Pairs worsted socks
1 Brass Brush	1 Pipeclay sponge
1 Cloth Brush	1 Chin Strap
1 Hard Brush	1 Pair Great Coat straps
1 Polishing Brush	2 Towels
1 Forage Cap	2 Suits of Winter Clothing
1 Comb	

The Army circular stipulated that 'the white clothing will be provided by the commanding officer, and for this purpose an allowance not exceeding 16s. for each recruit will be granted, the expense incurred on this account being charged in the pay list.' The remaining articles were to be bought from the regimental store, but it was also specified that this scale of kit was not to be issued with retrospective effect.[45]

The period between 1860 and 1880 was one of major organisational changes in the Royal Artillery, to bring it into line with other fighting arms of the British Army after the abolition of the Board of Ordnance in 1855. The old Artillery brigades were abolished, and new ones were formed with their headquarters at home in Great Britain. Each brigade had 18 to 20 batteries including some deployed overseas. This was done to improve relief within the batteries, but these changes did not last long and the Royal Artillery underwent another change in 1881 when the Garrison Artillery

---

[43]The Mexican Silver dollar was the common medium of exchange in Hong Kong at this period. Hong Kong dollars of matching value were minted locally from 1866 but were not generally accepted and the mint closed in 1868.
[44]*North Devon Herald* (1 November 1877), p. 9.
[45]Army Warrants and Circulars (July, 1871), p. 368.

was organised into eleven brigades, with each allotted a territorial district from which to draw its recruits. The same year saw an increase in the armament of Hong Kong and with this, the War Office sanctioned another company of Gun Lascars.[46]

For recruitment the British looked to the Punjab, specifically Sikhs, as recruits for the new company. One major factor favouring this decision was the recommendation of Colonel Hall, Hong Kong's senior Artillery officer. The other was the settlement's favourable experience with Sikh policemen. The responsibility for recruiting Sikhs was given to a former Sikh police officer, Surmut Singh of Philoki who came from the Gujranwala District in India.[47]

The recruits reached Hong Kong in July 1881 and formed B Company China Gun Lascars. A report in the local press notes that they were a 'set of strong looking men, the shortest of whom is some five feet nine inches in height.' The two companies were now maintained at one *Havildar-Major*, two *Havildars*, 1 Bugler, 4 *Naiques* and 80 Privates, though 'A' Company had three Buglers for some time. Both were dressed alike except that the Sikhs wore a red turban instead of a helmet.[48]

Meanwhile, A Company's ranks were by now a mix of Malays, Portuguese Eurasians, Jews and locally settled Indians, and it was more of a foreign legion than a Native Corps.[64] The same year, a provision was allowed for soldiers to 'buy off' their discharge. In case of Gun Lascars, a lascar could leave the service within three months of enlistment by paying £8. After three months, the discharge was procurable for £12. One reason for introducing this provision was to induce more young men to remain and make a go of it.[49]

After the initial recruitment of Sikhs from India, the two companies were kept up to strength both by local enlistment and enlistment from India, the passage money being paid to the recruiter. This practice was similar to that followed in India with the

---

[46]B.M. Frederick, *Lineage Book of British Land Forces, 1660-1978*, Vol. 2, (Yorkshire: Microform Academic, 1984), p. 886.

[47]M. Thampi, 'Indian Soldiers, Policemen and Watchmen in China in the Nineteenth and Early Twentieth Centuries', *China Report*, Vol. 35, No. 4 (1999), p. 406; Surmut Singh had meanwhile joined Gun Lascars as a Havildar: *London and China Telegraph* (7 August 1881), p. 2.

[48]*Times of India* (28 July 1881), p 3; 'Army Circulars', issued by the order of Secretary of State for War, War office, 1 January 1883 (London: H.M. Stationery office, 1883).

[49]These rates were for Gun Lascars. For other branches of service (except Malta Fencibles and West India regiments), they were £10 and £18 respectively. *Edinburgh Evening News* (23 July 1881), p. 2.

enlisted men being responsible for getting new recruits for the Regiments. To enlist as Gun Lascars, Sikhs travelled from the Punjab to Hong Kong to take service, and the verification of the antecedents of the recruits was provided by the *Jemadar* of the Colonial Sikh Police. As the majority of new recruits were either from the same families or the same villages as the Sikhs serving in the Police, the verification was not as stringent as the procedure adopted by the district authorities in India, and as a result several 'undesirable' men joined the ranks of the lascars. This practice also led to malpractice as the recruiters promised higher pay to the men seeking enrolment and pay from the day of their 'contract' in Punjab. This often led to court cases when the new recruits claimed the difference in pay from the day they were selected by the recruiters. Not unsurprisingly, none of these cases were entertained by the courts, primarily for want of a written agreement. But it did reveal a glaring limitation in the (then) prevailing recruitment process. The enrolment of Punjabis also led to a steady decline in local recruitment in Hong Kong and of South Indians in the Corps.[50]

By now, the Gun Lascars were regularly carrying out gun drills, including practice to engage a standing target with RML (Rifled, Muzzle Loading) 64pdr and the old RML 7pdr guns. A report of April 1882 informs that

> A Company of the China Gun Lascars were put to 64-pounder single gun drill, while B company of the Lascars performed the same exercise with a 7-pounder field gun. The whole of the exercises was executed in a very creditable manner.[51]

A later report mentions that the Gun Lascars engaged

> …the floating target stationed 1400 yards distant; and the men fired with common shell; shrapnel; double common shell, reduced charge; and the Palliser shell. *The shooting throughout was good, in some instances excellent* (emphasis added).[52]

The arrival of Sikhs as Gun Lascars also resulted in an unwarranted comparison between them and the earlier South Indian troops, with the British looking down on the latter as being 'unsoldierly'. It was a prejudiced and bigoted view when the South

---

[50]'Nuttah Singh vs Surnoohk ($18.33)', *Overland China Mail* (12 December 1881), p 7. The specific case referred in the news of a recruit claiming arrears of $18.33 towards the difference in pay promised to him vis a vis the pay at which he was enrolled in Hong Kong. The laxity in the recruitment process was also highlighted in the official *The History of The Royal Artillery: From the Indian Mutiny to the Great War* that brought out 'the necessity for expert assistance in recruiting if abuses were to be avoided.'
[51]*Overland China Mail* (28 April 1882), p. 2.
[52]*Overland China Mail* (22 January 1884), p 7

Indian lascars had performed creditably to date. The following is just one example of the views held by the British officers of the South Indian lascars:

> The Madras company is in most respects inferior to the Sikhs. Undersized, feebly built, contemptible in cast of features, they approximate to the usual type of the cringing eastern. Those splendid Punjaubees, on the other hand, of powerful physique, handsome features, grave and dignified, are fine specimens of Orientals.[53]

Another change during this time was the move to better accommodation in 1883 when the Gun Lascars occupied MacGregor's Barracks along with a company of infantry. The lascars finally had a proper barracks although it was only a detachment that had moved in. The three-storied barracks was located at the east end of the town and was built of granite with broad, deep verandahs on both sides.[54]

The recruitment of Sikhs as Gun Lascars was not without challenges. Their discipline was lax at times and a large number of them became embroiled in money-lending to the local Chinese population which frequently resulted in violence and court cases. Brawls and fights with the police constabulary were also common occurrences. In addition to these incidents, the lascars started protesting against the poor quality of rations, particularly the *atta* (flour) in November 1882. This discontent continued for over three months and in January 1883, the Sikh lascars ceased, of their own accord, to draw their rations. An act of mass insubordination followed on 2 February 1883 with nine Lascars refusing to obey orders to draw rations. Though all of them were court-martialled, the discontent itself was allayed only by the grant of an allowance of 5½ pence per day in lieu of rations. The permission for this granting of a ration allowance was not received in Hong Kong from the Home authorities until much later, on or about 16 March 1883. This was yet another instance of mass insubordination by the Lascars and again care was taken not to term it a mutiny, even though there was no doubt of the seriousness of the offence.[55]

The rations were just one of the grievances, the Sikh Lascars were also dissatisfied with their designation as lascars feeling that it was demeaning for them to be classified as such, especially when they had been enlisted with the assurance of serving in the

---

[53]H. Knollys, *English Life in China,* (London: Smith, Elder & Co, 1885), p. 57.
[54]London and China Telegraph (16 May 1881), p. 15.
[55]'Gun Lascars as Usurers', *Straits Budget* (24 April 1894), p. 28; 'Disorderly Gun Lascars', *The China Mail* (30 March 1882); 'Assault on a Constable by Gun Lascar', *The China Mail* (13 May 1882), p. 3; NAI, 'Report on the alleged grievances of certain Sikh Gun Lascars in Hong Kong', File No. s.580-581, May 1884.

Topkhana (Artillery) as *Golundaaz* (gunners). The other grievances were the denial of furlough and the grant of pension only after 21 years of service when it was granted to the Colonial Sikh Police after 10 years of service. These issues were addressed by the local authorities and a report was sent by the General-Officer-Commanding in China and the Straits Settlements to the Adjutant-General in December 1883 stating that all grievances had been investigated and that the Sikh lascars were now quite contented. Notwithstanding that report, Lieutenant-Colonel and Brevet Colonel A. G. Ross, Bengal Staff Corps, Second-in-Command and Wing Commander of the 1st Sikh Infantry, Punjab Frontier Force, was sent on special duty to Hong Kong to enquire into the Sikhs' grievances. He reported to Lieutenant-General John Sargent, the GOC China and the Straits Settlements on 4 February 1884. Though Sargent was not keen on another enquiry, especially by an officer sent from India, as he felt that 'an enquiry into the old grievances of the Sikhs, made by an officer sent from India for the purpose, would do more harm than good', Ross met the Sikh lascars to enquire into their complaints. He recommended changes in the administration and interior economy of the lascar companies and gave his opinion that they should have a British commanding officer. He also recommended the introduction of an Indian officer and an increase in the number of non-commissioned officers along with the adoption of the recruitment procedures followed by the Indian Army. Ross also recommended the early grant of furlough and pensions, but his recommendations were not acted upon until 1892 when the lascars were re-organised as the Asiatic Artillery Company.[56]

In 1883 a detachment consisting of three *havildars*, one *naique* and 12 privates was sent to Singapore to form the nucleus of a new company to be raised there.[77] The Sikh lascars were stationed at Sepoy Lines near Pearl's Hill in temporary accommodation within Fort Canning until such time as more suitable accommodation was arranged for them. However, local recruitment in the Straits Settlements was not successful and the cadre did not expand into a company. Though the reason for the delay is unknown, it was not until eight years later that the first batch of Indian personnel, consisting of a *Subedar* and 61 Sikh Gun Lascars, reached Singapore in December 1891.[57]

This delay in forming the new company could have been because of the difficulty in finding suitable recruits, owing to the better service conditions introduced for the

---

[56]'Report on the alleged grievances of certain Sikh Gun Lascars in Hong Kong', File No. s.580-581, May 1884, aAlso, Maurice-Jones, *The History of Coast Artillery in the British Army*, p. 160.

[57]The lascars were stationed in the old prison building for some time before moving to their new accommodation: *Straits Times* (2 July 1884), p. 7. The report of them being housed at Pearl's Hill can be found in 'Blakang Mati', *Straits Times Annual* (1 January 1969), p. 110-111.

Indian Army. As one news report put it, 'a pension of $1.55 per mensem after 21 years' service is not very alluring and is now actually below what the Sepoy obtains by remaining at home and serving in his own country.'[58] It was not surprising that the Gun Lascar company was 'never up to its full complement and was compelled to accept those rejected by the other service.'[59]

In 1891 it was proposed that the Gun Lascar companies in Hong Kong and Singapore be merged as one unit and the strength increased to double-companies. In the early 1890s the Indian Army was finding it difficult to recruit Sikhs in the desired numbers for its own regiments as well as for the colonial forces that depended on recruitment in the Punjab. One of the measures recommended to tide over this difficulty was to recruit Punjabi Muslims who were considered to be of the same stock and race as Jat Sikhs and were thus also a martial race.[60] The ranks of the new company at Singapore were accordingly filled up with Punjabi Muslims, though the senior lascars were Sikhs who had been part of the detachment in 1883 or had been added to it in 1891. This led to another instance of dissent as the Muslim lascars resented being officered by Sikhs. There were reports of simmering discontent in the local press, but it was another year before the gunners collectively took up the issue and staged a protest.[61]

The next year, in 1892, the China Gun Lascars along with the Gun Lascar companies at Ceylon (now Sri Lanka) and Mauritius were re-organised as double-companies and designated as Asiatic Artillery, a corps of the British Army. This brought an end to the five-decade old existence of the China Gun Lascars of Hong Kong and they passed into history, but the foundation laid by them survived into the Hong Kong-Singapore Royal Artillery that went on to serve during the two World Wars with distinction and honour.

---

[58]*Overland China Mail* (6 July 1882), p. 2.

[59]*Overland China Mail* (7 March 1882), p 7.

[60]It would help if a brief note could be added here on the British bias towards 'martial races' for the Indian Army of that time – many readers would be unaware of that racial prejudice.

[61]NAI, 'Difficulty in getting Jat Sikhs for Regiments of Punjab Frontier Force', Military Department, Pro A, September 1890, Nos. 177-181. The procedure of recruiting at Hong Kong was also stopped in 1891 when a decision was taken to re-organize the Gun Lascar companies as 'Asiatic Artillery Companies' and it was decided to recruit directly from India: Maurice-Jones, *The History of Coast Artillery in the British Army*, p. 160; 'The Asiatic Artillery at Singapore: Discontent Among Men', *Overland China Mail* (1 June 1892). The Lascar Companies had been re-formed as part of Asiatic Artillery by 1892 and the lascars were now designated as gunners.

The Gun Lascars of China are a forgotten corps today although they were 'a most useful class of men who saved the European artillerymen from fatal exposure and fatigue; while they themselves are not of a class ever to become dangerous.'[62] For all their contributions they were for the most part badly administered, with no officer cadre of their own. While the Viceroy's Commissioned Officers (VCOs) were brought in from other Regiments or Corps of the Indian Army, most of the British officers had no knowledge of any Indian language resulting in their dependence on interpreters. The Gun Lascar thus had no recourse for redressal of their grievances – both real and imagined. Most of the cases of their indiscipline and dissent could have been nipped in the bud had they had good officers and had even a modicum of care been taken to ensure sound administration. But as notices published in *The London Gazette* of the unclaimed dues of Gun Lascars show, the Gun Lascars were an 'ill paid class, who have moreover to assist in limbering up the gun' yet were treated as 'slaveys [*sic*] to the Artillery.'[63]

With the raising of the Asiatic Artillery, the gun lascars may have been elevated to the status of gunners, but it was still a sad end to a fine corps of Indian soldiers that served the Royal Artillery for over five decades with their contributions rarely, if ever acknowledged.

---

[62]*Newcastle Journal* (12 June 1858), p 2

[63]*Newcastle Journal* (12 June 1858), p 2; *The Friend of India* (27 April 1854), p. 5; *Fifeshire Journal* (18 May 1882), p. 3. The details of unclaimed dues of soldiers, including Gun Lascars, were published in the *London Gazette*. While these may have been accessible to the family of British soldiers, in Britain, it is rather doubtful if the families of Indian Gun Lascars living in Punjab or other parts of India would have been able to access the Gazettes and understand that they could claim the dues. See also *Huddersfield Chronicle* (2 September 1891), p 4.

The Legacy of the Boer War: British Army Procurement and Logistics before 1914

MICHAEL TYQUIN[*]
Independent Scholar, Australia
Email: makinghistory@bigpond.com

ABSTRACT
Strategy, battles and tactics may win wars but the inability to prosecute them ends in defeat. The First World War illustrates how the capacity to produce arms and materiel efficiently dictates the ultimate outcome. The British experience in the decade prior to 1914 is an interesting one. This article examines problems arising from the British Army's experiences in the Boer War; subsequent enquiries and some of the lessons learnt – and forgotten – over the pre-war decades. It was this environment which explains the often forgotten logistics weaknesses that threatened the British Army's fighting capacity in 1914.

Introduction
'Lessons learned and forgotten' has long been a catch cry in modern military circles, featuring as it does in popular debates, doctrine writing, logistics planning, military procurement; and indeed studies of what has been called 'The Great War'.[1] It has been noted elsewhere that while 'the wars at the turn of the late nineteenth and early twentieth centuries offered endless lessons on the effect of modern weapons on tactics and modes of battle', the same can be said for the British Army's procurement and supply organisations.[2] This article contains a synthesis of the relevant primary material in this area (as opposed to operational and tactical matters) while adding something to the published literature on the subject – which is rather scant. While

---

[*]Dr. Michael Tyquin is a former army officer and consulting historian based in Tasmania, Australia. He has written widely in the field of medical and military history. DOI: 10.25602/GOLD.bjmh.v10i1.1775
[1]See for example, Aimée Fox-Godden, 'Beyond the Western Front ', *War in History*, Vol. 23, No. 2 (April 2016), pp. 190-209 and Ian Brown, *British Logistics on the Western Front, 1914–1919,* (Westport: Greenwood Publishing Group, 1998); although its focus is on operations in the field.
[2]Stéphanie Audoin-Rouzeau, 'Combat and Tactics' in Jay Winter (ed.) T*he Cambridge History of the First World War, Vol. II, The State,* (Cambridge: Cambridge University Press, 2014), p. 153.

many readers will be aware of the so-called 'Shell Scandal' of 1915, there have been few studies to date which look at the combination of factors which contributed to how the British Army was supplied in the decade *before* the outbreak of the war. It is easy to assume that the late Edwardian era was one of relative inaction, if not inertia, when it came to official reactions and soul-searching in the wake of the Boer War. But this is not so. What follows includes an overview of the problems encountered at home and in the field during the Boer War together with a series of enquiries which sought to find solutions and streamline the way in which the British army would be supplied in the next war.

Due to the scandals that bedevilled the Crimean War the responsibility for feeding and clothing the British army was removed from commanding officers who had often profited from a system that was loosely controlled, if not corrupt. After the war the responsibility for provisioning the army was taken out of the hands of these officers and centralised in a single supply department: the Army Contracts Department (see below) of the War Office. For most of the nineteenth century it purchased all stores for the army and the method of making contracts was by public competition. However, the system continued to be plagued by inefficiency and a lack of flexibility. These organisational failures were made manifest in the army's next major war: in South Africa.

After the South African War had shown that the problem of an efficient and reliable purchasing system had not yet been entirely solved, 'much attention was given to the reorganisation of the Purchasing Departments of the War Office.'[3] Thus in the first few years of the twentieth century the British Government, sometimes but not always in step with the War Office, devoted much time and effort in reorganising the purchasing departments of that august body. As we shall see the attempt to attain efficiency and transparency in military procurement was very much a roller coaster development which continued well into 1915. By then the private sector was becoming more efficient, and following the trend in Germany, 'private firms became more concentrated in ownership and vertically integrated...'[4] But the government sector lagged behind until at least after the fallout of the 'munitions scandal' of 1915.[5]

As an aside It may be appropriate to mention the other conflicts which engaged military thinkers of all nations before 1914, namely the Russo-Japanese War of 1904

---

[3]E.M.H. Lloyd, *Experiments in State Control at the War Office and the Ministry of Food,* (Oxford: Clarendon Press, Oxford, 1924), pp. 13-14.

[4]David Stevenson, *Armaments and the Coming of War: Europe 1904-1914,* (Oxford: Clarendon Press, 2002), p. 27.

[5]For more on this see Walter Reid, *Architect of Victory: Douglas Haig,* (Edinburgh: Berlinn, 2006).

and the shorter Balkan conflicts of October 1912 and May 1913. The first is better known, and like other European powers Britain attached observers (including Lieutenant General Ian Hamilton) to both combatant nations. In fact, it sent the largest contingent for it 'recognised that, as the ranking power, she had the most to lose in not keeping abreast with the development and potentials of modern warfare.'[6] But while some observations were sent back to London, these were mainly specific (to the deployment of artillery and the use of hand grenades) rather than any analyses of functions such as procurement or supply. Even then valuable lessons seem to have been ignored.[7] In 1905 when the Army Council was considering ammunition for newly introduced quick firing guns, 'information about their use in Manchuria was discounted as being unreliable'.[8] In the Balkans, while several newspaper correspondents who had also been present in South Africa and Manchuria reported on that theatre their focus was more political than military.[9]

This section looks at the repercussions of the Boer War on military procurement in Great Britain. It is necessary not to underestimate just how 'stove piped' British defence planning was in the 1890s – and indeed into the1900s. 'Traditionally neither the War Office nor the Admiralty had done much strategic planning and they had not consulted one another about it.'[10] This isolationism was even more pronounced when it came to procurement and supply, where arguably greater expertise lay with the Admiralty. But it was to the detriment of the army, something brought into greater relief with the many shortcomings seen in the Boer War: the focus of this article.

The Boer War
Having fought a long series of minor colonial wars and skirmishes against poorly armed opponents the war in South Africa came as a shock. British arms came up against a well-armed foe. As the war dragged on the consumption of arms, ammunition and war materiel rose beyond initial planning estimates. The supply of those items of war

---

[6]Richard Connaughton, *Rising Sun and Tumbling Bear: Russia's War with Japan,* (London: Cassell, 2013), p. 69.

[7]Britain was not unique in this regard, Russia too had failings, see John W. Steinberg, *All the Tsar's Men: Russia's General Staff and   the Fate of the Empire 1898-1914,* (Washington: Woodrow Wilson Press, 2010), p. 238.

[8]David French, *British Economic and Strategic Planning 1905-1915* (Abingdon: Routledge, 2006), p. 40.

[9]See for example Ross Cameron, 'Reconsidering Perceptions of the Balkan Wars (1912-3) in British War Correspondence', *The International History Review*, 12 September 2023,
https://www.tandfonline.com/doi/full/10.1080/07075332.2023.2254307. Accessed 11 February 2024.

[10]Stevenson, *Armaments and the Coming of War*, p.61.

materiel that had been least used in Britain during the pre-war period were the first to run out. The problem for the army was compounded by Government policy of holding only minimal stocks in arsenals and defence warehouses. Schemes for local purchasing were prone to profiteering and poor quality.

In 1899, the first year of the war, the War Office stock of small arms ammunition was found to be grossly inadequate. While army doctrine authorised 1,224 machine guns for the army it had only 898 and reserves of other materiel were either totally inadequate or non-existent. The press, typified by a contemporary article in *The Spectator*, all asked the obvious question: 'What would have been the extra cost had we been involved in war with a first-class European power instead of a nation of farmers?'[11]

There were no remaining artillery reserves by December that year. In 1900

> …the replacement equipment for the entire Royal Artillery amounted to a total of six field guns…at the beginning of the war the guns in South Africa had only eight weeks' supply of shells apiece…[12]

There was also an acute shortage of all classes of ammunition. In 1900 the Army Contracts Department found that it was purchasing in a single month quantities of defence goods which would have sufficed for the consumption needs of the previous 20 years.[13] Mistakes were there for all to see. Indeed, *The Times* war correspondent Leopold Amery demanded 'nothing less than a revolution' in the organisation and administration of the British army.[14] The world was changing, but the leading industrial nation of the time found itself ill-prepared for the new century. The army, ever the poor cousin of the Royal Navy when it came to funding, suffered as a consequence.

Shortfalls in supply were historically understandable, but the supply issue was compounded by the army clearly under-estimating its requirements as the war progressed. By the time the Government and the War Office realised they had a real

---

[11]*The Spectator*, 29 August 1903, p. 5.

[12]Clive Trebilcock, 'War and the failure of economic mobilisation: 1899 and 1914', in J. M. Winter (ed.) *War and Economic Development,* (Cambridge: Cambridge University Press, 1975), p.143.

[13]This organisation was a civilian branch of the army which centralised all army buying from the War Office.

[14]Peter Grant,'Learning to Manage the Army: Edward Ward, Harold McKinder and the Army Administration Course at the London School of Economics', in Michael LoCicero, Ross Mahoney and Stuart Mitchell (eds.), *A Military Transformed? Adaption and Innovation in the British Military, 1792-1945,* (Solihull: Helion, 2016), p. 101.

fight on their hands there was a scramble to place orders. This overwhelmed the small arms and defence materiel industry which at the time consisted of a few companies (like Vickers and Armstrong) with whom the Contracts Department had worked for generations and developed a cosy relationship along the way. This had bred indifference and laxity in staff of the Contracts Department who often failed to provide the necessary firmness and rigour in dealing with their favoured clients. It would not be until 1915 that the government took a tighter grip and actively sought the enterprise and acumen of other potential arms manufacturers from the country's large industrial base. And that development would change the subsequent procurement environment during the First World War.[15]

It has been suggested that the Boer War can be 'paired' with the First World War as an economic war and is an 'effective demonstration that this war acted as an entirely unrecognised precedent for the nearly calamitous breakdown in industrial mobilisation in 1914-15.'[16] This argument can be better understood by a short analysis of the attempts made to remedy glaring problems in procurement, supply and transparency. Despite the efforts directed through official enquiries and some organisational restructuring to solve the inefficiencies seen in South Africa it is surprising how quickly the lessons learned from that war were forgotten or ignored.[17] Certainly the Boer War proved to be the costliest war for Britain between 1815 and 1914. The British Treasury estimated that the war would cost it no more than £10 million, but it actually cost the British taxpayer £250 million, almost 15% of Britain's net national income in 1902.[18] This figure would have been much less had stricter financial systems and controls been in place in 1899. There were serious consequences in ignoring these lessons for conducting the war effort from 1914.

---

[15]According to one commentator '…although the war introduced unprecedented measures of stated intervention, it also resulted in an increase in the authority and, frequently, the power of business interests'. Barry Semple, 'War economies', Part II, Armed forces. In Jay Winter (ed.),*The Cambridge History of the First World War,* (Cambridge: Cambridge University Press, 2014), p. 314.

[16]Trebilcock, 'War and the failure of economic mobilisation: 1899 and 1914', p. 139.

[17]For example, in his study, French, commenting on artillery and shells, noted that: 'Many of the lessons of the Boer War about the need to stockpile gauges, blueprints and machine tools had been forgotten.' French, *British Economic and Strategic Planning 1905-1915*, p. 155.

[18]Trebilcock, 'War and the failure of economic mobilisation: 1899 and 1914', p.141.

There is no doubt that 'there was in the first months of the war ... a serious mismanagement of ordnance business and a waste of public money.'[19] As early as 1900 the Army's supply officers in South Africa were being consulted about the use of a central account.[20] On 1 June 1900 former colonial administrator and senior public servant, Sir Guy Fleetwood Wilson, submitted a report to Lord Kitchener, the Commander-in-Chief in South Africa, on supply accounting. Among his suggestions were the issuing of definite regulations concerning army accounting procedures, changes in procedures; the introduction of unannounced spot checks on stocks; the abolition of locally conducted audits; and, when the war was over, a complete review of a central accounting system.[21] As an engineer officer Kitchener was quick to grasp the situation and at his request Wilson, accompanied by two accountants, travelled to South Africa to act as his financial advisor. While this relieved Kitchener of the burden of having to act as his own finance manager, further down the military hierarchy field commanders, with little access to such expertise, continued to be burdened by having to manage the financial minutiae of their units. This problem was not acknowledged by the War Office until 1906 (see below).

At a later enquiry Fleetwood Wilson proposed that the same process should be applied to managing ordnance stores as was applied to the Army Service Corps, namely that a group of officers should be trained during peacetime, so that they could be deployed as financial/contract/procurement officers. Importantly he recommended that such men, including Non-Commissioned Officers, be rotated regularly through the War Office and back to army districts, to ensure some depth to their training.[22] He also believed that all contracts should be reviewed by a Director of Contracts after they were made.[23] At that time members of the Army Pay Corps were not up to the

---

[19]Report of His Majesty's Commissioner, appointed to Inquire into the Military Preparations and Other Matters connected with the War in South Africa, Vol I. (London: HMSO, 1903), p.121.

[20]In 1902 centralised financial control was introduced into the army.

[21]UK National Archives (hereinafter TNA) WO 103/386, Documents prepared by the War Office for the Royal Commission on War Stores in South Africa, (London: HMSO,1906).

[22]Report of His Majesty's Commissioner, appointed to Inquire into the Military Preparations and Other Matters connected with the War in South Africa, Vol I., (London: HMSO, 1903), p. 121.

[23]The Director of Contracts acted as the overall buyer for the Quartermaster General's and Ordnance Departments. It was established shortly after the Crimean War and was also successfully adopted by the Admiralty in 1869. Whereas there had been no change to the army's system (see Dawkins' Report, page 3) between 1869 and 1902, the Navy developed both the Director's appointment and the relevant procedures much more effectively than did the War Office.

task of negotiating complex procurement contracts. This had resulted in profiteering and sub-standard supplies (particularly fodder) in South Africa.

Not a few of the problems the War Office had experienced with its contractors both at home and in South Africa during the war were of its own making. Tender specifications were too detailed, the army preferred not to purchase many goods off-the shelf where these were available; while contractors tended to favour other clients as they paid less slowly than did the War Office. In his evidence before the Dawkins Committee (see below) Sir Redvers Buller, one of the army's more able commanders, stated that 'the War Office is not as good as it ought to be, as it is not particular enough about the contractors who are out on the list…'[24]

Among the field inspections carried out in South Africa at the Commission's request was that of Colonel F.T. Clayton. He summarised the supply system then in place:

> The system of supply contracts that has been in force in South Africa since 1 January 1903 is established in my opinion, on an entirely wrong basis…The system adopted is as follows: The [supply] contracts are made throwing all responsibility of issuing and storage of supplies on the contractor, who has to maintain the authorised reserve (one month's supply). If a contractor wishes to defraud the public by making short issues to units and bribing the quartermasters and quartermaster-sergeants to conceal these transactions, there is no system of supply by which he could accomplish his object in an easier way than by the one in force now.[25]

His solution was a simple one:

> Supplies should be demanded from the contractor and delivered straight into Army stores, the contractor should be paid for the actual quantity received from him, his responsibility ending with the delivery of the supplies. All issues to troops should be made by the Army Service Corps.[26]

The contractor could then be paid for the actual quantity received from him, his responsibility ending with the delivery of the supplies. But in 1900 the traditional base

---

[24]Dawkins*, Report of the Committee appointed to Enquire into War Office Organisation,* p. xxii.

[25]TNA WO 108/384, Royal Commission on War Stores – Inspection Report, 31 October – 19 December 1905 (Colonel F.T. Clayton, Assistant Director of Transport, War Office., p. 44.

[26]Royal Commission on War Stores – Inspection Report, 31 October – 19 December 1905, p. 45.

of army contractors had been deluged with huge orders for uniforms, boots, shells, artillery, rifles, food, forage, barbed wire, and medical supplies. They simply could not cope by dint of numbers and lack of business expertise.

The war 'was large enough to severely embarrass both the public and the private sectors of an industry that was, in technology, a leading sector in the economy of its day.'[27] This was no way to run a war or a business and was clearly unsustainable. The resulting confusion and escalation of costs were a serious embarrassment to what was the leading industrial nation at that time. Under press scrutiny and political pressure answers were demanded as the army's shortcomings during the Boer War. The result was a series of post-mortems by way of official enquiries and investigative committees.

Official Enquiries
While some questioned the outcomes of the Boer War its greatest and most important impact was in what John Gooch[28] has characterised as the 'managerial revolution', emanating from the official enquiries by Royal Commissions and parliamentary committees instituted because of the war. Two of these sat while the war was still in progress. The findings of several Royal Commissions, enquiries, committees, and Auditor-General's investigations during the first decade of the twentieth century revealed weaknesses in a creaking bureaucracy, an uninterested and financially naive officer class, and a government apparatus insufficiently jolted by various scandals in South Africa.[29]

In public all the right questions were asked but the results were either a whitewash or investigations which handed down recommendations that were politically difficult to implement or would only further undermine public confidence. There were three significant enquiries, with the Elgin report being the most important:

1. *Committee appointed to inquire into War Office Organisation* (Sir Clinton Dawkins Committee) 1901.

2. *Butler (Lieutenant General Sir William) Committee* appointed to inquire into the question of sales and refunds to contractors in South Africa 1905.

3. *Elgin Commission to Inquire into the Military Preparations and Other Matters connected with the War in South Africa (1903)* which inquired into the military

---

[27]Trebilcock, '*War and the failure of economic mobilisation: 1899 and 1914*', p. 148.

[28]John Gooch, T*he Plans of War: The General Staff and British Military Strategy, c 1900-1916* (London: Routledge & Kegan Paul, 1974), p. 34.

[29]The various frauds described in Section XVI of the Royal Commission on the War in South Africa, (London: HMSO, 1903), pp. 60-62.

preparations for the war and 'into the supply of men, ammunition, equipment, and transport by sea and land in connection with the campaign, and into the military operations up to the occupation of Pretoria.'[30]

To better understand the defence environment in the lead up to the outbreak of war in1914 it is important to briefly note the outcomes of all three enquiries.

The Dawkins Committee
The Secretary of State appointed a committee to investigate the organisation of the War Office Organisation on 17 December 1900 under Sir Clinton Dawkins. It was set up to discuss how best to put the War Office on a business footing and it was 'to consider and report on certain matters relating to War Office organisation.' This included among other issues whether:

- The administrative and financial business methods used in the War Office was satisfactory.

- A detailed financial audit of the War Office 'was required in the public interest'.

- The office of the Director of Contracts should deal with all relevant business transactions or whether the making of contracts could in whole or part be devolved to the military districts, or to the military departments of the War Office.

Dawkins, a London financier, and his colleagues were highly critical in their overall assessment of the structure of the War Office while acknowledging that it had grown piece-meal over decades and was being suffocated by red-tape ('a vast system of minute regulations'). The 18 departments of the War Office were spread across ten London locations. The Finance Department was housed in four of these. Among the commercial principles absent from the War Office was an effective inspection or auditing system and 'adequate machinery for co-coordinating work of all kinds, civil and military…'[31] Dawkins wanted the War Office to be run on the same lines as a large business concern.

---

[30]'List of commissions and officials: 1900-1909 (nos. 103-145)', Office-Holders in Modern Britain: Volume 10: Officials of Royal Commissions of Inquiry 1870-1939, 1995, pp. 42-57. http://www.british-history.ac.uk/report.aspx?compid=16607. Accessed: 22 May 2023.
[31]Clinton Dawkins et al. 1901. *Report of the Committee appointed to Enquire into War Office Organisation* (London: HMSO, 1901), pp. 2-3.

The evidence submitted to the Committee brought to light the absence of any formal liaison between the Financial Branch of the War Office and those of its departments tasked with spending money. It recommended the introduction of local audits as the system then in use was too centralised to be effective. The Dawkins' report reserved its most damning observation for the War Office's Contracts Branch and its relations (or lack thereof) with supply departments (Quartermaster-General, Ordnance etc.), which it described as 'exceedingly unsatisfactory and calls for immediate re-adjustment.'[32]

With respect to the office of the Director of Contracts, the Dawkins Committee believed that there was poor communication and consultation between the army's technical officers and contractors (which led to misunderstandings etc.) and a lack of any responsibility of *any* [emphasis added] element in the War Office to monitor 'the progress of a contract between the acceptance of tender and the due date of delivery'.[33] This last failing had been eloquently displayed during the Boer War.

In other cases, especially those concerning late delivery, contractors were not always held to account. Some senior officers simply could not bring themselves to make their own enquiries in the case of a defaulting or shoddy contractor. When Colonel Sir George Clarke, the Superintendent of the Royal Carriage Department, was repeatedly examined as to why he could not do anything about it, Clarke said he preferred not to go against years of tradition and that he was unsure of his own powers to dismiss such contractors. Among the Committee's other recommendations was a greater devolution of responsibility to the senior commanders of military districts. In 1900 they could only authorise local contracts (other than building works) up to £50, decentralising much of the administrative work of the War Office and deploying sufficient financial staff to support General Officers – both at home and on military campaigns.

But while Dawkins' team wanted to cut red tape, decentralise departmental powers and implement delegation to the lower ranks, not everyone was happy with their recommendations. Pacifist journalist William Stead was highly critical of the Government and its conduct of the war. He was not surprised by the revelations of the Royal Commission and in a booklet published in 1903 he focused on a key observation in the Commission's report:

---

[32]Dawkins, *Report of the Committee appointed to Enquire into War office Organisation*, p. 3. The Ordnance Committee at that time was chaired by General Sir Henry Brackenbury, a former Director-General of Ordnance who often overruled other members.

[33]Dawkins, *Report of the Committee appointed to Enquire into War office Organisation*, p. 13.

> The flaw has been the absence of any financial authority at headquarters with time, knowledge, and power to treat financial questions as a whole ... If a financial advisor had been appointed at the beginning, instead of towards the end of the war, he could have prevented excessive charges arising, instead of merely curtailing them when large and unnecessary expense had occurred .... He could, above all, have relived the Commander-in-Chief of a volume of work which should not fall on him.[34]

Technical experts and reform-minded individuals both in the army and in wider society expressed disappointment and frustration at the lack of any real improvement. Speaking about the Army accounting system one paymaster told a gathering:

> That something is wrong here is abundant evidence to show, but our reformers are by no means agreed either as to the nature of the defect, its cause, or its cure. At the present moment, undoubtedly, a considerable amount of fog surrounds the whole subject.[35]

He went on to state that even experienced officers were often unable to distinguish between accounts and auditing. He criticised the Dawkins' Committee for misunderstandings between the War Office and regimental officers who were responsible for checking the pay and allowances of their soldiers. This officer echoed many other observers by noting the vast amount of red tape officers had to deal with in supply transactions.

Although the principle of centralising purchases was confirmed by Sir Clinton Dawkins' Committee it was discarded in 1904 on the recommendation of Lord Esher's War Office (Reconstitution) Committee,

> In that year the Contracts Department was abolished, and the military supply departments were authorised to do their own buying direct. It resulted in competition in the same markets between the different supply departments, and the absence of a single purchasing authority led to other difficulties. Even so the

---

[34]W.T. Stead, *How Britain Goes to War: a Digest and an Analysis of Evidence taken by the Royal Commission on the War in South Africa,* (London: Review of Reviews Office, 1903), p. 193.
[35]Captain G. Redway, 'Complexity in Army Accounts', *The Journal of the Royal United Services Institution*, Vol. XLVI, October, 1902, p. 1259.

main lines of the organisation continued with slight alteration until the outbreak of war [in 1914].[36]

This brings us to the second enquiry.

The Butler (Lieutenant General Sir William) Committee

The second enquiry was appointed by the Army Council to investigate the question of sales and refunds to contractors in South Africa *after* peace was declared in 1902. The appointment of the Butler Committee came as no surprise. The Government of the day had to respond to public disquiet in Britain, Parliamentary Questions and several well publicised cases of profiteering and ill-gotten gains which featured regularly in the press. One example may suffice, outlined in a statement dated 7 January 1905, from the Army's Principal Accountant in South Africa. Army authorities there had issued forage to a contractor named Stepney to enable him to distribute fodder to deployed army units. Initially they over-charged him for the feed. He complained and the price was already low, but now it was below the price which the army had initially paid. The result was, as the accountant said; '… a present of £1,200 of public money was made to the contractor... as the result of carelessness on the part of the office of the Director of Supplies.'[37]

The Committee's recommendations to prevent future episodes included appointing an officer to inspect all goods arriving at the supply depot before they were unloaded, placing a guard over stocks to prevent condemned forage being replaced among other forage for issue; and that the General Officer Commanding (GOC) at that time Lieutenant General Sir Henry Hildyard, be told of this episode. Why, at this late stage of the war (then in its fourth year) similar measures had not been instituted earlier is hard to understand. It was not until January 1905 that a circular was issued instructing that supplies were to be obtained from the cheapest source'[38]

---

[36]Lloyd, *Experiments in State Control*, p.14. The Director of Contracts acted as the overall buyer for the Quartermaster General's and Ordnance Departments. It was established shortly after the Crimean War and was also successfully adopted by the Admiralty in 1869. Whereas there had been no change to the army's system (see Dawkins' report, p.3) between 1869 and 1902, the Navy developed both the Director's appointment and the relevant procedures much more effectively over time than did the War Office. At that time members of the Army Pay Corps were not up to the task of negotiating complex procurement contracts.

[37]TNA WO 108/316, Précis and Memoranda Prepared for the Butler Committee on Sales and Refunds, 20 June 1905.

[38]TNA WO 108/311, Report of the South African War Stores Commission.

Some tenders for supplies in the South African war were called with little notice or advertising, thus excluding potential and very competitive suppliers around the empire. For example, in response to an urgent request from the War Office, the premier of New South Wales in Australia could only cable: 'Time too short to allow of action to be taken' (4 November 1903).[39] Even local companies in South Africa complained to the Army that they had either not seen the advertisements or received the necessary forms by post. This was the basis of post-war criticism of Colonel H.G. Morgan (Director of Army Supplies until September 1902 and then forced into early retirement in 1903).

On 15 October 1906 the War Office belatedly noted in its appreciation of the Royal Commission on War Stores:

> Since 1902 it has been conclusively shown that the system which then prevailed of heaping the double responsibility of command and administrative detail on an Officer Commanding-in-Chief puts upon him a duty which it is impracticable for him to perform adequately.[40]

In 1905 a new system was introduced which at least was a start to reform but there had been casualties along the way. The reputation of the Army Service Corps for one, was severely dented.

The Elgin Commission
In 1902 the Elgin Commission was directed, among many other issues, to investigate allegations made by Sir William Butler's Committee and report on all the circumstances connected with contracts, sales and refunds during and at the end of the Boer War.[41] In a masterly understatement its final report concluded that: 'On the financial side there does not seem to have been any adequate preparation for a state of war.'[42] Among the comments picked up by the press were those of one witness, the financier Guy Fleetwood Wilson, who as we have seen had investigated the Ordnance Department's Cape Town operation at Kitchener's request. He stated that: 'In the present war I believe that an expenditure of a few thousand pounds on a

---

[39]Supply Transactions, Royal Commission on War Stores in South Africa. TNA WO 108/314.

[40]Affidavit of Documents, Royal Commission on War Stores in South Africa. TNA WO 132/9259.

[41]Anon., *The South African War Commission: its report and evidence summarised and analysed,* (London: The Liberal Publication Company,1903), p.1.

[42]*Report of His Majesty's Commissioner, appointed to Inquire into the Military Preparations and Other Matters connected with the War in South Africa*, Vol I., (London: HMSO, 1903), p. 120.

specially selected financial staff would have saved the public at the very least £1,000,000.'[43]

The Commission released its findings in a 316 page document in August 1903. It is significant that the commissioners were sceptical that lessons had been learnt, concluding that they 'regret to say that we are not satisfied that enough is being done to place matters on a better footing in the event of another emergency.'[44] Clearly while the nation had to gone to war very poorly prepared responses to the Commission's findings varied.

The War Office belatedly noted in its appreciation of 15 October 1906 of the (Elgin) Royal Commission:

> Since 1902 it has been conclusively shown that the system which then prevailed of heaping the double responsibility of command and administrative detail on an Officer Commanding-in-Chief puts upon him a duty which it is impracticable for him to perform adequately. In 1905 a new system was introduced which has, to a considerable extent, effected the necessary reform...[45]

Before concluding this section, mention should be made of yet another enquiry. In December 1902 the Government announced the appointment of a committee consisting of three members from the Committee of Imperial Defence, with Lord Esher as chairman. Its task was to co-operate with the heads of the various Treasury departments sanctioning expenditure in all army and navy contracts arising out of the war.[46] This was the outcome of demands in the House of Commons for a full enquiry into allegations of contract scandals. Unfortunately, the committee members' 'intellectual rigour...went hand in hand with a parsimony that flawed their achievements.'[47]

---

[43]*The South African War Commission: its report and evidence summarised and analysed,* (London: Liberal Publication Company, 1903).

[44]Quoted in *The Spectator*, 29 August 1903, p. 5.

[45]Affidavit of Documents, Commission on War Stores in South Africa. TNA WO 132/9259.

[46]In 1903 Esher was appointed to chair yet another committee: the War Office Reconstruction Committee. Its report, published in 1903 led to radical changes in a War Office that had not altered since the Crimean War. These included the establishment of a General Staff, an Army Council (along the same lines at the Admiralty Board; comprising four generals and two civilian officials under the Secretary of State for War (Richard Haldane); and a more logical departmental structure within the War Office itself.

[47]Reid, *Architect of Victory,* p. 136

Prior to 1914 the War Office conducted all its planning (and procurement) on the basis that Britain should be ready to send overseas an army expeditionary force of six divisions (approximately 150,000 men). In theory the military supply departments would determine requirements, draw up the specifications, and receive, store and inspect the goods. But it was the Army Contracts Department which placed contracts, selected the firms invited to tender, and negotiated prices. As a result of the enquiries discussed above 'the main object was to provide a system of checks and counterchecks, which would prevent any laxity or costly errors of judgement.'[48] But it was a cumbersome and slow process, involving as it did moving paper between several locations in London. It also laid the ground for cosy relations between officials of the Department and the private sector.

1914
Unfortunately, few lessons were learned from the Boer War. Almost half of the workforce of government arms factories was slashed between 1899 and 1914. By 1907 43% of the Royal Arsenal's machinery was idle, while the wider arms industry had been reduced from a bare 'care and maintenance' level of 15,000 workers to 10,600. It was therefore in no fit state to respond to the unprecedented munitions demand of the Western Front.

In order to understand Government responses to rising prices and supply shortages in the army environment we need to look briefly at the pre-war economic environment and official policies. The essential feature of that economic system was that it relied 'on the market for all the decisions which make up the shape and form of economic society.'[49] Unlike today government spending then was relatively small, the budget for the Royal Navy being the exception,

> Britain in 1914 was a naval power whose Army was intended for outpost duty ... The result of this policy was to limit the effective preparation permitted to the War Office to the equipment of a small Expeditionary Force.[50]

For centuries it was the Royal Navy which was succoured by the state and to the army fell the scraps. Most the army's orders were met not by private contractors but by the Royal Ordnance Factories. These supplied 80 per cent of the guns and 77 per cent of their ammunition. So, while the Admiralty routinely dealt with very large orders

---

[48]Lloyd, *Experiments in State Control,* p. 14.
[49]Edward Victor Morgan, *Studies in British financial policy, 1914-25,* (London: MacMillan, 1952), p. 33.
[50]*Official History of the Ministry of Munitions, Volume 1: Industrial Mobilisations,* (London: HMSO, 1922), p. 8.

worth considerable sums of money, the army, when it came to sudden demands for massive orders, was entirely out of its depth. This included dealing with even well-known companies such as the armaments firm Vickers which had little experience as a supplier to the War Office. Between 1910 and 1914 Vickers had taken orders from the War Office which had

> averaged about £55,000 worth of goods a year, compared with Admiralty orders averaging nearly three million a year. In the ten years ending in August 1914 the company's deliveries of machine guns to the War Office had been just under 11 guns a year.[51]

All Government departments (including the War Office) were semi-autonomous; and, when it came to placing munitions and other government orders, they were responsible for specifications, letting tenders and placing orders. As we have seen this was not always done on an efficient or commercial basis and was prone to manipulation by those within as well as by businesses in the private sector – at least until mid 1915.

There were systemic issues too that would continue until the outbreak of the First World War. For example, the 18-pounder and 13-pounder quick firing guns for the field and horse artillery were a composite design incorporating an Armstrong barrel, a Vickers recoil system, and Royal Ordnance sighting and elevating gear.'[52] Complex composite ordnance like this did not lend itself to anything approaching 'mass production'.

The administrative machinery for public controls and even planning war production was primitive. As discussed, despite several pre-war enquiries into how the War Office did business, at the outbreak of war in 1914 Britain's Committee of Imperial Defence did not include within it any organisation such as the Principal Supply Officers' Committee of the later inter-war period. Even when it is compared with the new Ministry of Munitions a year or so later its 'administrative machinery [could not] be called a machinery at all.'[53] So it was a government very inexperienced in these matters that had to deal with a large scale war which would make unprecedented demands on the economy of Great Britain.

The procurement landscape was also dominated by tradition.

---

[51]John Scott, *Vickers: a history* (London: Weidenfield & Nicholson,1962), p. 97.
[52]A. Wilson, *The Story of the Gun,* (Woolwich: Royal Artillery Institution, 1965), p. 65.
[53]Scott, *Vickers: a history*, p. 98.

> For many years a small group of armament firms had been locked into a close but frequently abrasive relationship with the War Office … Bargaining on contracts [as had occurred in South Africa] … was utterly inadequate to supply the vast increase in demand for munitions in 1914. But there was no immediate political stimulus for reform and the War Office officials were unprepared to look beyond the inner ring of initiated suppliers or to amend their aloof, almost ritualistic conduct of negotiations.[54]

When war broke out in 1914 it was not long before the tiny Army Contracts Department (in July it consisted of 56 officials and clerks) was overwhelmed, a situation made worse when Kitchener's 'New Army' came into being in the following year. Early in the war, volunteers (and their corresponding needs for equipment, arms, and food) flooded recruiting depots across Britain. The system of centralised buying broke down under the strain of a wild scramble for supplies, which sent prices up by leaps and bounds. As we have seen

> …the repeated reorganisations of the accounting systems and the instigation of internal audit procedures suggests that at the very least the accounting departments were out of their depth; the ever increasing volume of complex work once the government realised that war would not be over by Christmas and the lack of experienced staff, and the necessary recruitment of new personnel led to serious confusion.[55]

One scholar has concluded that:

> …it is not sufficient to say that in 1914 and 1915 a production and procurement system organised for the colonial scale was broken by a continental war. The truth is that it was almost broken by an earlier war, a colonial 'great war', which advertised its extent by the economic strains it created. Not only that, but many of the weak points in the industrial and military apparatus – over-reliance on the private sector, 'contractors' promises', poor procurement methods, faulty fuses and shell production – were the same points at which weaknesses developed in 1914 and 1915.[56]

---

[54]Jonathan Boswell and Bruce Johns, 'Patriots or Profiteers? British Businessmen and the First World War', *Journal of European Economic History*, Vol.11, No.2, September, 1983, p. 429.

[55]Janet MacDonald, *Supplying the British Army in the First World War,* (Barnsley: Pen & Sword, 2019), p.13.

[56]Trebilcock, *'War and the failure of economic mobilisation: 1899 and 1914'*, p. 161.

While a 'business as usual' mindset endured in official circles until late 1915, this is not to say the Government lacked a sense of urgency. For example, Prime Minister Asquith set up the Shells Committee (which met between 12 October 1914 and 1 January 1915) in recognition that the traditional procurement and business models were inadequate.[57]

Late in 1914

> …there had been some talk in the War Office of nationalising the armaments firms, both to ensure supplies and to guard against the inflated prices which might be thrown up by the free play of the market, but it was no more than talk; the War Office supply departments of 1914, tiny and harassed, could not conceivably have carried out such an operation. They could only rely upon an external system of control, which was mainly a control of prices.[58]

In the early stages of the war

> the royal ordnance factories could not expand to meet demand and the state turned to the private manufacturers. This faith in the arms industry was irrational because although the firms were highly skilled and specialised engineers, they had no great superiority or experience of manufacturing small items in quantity, and shell production continued to fall short.[59]

Conclusion

This then was the Britain that would go to war in 1914. While some lessons had been learned from the Boer War, and some structural changes were made, skilled workers in defence-related industries were allowed to bleed out.

> Almost half of the workforce of [British] government arms factories was slashed between 1899 and 1914. By 1907 43% of the Royal Arsenal's machinery was idle; while the wider arms industry had been pared past a bare care and maintenance' level of 15,000 workers to 10,600.[60]

---

[57]For more on this see Stephen Broadberry and Mark Har**ris**on, 'The United Kingdom during World War I: business as usual?' in Stephen Broadberry and Mark Har**ris**on (eds.), *The Economics of World War 1*, (Cambridge: Cambridge University Press, 2009).
[58]Scott, *Vickers: a history* , p. 126.
[59]Edward F. Packard, Whitehall, 'Industrial Mobilisation and the Private Manufacture of Armaments: British State-Industry Relations, 1918-1936', A thesis submitted for the degree of Doctor of Philosophy (London: the London School of Economics and Political Science, July 2009), pp. 41-2.
[60]Trebilcock, *'War and the failure of economic mobilisation: 1899 and 1914'*, p. 153.

While innovations in the British Army from 1906 'enhanced its war preparedness and its Continental striking power...it laboured under manpower and financial shortages…'[61] It was therefore in no fit state to respond quickly to the unprecedented munitions demand of the Western Front. There were plans in the War Office for dealing with an outbreak of war, but no plans for war on such a scale as this. 'For weeks and months after few even in the War Office realised the extent of the struggle on which the country had embarked ... Certainly no one in the Contracts Department could have expected to plan on such an assumption.'[62]

British economic legacy did not help either. Despite the attempts after the Boer War at reform noted above the system between the army and its suppliers continued in a 'business as usual fashion in the time honoured tradition of *laissez faire*. While this may have worked in the preceding century 'it became an increasing, if self-imposed burden.'[63]

And the post-Boer War British army itself? Scholars are right to suggest that Britain's 'military transformation was neither consistent nor ... [owed] its origins simply to great reformers or generals. Past campaigns, national politics and individual influence all affected the shape of the constituent services.' But such a view still overlooks the fact that the efficiency of the British army in the Boer War was degraded by a lack of organisation and skills in its procurement, accounting and contractual procedures. This was recognised by the end of that war and steps were taken to learn from its lessons and implement change. But these lessons were forgotten or thwarted in the decade before 1914. It was the latter which contributed to the often forgotten logistics weakness behind the British Army's fighting capacity in 1914. Vestiges of the cumbersome bureaucracy survived until 1915 despite the attempts outlined above.

> As a result, prior to 1915, the Master General of the Ordnance (MGO) was technically not responsible for any failure to deliver ordered munitions. Unfortunately, that meant the MGO could be and often was left waiting for promised deliveries with little power to expedite production; not necessarily a problem in peace but a potential disaster in war.[64]

---

[61]Stevenson, *Armaments and the Coming of War*, p. 90.
[62]Lloyd, *Experiments in State Control*, p.19.
[63]Hew Strachan, *The Outbreak of the First World War,* (Oxford: Oxford University Press, 2004), p. 17.
[64]George Hay, 'The tragedy of the shells', https://blog.nationalarchives.gov.uk/tragedy-shells-supplying-army-munitions-war-act-1915/. Accessed 20 June 2023.

For all the lessons learned the one factor that the Boer War did not predict nor consider was how a future war might enforce 'a much more "forward" role for government in production, distribution and the markets for goods and labour.'[65] Even though, as we have seen, a number of eminent businessmen were members of the various committee during the course of the decade preceding the First World War, they were constrained by: a Government reluctance to encroach on the private sector; conservatism in the military; and budgetary constraints. But even they could not envisage the unprecedented scale of that conflict.

---

[65]Barry Supple, 'War Economics', in Jay Winter (ed.) T*he Cambridge History of the First World War, Vol. II, The State* (Cambridge: Cambridge University Press, 2014), p. 318.

Did professionals talk logistics? Officer education at the British Army Staff College, 1903–1914

Christopher Phillips[*]
Aberystwyth University, UK
Email: *chp54@aber.ac.uk*

ABSTRACT
This article examines the education in the fields of supply and transportation provided to officers at the British Army's Staff College. Drawing upon materials produced by those who taught and studied at the College between the South African War and the First World War, this article argues that the importance of logistical issues to military operations was clearly understood within the British Army, and considerations of supply and transportation matters were key components of the syllabus. However, its success was limited by an inability to correctly anticipate the character of the war that broke out in August 1914.

Russia's invasion of Ukraine in February 2022 brought into sharp relief the relationship between military logistics and military operations. Initial reports of Russia's failed attempt to take the Ukrainian capital of Kyiv were peppered with examples of military vehicles running out of petrol, of soldiers abandoning their posts in search of food, and of vital functions such as moving supplies being mishandled. Whether or not the existence of a forty-mile long column of immobile lorries to the north-west of Kyiv was the result of inadequate vehicle maintenance, poor traffic management, or a combination of factors, the convoy's static presence was a graphic illustration of the ways in which logistics 'governs the battlefield, not only at the lowest levels of strategy, where it determines whether or not soldiers receive food and bullets, but at the highest, where it determines what armies can do'.[1] As Michael Kofman observed – and

---

[*]Dr Christopher Phillips is a lecturer in the history of warfare at Aberystwyth University, UK.
[1]Thomas M. Kane, *Military Logistics and Strategic Performance,* (London: Routledge, 2001), p. 32.

as President Putin discovered – armed forces frequently have to identify, confront, and solve their logistical challenges 'the hard way'.[2]

This article discusses how subjects related to logistics, particularly those surrounding supply and transport, have been dealt with the 'easy way' – in the cool of professional military education rather than the heat of battle. It focuses upon *what* students were taught at the British Army's Staff College in the decade preceding the First World War, rather than *how* they learned; upon the material the army chose to present to students who were likely to fulfil staff posts and higher command roles, and the extent to which the syllabus provided those students with a thorough appreciation of modern war's characteristics. Those choices played a key role in framing the mental parameters within which the British Army of 1914 approached the task of confronting a first-class European army for the first time in a century. By focusing on 'the only institution devoted to the instruction of the future leaders of the Army after they had been commissioned', this article both contributes to ongoing debates as to the soldierly qualities of those who passed through the Staff College and provides an insight into the appreciation of military supply and transport among those who taught and learned there.[3] It confirms David French's observation that students at the College 'were … required to pay more attention … to logistics' after the South African War, and defines more sharply the relationship between the Staff College curriculum and the evolving strategic context in which it was delivered.[4]

The South African War has long been recognised by historians as the catalyst for major reform both within the British Army and across the wider field of British imperial strategy. The army's dismal attempts to vanquish the Boers led to widespread changes throughout the force, covering everything from tactical training to the organisational structure of the army itself.[5] The Staff College was not immune from these trends, and recent accounts have broadly agreed that from 1903 Camberley 'acquired a new spirit and purpose', largely thanks to the energies and efforts of successive commandants,

---

[2]Dan Sabbagh, 'Russia 'solving logistics problems' and could attack Kyiv within days – experts', *The Guardian*, 8 March 2022 https://www.theguardian.com/world/2022/mar/08/russia-solving-logistics-problems-and-could-attack-kyiv-within-days-experts. Accessed 25 July 2023.
[3]Brian Bond, *The Victorian Army and the Staff College, 1854–1914,* (London: Eyre Methuen, 1972), p. 3.
[4]David French, *Military Identities: The Regimental System, the British Army, and the British People, c. 1870–2000,* (Oxford: Oxford University Press, 2005), p. 161.
[5]See, for example, Timothy Bowman and Mark Connelly, *The Edwardian Army: Recruiting, Training and Deploying the British Army,* (Oxford: Oxford University Press, 2012); Spencer Jones, *From Boer War to World War: Tactical Reform of the British Army, 1902–1914,* (Norman, OK: University of Oklahoma Press, 2012).

Henry Rawlinson (1903–1906), Henry Wilson (1907–1910), and William Robertson (1910–1913), and their directing staffs.[6]

Concurrent with these developments, Britain underwent a diplomatic realignment after 1902 that supplemented the considerable challenges of protecting a global empire with the possibility of involvement in a major war between France and Germany.[7] The breadth of scenarios contemplated by students at the Staff College as Britain's geostrategic position evolved before the First World War demonstrate how the College was affected by wider debates about the army's likely future role. As Major General Edward May observed in 1911: '[w]e must remember that our officers must be prepared to fight in every country on the globe. Arrangements that are desirable in England, or even on the continent of Europe, will be very different from those which will be necessary in South Africa, or on the North-Western Frontier of India'.[8] Of the multitude of arrangements referred to in May's observation, supply and transport ranked among the foremost. Britain's imperial responsibilities necessitated the fulfilment of tasks that were primarily administrative and logistical rather than ones that demanded inspirational feats of command.[9] The importance of the former were underlined to students from the moment they arrived at Camberley,

> [O]wing to its size, the number of its adjuncts, the quantity of ammunition and supply it draws behind it, [a modern army] is specially sensitive as to its communications. And lines of communication form the pivot on which strategic activity hinges; it is at them that strategic blows are most frequently directed; and it is there that they produce their most decisive effect.[10]

Analysis of the Staff College's coverage of these subjects illustrates the kinds of logistical challenges that the directing staff at Camberley and Quetta considered to possess sufficient pedagogical merit to be discussed with their students.[11]

---

[6]Rodney Atwood, *General Lord Rawlinson: From Tragedy to Triumph,* (London: Bloomsbury, 2020), p. 77.

[7]Hew Strachan, 'The British Army, its General Staff and the Continental Commitment 1904–1914', in David French and Brian Holden-Reid (eds), *The British General Staff: Reform and Innovation, 1890–1939,* (Abingdon: Routledge, 2014), pp. 75–94.

[8]Quoted in Strachan, 'The British Army, its General Staff and the Continental Commitment', p. 91.

[9]Ibid., p. 73.

[10]Joint Services Command Staff College (hereinafter JSCSC), CR/1903/1/3, General remarks on the course, 29 January 1903, p. 2.

[11]'The Quetta College, established in 1907 and dubbed the 'Indian Camberley', 'maintained close liaison with the Staff College in Britain throughout the pre-war period. See Vipul Dutta, 'The "Indian" Staff College: Politics and Practices of Military

The core evidence base for this article is drawn from the so-called Camberley Reds - a compendium of staff notes, exercises, maps, and ephemera relating to material delivered at the Staff College between 1903 and 1913. The 'syllabus did not remain static during this period, but was altered and improved in ways which reflected both wider changes in the army and Staff College efforts to remain thoroughly up-to-date'.[12]

While the spectre of war with Germany loomed increasingly large over the curriculum in the years before 1914, materials within the Camberley Reds emphasise the geographical scope of the exercises set for students in the decade before the First World War.[13] Throughout the period students were tasked with producing plans for the protection of India and the movement of troops around Britain in response to hypothetical invasions.[14] At the same time, students were introduced to scenarios that involved studying the requirements for prospective campaigns in different environments and against a diverse range of potential opponents. In 1912, for example, students in the Senior Division were tasked to prepare and despatch a force of 9,000 troops to quell unrest in Egypt following a fictitious partition of the Ottoman Empire.[15] At other times, potential operations in Basutoland, Abyssinia, and southern Somalia were also considered worthwhile exercises.[16] The content of the tasks devised by the directing staff illustrate the continued importance to the British Army both of ensuring its readiness for home – and imperial – defence, and of preparing for war beyond the empire's frontiers.

Institution-Building in Twentieth Century India', *Journal of Strategic Studies*, 42, 5 (2019), pp. 600–625.

[12]Andrew Duncan, 'The Military Education of Junior Officers in the Edwardian Army' (PHD Thesis, University of Birmingham, 2016), p. 197.

[13]The earliest reference within the curriculum to the defence of Belgium from German aggression appears to be in an exercise set in October 1905. See Liddell Hart Centre for Military Archives (hereinafter LHCMA), Shea 2/3, Scheme for the Defence of Belgium, 1905.

[14]See, for example, JSCSC CR/1904/2/92 Defence of the Indian Frontier, 1 November 1904; CR/1911/2/36 Railway Control Exercise II, 27 March 1911; CR/1913/2/77 War Game, 6 November 1913.

[15]JSCSC CR/1912/2/74 The Preparation and Despatch of a Special Expeditionary Force, 17 October 1912.

[16]JSCSC CR/1904/2/81 Study of a Possible Campaign in Basutoland, 11 October 1904; JSCSC CR/1906/2/82 Study of a Possible Campaign in Abyssinia, 18 October 1906; JSCSC CR/1910/2/98 Jubaland Scheme, 10 November 1910.

However, as Brian Holden-Reid has acknowledged, 'reconstructing what was actually taught at a given date, and how it was taught, is far from an easy task'.[17] Scant details are retained within the Camberley Reds regarding the lecture programme delivered to students each year, and the information recorded in the syllabi for various topics is generally restricted to a list of broad subject areas rather than the content of individual lectures.[18] From these documents it is impossible to identify the key messages emphasised by the directing staff within the classroom. For example, the available evidence confirms only that an address on 'Supply and Transport services in small wars (Extra-European conditions)' discussed themes including 'the influence of climate and physical conditions' and 'systems of supply' in non-European settings.[19] It provides no further insight into the specific knowledge the students were expected to acquire on those subjects.

The surviving records of completed schemes are similarly far from comprehensive. Major John Shea's 'Basutoland Scheme' from October 1905 represents one of precious few examples of an assignment submitted for comment from the directing staff identified during this research. The feedback Shea received provides us with a tantalising glimpse into the College's priorities. Colonel Richard Haking's criticisms focused on the scheme's deficiencies principally from a logistical perspective. Haking noted that, from the information presented by Shea and his colleagues, he did 'not know what Columns I and II consist of. Still less do I know the composition of Columns I and II'.[20] Consequently, he could not decipher 'the daily weight of supplies for each column, the daily weight of supplies for troops detached from each column and where they are to be detached to, and the advanced depots of each column'. Without this information, Haking stressed that it was impossible to 'calculate the amount of transport necessary to keep the Advanced Depots filled up [and] the amount of transport necessary to keep each Column supplied' when it was three, four, or five days away from the advanced depot. Upon such calculations the success of those columns' operations was likely to depend. Therefore, highlighting deficiencies in the students' presentation of accurate, accessible data were a key aspect of Haking's feedback.

---

[17]Brian Holden-Reid, *War Studies at the Staff College, 1890–1930,* (Camberley: Strategic & Combat Studies Institute, 1992), p. vii.

[18]See, for example JSCSC CR/1911/1/130 Syllabus for examination in staff duties, organisation, and administration, October 1911.

[19] JSCSC CR/1911/1/131 Syllabus for examination in supply, transport and remounts, October 1911.

[20]LHCMA Shea 2/1 Basutoland Scheme, Criticisms by RH, October 1905. All quotations in this passage are derived from this source.

The task of reconstructing Camberley's educational priorities is made more difficult by the fact that the diaries and memoirs of those who attended the College during this period – whether as students, staff, or occasionally as both – tend to gloss over reflections on its teaching and learning environment in favour of reminiscences that focus on friendship, sports, and other extra-curricular activities. Even though a Staff College education was regarded as an 'important indication of professional ability and so was keenly pursued by able and ambitious officers', it is remarkable how few of those officers' reflections on their education at the College have survived.[21] As a typical example, John Burnett-Stuart, who graduated from Camberley in 1904, chose not to 'dilate' on his time there in his unpublished memoir, stating only that the course,

> was a great refreshment for the body and for the mind. You worked hard, but not too hard; you made friends with officers of your own generation from throughout the army; you lived in pleasant surroundings, with recreation of all kinds at your door; you had your regular holidays; and, above all, you knew that, God willing, you were there for two whole years, with no other responsibilities than to learn as much as you could.[22]

Edward Beddington, who graduated in 1913, provides another enigmatic observation. He recalled 'having learnt an awful lot but also having had a very happy time doing it'.[23]

The records and recollections of the directing staff from the period are little more illuminating. Hubert Isacke kept a diary while teaching at the Staff College in Quetta between 1913 and 1914. In it, he carefully recorded the amount of time and energy that he put into devising schemes and providing comments on students' assignments. Isacke spent four consecutive days in May 1913 writing feedback on a railway scheme, and the development of a single line of communications exercise consumed much of his time between June and August.[24] However, references within the diary to his actual teaching are little more than sparse descriptions, and he offered no comment at all on the quality – or otherwise – of his students' work. On 25 February 1913, for example, he '[g]ave a lecture on the British Army and did some railway work', before on 3 March he 'attended Taylor's lectures in [the] morning'. Even when he did elaborate – as he did for a lecture on mobilisation in the Franco-Prussian War – his ruminations were limited to not having felt 'quite as at home [with the subject] as I had done before'.[25] George de Symons Barrow taught at Camberley for two years from 1908, and wrote in his autobiography that '[m]ost of the work was of great interest and all

---

[21]Duncan, 'Military Education of Junior Officers in the Edwardian Army', p. 17.
[22]LHCMA Burnett-Stuart 6, Memoirs, pp. 45–46.
[23]LHCMA Beddington 1, My Life, p. 52.
[24]LHCMA Isacke, diary entries, May to August 1913.
[25] LHCMA Isacke, diary entries, 25 February, 3 March, and 4 March 1913.

of it accompanied by the satisfying feeling that it was useful'. Yet the remainder of the paragraph goes on to detail the different sports and outdoor pursuits available to staff and students rather than offer further comment on the 'useful' work accomplished at the College.[26]

This focus on the extra-curricular has frequently been mirrored in historical treatments of the Staff College. Both of the histories of Camberley written by graduates of the College were produced with a readership of former students in mind.[27] As a result, the content of both erred on the side of the 'antiquarian or anecdotal' rather than the analytical.[28] Alfred Godwin-Austen in particular devoted 'a good deal of space to such matters as the history of the [College's] buildings, sporting events and festive occasions', and provided relatively little material on the evolution of the curriculum.[29]

Academic historians have been heavily influenced by these editorial choices. Where the content of the Staff College's curriculum has been examined, previous analysis has overwhelmingly focused upon the use of military history as a pedagogical tool. Ian Beckett noted that the material delivered by John Gough as a member of staff 'bore some similarity' to that which he had received as a student, with the study of military history and the lessons that could be derived from it 'a constant element' of the two-year course.[30] The campaigns studied during the period included those drawn from historical events – such as the Napoleonic Wars, the American Civil War, and the Wars of German Unification – and those identified from contemporary conflicts; students at the College in 1904 and 1905, for example, were tasked to deliver lectures on developments in the Russo-Japanese War as it happened.[31] Adam Dighton has examined how the subject was taught before 1914, arguing that 'the desire to improve officers' professional abilities led military history to play an increasingly important role in army education'.[32] That role was expressed clearly to students upon their arrival at the Staff College. In 1903, Colonel Edward May informed the Junior Division that,

---

[26]George de Symons Barrow, *The Fire of Life,* (London: Hutchinson & Co., 1942), p. 45.
[27]Alfred Reade Godwin-Austen, *The Staff and the Staff College,* (London: Constable & Company, 1927); Frederick Young, *The Story of the Staff College, 1858–1958,* (Camberley: Staff College, 1958).
[28]Holden-Reid, *War Studies at the Staff College*, p. vii.
[29]Bond, *Victorian Army and the Staff College*, pp. 4-5.
[30]Ian Beckett, *Johnnie Gough V.C.: A Biography of Brigadier-General Sir John Edmond Gough V.C., K.C.B.,* (London: Tom Donovan, 1989), p. 140.
[31]Bond, *Victorian Army and the Staff College*, p. 197 & p. 206.
[32]Adam Dighton, 'Army officers, historians and journalists: the emergence, expansion and diversification of British military history, 1854–1914', (PhD Thesis, University of Salford, 2016), p. 30.

> The object of the course in military history is to store the memory not so much with facts as principles; to teach you to weigh evidence; to discriminate; to put statements to the proof; to allow for special circumstances and conditions.

> By acquiring knowledge of military history you may benefit by the experience of others, and a well-read man who can apply his knowledge gains the same advantage which prolonged experience may give to one who has never had the opportunity to study.[33]

Yet according to Ian Malcolm Brown, the curriculum's 'emphasis on command downplayed the importance of lines of communication', something that made solving the specific challenges of supply and transport faced by the British Army after 1914 more difficult to achieve.[34]

Military history was just one component of a far broader education delivered to students at the Staff College between 1903 and 1914. Students who attended the College were introduced to what Brown refers to as the 'mundanities of supply' and were tasked to prepare materials that demanded the mathematical precision, the organisational skills, the anticipation of unforeseen circumstances, and the keen eye for detail required of military administrators.[35] In short, the Staff College's curriculum demonstrates that prior to 1914 the British Army understood that 'strategy and tactics are now bound hand and foot by administration, and it inculcated these lessons into those officers destined for positions of great responsibility within it'.[36] However, their efforts to create an army suited to the unprecedented environment of the Western Front proved to be of limited value due to the College's failure to actively confront key questions around the scale of the German challenge.

Officers required a sound knowledge of logistics even to gain entry to the Staff College. As noted by Clem Maginniss, a considerable proportion of the questions in the annual entrance exam – between 47 per cent and 57 per cent – tested prospective students'

---

[33]JSCSC CR/1903/1/3 General remarks on the course, 29 January 1903, p. 1.

[34]Ian Malcolm Brown, *British Logistics on the Western Front, 1914–1919,* (London: Praeger, 1998), p. 21.

[35]Ibid.

[36]Wilfred Gordon Lindsell, *A. & Q. or Military Administration in War,* (Aldershot: Gale & Polden, 1933). This text was written as a primer for students at the Staff College in the inter-war period.

knowledge of administrative subjects.[37] Inadequate performance across such a large amount of the examination paper was liable to be fatal to any aspiring student's chances of success. As Andrew Duncan has illustrated, the number of officers competing for places at Camberley was greater than the number of vacancies throughout the period 1903–1914. Consequently, officers who secured a pass mark in the examination were not guaranteed to be admitted onto the course. Instead, admission through the examination process was reserved only for those awarded the highest marks. Therefore, those who neglected to study administrative topics placed themselves at a distinct disadvantage.[38]

Such topics were rarely far from the minds of those officers who secured their place at the Staff College either. As Colonel Thomas explained in a lecture addressed to senior officers in January 1906,

> It must be well known to all how many weighty decisions in war are seriously affected by, if not entirely ruled by, questions of Supply and Transport. I think it will be further conceded that the more civilized we become, the greater are our wants. What was a luxury at one time, in a few years becomes an absolute necessity. The difficulties of Supply and Transport must therefore go on increasing. As the difficulties increase, so much the more is it necessary that a larger number of Officers should become conversant with the subject and its difficulties.[39]

Education in the field of supply and transport was delivered under the umbrella of Staff Duties and Service of Maintenance – one of two study sections to which each item on

---

[37]Clem Maginniss, *An Unappreciated Field of Endeavour: Logistics and the British Expeditionary Force on the Western Front, 1914–1918,* (Warwick: Helion, 2018), p. 47 footnote 9.

[38]Duncan, 'Military Education of Junior Officers in the Edwardian Army', p. 192. As Duncan also notes (pp. 193-195), officers also gained entrance to the Staff College through nomination rather than through performance in the annual examination. However, from 1908 onwards officers had to have attained the pass mark of fifty per cent on the examination to be eligible for nomination. During this period several books were published, which acted as revision aids for prospective Staff College students. See, for example, Hubert Foster, *Staff Work: A Guide to Command and General Staff Duties,* (London: Hugh Rees, 1912).

[39]The UK National Archives (hereinafter TNA) WO 279/9 Conference and staff ride at the Staff College by senior officers of the General Staff, Supplies and Transport, by Colonel A. H. Thomas, 4 January 1906, p. 69.

the College's programme of work belonged.[40] Two days per week were dedicated to teaching in each section, with a 'spare' weekday left at the commandant's disposal. Such a practice could easily have led to the eclipse of one section by the other. However, the College recognised the potential risks inherent in the separation of staff duties from wider considerations of tactics and strategy and the directing staff were encouraged to ensure that 'the closest touch … be maintained between the officers in charge' of the two sections. Staff were informed that 'it should be rare that an outdoor exercise should take place which does not involve the presence of both [sections'] officers', and great care was also taken to guarantee that the two sections complemented each other rather than became watertight. Aside from the comparatively simple exercises delivered to students in their first term at the College, directing staff were instructed that,

> there can be hardly an outdoor exercise set for the purpose of teaching Strategy or Tactics, which does not involve a close consideration of Staff Duties, and, conversely, to get the best value out of any Staff Duties scheme, either Strategy or Tactics, or both, must be considered.[41]

Students were taught through both lectures and practical exercises. The curriculum was designed to ensure that information disseminated through the former could be tested by completion of the latter. The importance of the practical exercise as a pedagogical tool was increasingly recognised in the years prior to 1914. As Philip Howell observed, the 'lecture system [was] beginning to lose credit' within the Staff College shortly before the First World War. While he acknowledged that lectures provided 'knowledge in the easiest possible form', he criticised their inability to exercise the qualities an officer most required: 'his powers of reasoning, deduction, decision and determination'. He argued that far more value could be derived from participation in practical schemes than by 'mere narration', and that 'if a census of opinion were sought for from Staff College graduates of recent years, the majority would, I believe, agree that three hours spent on an average tactical or strategical scheme were worth six hours spent listening to six average lectures on similar subjects'.[42]

---

[40]Staff Duties and Service of Maintenance comprised the second section, with the first covering History, Strategy, and Tactics. See LHCMA, Montgomery-Massingberd 4/4, Instructions for the Directing Staff, 8 April 1913.
[41]Ibid.
[42]LHCMA Howell 5/1/4 Notes on the Report of the Committee on the Organization and Training of the Royal Naval War College, 1913, pp. 3–4. Unless stated otherwise, all quotations in this passage are derived from this source.

However, the lecture continued to occupy a prominent place within the curriculum before the First World War. At Quetta in 1913, students of the Junior Division received fifteen lectures that discussed the Waterloo campaign of 1815 in exhaustive detail.[43] The lecturers in the Staff Duties and Maintenance section also included historical content, frequently combined with information about the organisational structure of the British Army and the armies of other, chiefly European, powers. Lieutenant-Colonel Thompson Capper delivered seven lectures on the subject of Railways in War during 1903, which alongside describing the management of railways in peacetime and outlining the relationship between the general staff and railway staff of an army, also drew upon examples and topics for further elaboration from the Prussian campaign against Austria in 1866, the failures of French railway planning in 1870, Russian and Romanian experiences in 1877, and Britain's use of railways in South Africa.[44]

The lecture programme was augmented by occasional papers from experts in the field, civilian and military, in which questions of supply and transport featured often. Wilfred Tetley-Stephenson, an academic at the London School of Economics and former employee of the North-Eastern Railway, provided students at Camberley with a talk on railways in war both on 20 November and 6 December 1909, while Major Crofton Atkins (Chief Instructor at the Army Service Corps' School of Instruction) discussed 'living on the country' on 4 December of the same year.[45] At Quetta, Captain P. C. Sanders of the Supply and Transport Corps delivered a guest lecture entitled 'the working of motor lorries on lines of communication as compared with pack and cart transport' on 18 January 1912.[46] These optional lectures took place outside the scheduled teaching programme, which afforded students with a keen interest in the subject an opportunity to deepen their knowledge of material covered elsewhere in the syllabus. However, the surviving records do not provide further information on how well attended such lectures were, nor on the nature of the discussions they inspired among the students who chose to attend. It is also impossible to discern from the existing documentation the differences between, for example, Tetley-Stephenson's treatment of railways in war as opposed to the content of the seven lectures on the

---

[43]Archibald Montgomery's lecture notes are preserved in LHCMA Montgomery-Massingberd 4/11, Lecture on Waterloo Campaign. He covered the campaign in Virginia in 1862 in a similarly thorough manner, see Montgomery-Massingberd 4/13.
[44]JSCSC CR/1903/2/9 Lectures and Schemes, Senior Division, 24 January 1903.
[45]National Army Museum (hereinafter NAM) Loch 9412-249-216, 9412-249-217, and 9412-249-219, Programmes of Work for week ending November 20, December 4, and December 11, 1909.
[46]LHCMA Montgomery-Massingberd 4/1 Staff College Orders, Friday 12 January 1912.

subject delivered to the Senior Division by Colonel Perceval earlier in the year, or for that matter, by Capper a decade earlier.[47]

While little material has survived to help construct the content of individual lectures in the Staff Duties and Maintenance section, the lecture titles catalogued in the weekly timetable of activities at Quetta indicate the subjects considered by the directing staff to be crucial components of their students' education. In 1912 and 1913, the Junior and Senior divisions received lectures on supply and transport systems in Britain and India, railways in the Franco-Prussian War, supply in the Second Afghan War, railways in Manchuria, lines of communications, the use of railways for concentrating troops in India, the maintenance and movement of large forces and the protection of lines of communications, mechanical transport, and roadmaking among others.[48] In many cases, the subjects of the lectures were directly linked to the content of schemes undertaken by the students at the same time, providing them with the opportunity to immediately apply their newly acquired knowledge to practical exercises.

The complexity of those exercises increased significantly as students progressed through the course. Indeed, many of those presented to students in the Junior Division comprised comparatively straightforward, mundane administrative tasks that changed little in the period between 1903 and 1914. In one early exercise students were given a week to compile a table that recorded the road space that would be occupied by all units on the march on a normal road with both their first line and second line transport.[49] To identify the correct lengths for each column, students merely had to consult the *Combined Training* manual and make a few straightforward calculations. Yet the activity's simplicity instilled in those who completed it an appreciation of a modern army's size. Figures provided to the students the following month illustrated that a single army corps travelling with its second line transport on a standard road occupied more than twenty-nine miles of road space – a substantial logistical challenge to coordinate.[50]

---

[47]See NAM Loch 9412-249-192 and 9412-249-193 Programmes of Work for week ending February 6 and February 13, 1909. The content of Capper's lecture is likely to have been similar to that contained within his remarks addressed to the General Staff in TNA WO33/2747, Report of a Conference and Staff Ride as carried out at the Staff College by Senior Officers of the General Staff, Concentration and Movement of Troops by Rail by Colonel T. Capper, 3 January 1905.
[48]LHCMA Montgomery-Massingberd 4/1–2, Orders Staff College Quetta, 1912 and 1913.
[49]JSCSC CR/1904/1/25 Junior Division, Staff Duties, 12 March 1904.
[50]JSCSC CR/1904/1/36 Road spaces, 11 April 1904, p. 3.

Subsequent practical schemes shifted the students' focus far beyond standard roads, and emphasised the breadth of environments in which British forces could feasibly be called upon to serve. For a Staff Tour in South Wales in June 1903, the students of the Senior Division were provided with a scenario in which a 'hostile tribe' of 5,000 men had 'raided the frontier of a state under our protection'.[51] A 'punitive force' comprising a regiment of Bengal cavalry, two battalions of Indian and four of British infantry, four British mountain batteries and 70 headquarters troops was to 'occupy the Tawe Valley and impose penalties on the tribe'. While students were offered the chance to increase their forces to take account of the 'probability of vigorous opposition' that their proposed advance was likely to face, they were advised that 'difficulties as to supply will limit the strength of the numbers' they could deploy. Indeed, central to the task confronting the students was the condition of the road network, which was 'reported to be very bad, and only suitable for pack transport'.

The mountains of Eryri represented the North-West Frontier of India during the Senior Division's summer Staff Tour for many years. By 1911, the instructions issued to the students before the tour commenced distinguished between cart roads, camel roads, mule roads and foot tracks. However, to ensure the students did not merely assume that roads would be available for use as soon as their advancing forces took possession of them, the instructions advised that routes 'would require considerable repairs before they could be used again'.[52] As noted in a paper submitted by Captain G. H. Morris, a student during the 1905 tour: 'In determining the plan of operations, the first matter to be considered is the line of advance from which the main blow shall be struck'. That choice, he acknowledged, was influenced both by the principal objective of the mission, defeating the enemy, and by the question of which was 'the best of three self-evident, and only, routes from the point of view of ease of progression and eventual establishment as a permanent line of communication?'[53] Morris' note emphasises the key message of the exercise, and of many of the other schemes undertaken by the College's students, that the availability of suitable lines of communications constrained the tactical and operational choices open to the commander in the field.

Schemes that concentrated on railway transport considered the same constraints at a strategic level. Alongside understanding the importance and physical limitations of roads, developing in students a sound appreciation of railway transport's capabilities

---

[51]JSCSC CR/1903/2/62 Senior Division, Staff Ride, Mountain Warfare and Arrangements. All quotations in this passage are taken from this source.
[52]JSCSC CR/1911/2/64 Staff Tour in Wales, General Idea (Notes for guidance and information), 26 June 1911, p. 2.
[53]Imperial War Museum (hereinafter IWM) HHW 3/2/1 Minute to the Viceroy by G. H. Morris, p. 1.

and their most effective application to the requirements of military operations was integral to the Staff College's curriculum. Students were repeatedly presented with schemes that demanded them to identify a railway network's capacity and how best to use the medium under wartime conditions. One of the earliest exercises presented to the students informed them that an army corps and cavalry brigade were assembling around Easthampstead (roughly eight miles north of Camberley). Three parties of students were assigned the task of detraining either a division or the cavalry brigade and corps troops at the local stations of Wokingham, Blackwater, and Sunningdale. Each party had a day in which to provide,

> a plan of the Station showing all particulars which it is necessary for me and for the O[fficer]'s C[ommanding] Units detraining to know. Any information you cannot get on the plan may be shown in a short report if necessary. Working plans and sections for any additional accommodation required must be given.

> I want to know the rate you can receive troops trains. Civil traffic can be suspended but I want to do this for as short a time as possible.[54]

As the year progressed, the complexity of the railway exercises increased. For one scheme students were challenged to undertake a reconnaissance of the line between Blackwater and Reading, operating under the assumption that 'all important bridges and tunnels and water tanks [had been] destroyed by the enemy; the reconnaissance is to determine the description of stores necessary for repairs, the capacity of railway and rolling stock, and the method to be adopted in working it' once the repairs had been carried out.[55] In another, groups of students were tasked to entrain 4 Division and 12 Lancers to meet an enemy invasion at Plymouth. The scheme demanded the movement of 392 officers, 12,543 men, 4,808 animals, 631 vehicles, 66 guns of varying calibres, seven motors and four pontoons, all of which had to be entrained at Ascot, Ascot West, or Sunningdale stations. Each party had to identify the number and composition of each train they required (which could not exceed sixty axles in size), produce a timetable for their arrival and loading at each of the three entraining stations, chart their journey across southern England to Plymouth, and draft the orders for the move to be issued to the officers commanding the troops involved. To further simulate the immediacy of wartime demands, the parties were presented with their instructions at 11 a.m. on 26 March and had to submit their completed reports by 7 p.m. the following day.[56]

---

[54]JSCSC CR/1903/2/8 Railway Exercise I, 3 February 1903. Variations of this exercise appear in the syllabus every year up to the First World War.
[55]JSCSC CR/1904/2/24, Staff Duties, 24 February 1904.
[56]JSCSC CR/1911/2/36 Railway Control Exercise II, 27 March 1911.

As the prospect of conflict with Germany loomed ever larger in British strategic considerations before 1914, the Staff College increasingly sought to provide the students with exercises that emphasised the interconnected nature of the modes of transport necessary for effective military operations. Camberley hosted a series of exchanges, joint lectures, coastal tours, and schemes that provided opportunities for students to work closely with Royal Navy officers on the challenges of embarkations, disembarkations, amphibious landings, and opposed re-embarkations.[57] This, and the examples discussed above, demonstrate that the Staff College presented its students with a range of practical exercises designed to make them consider the difficulties of moving a modern army. Whether by road or rail, by mule or motor lorry, by land or sea, those who graduated from Camberley and Quetta did so with a sound understanding of the capabilities and limitations of military logistics that would govern their future operations.

However, the content of the curriculum was not immune from criticism. Archibald Wavell, who graduated from Camberley in 1910, felt that the administrative component of the course was 'weak … especially supply and transport. It was never rubbed into us that all operations were entirely dependent on transportation'.[58] Alongside the criticism that the College's directing staff did not sufficiently extol logistics' importance, Arthur Green's chief complaint of the curriculum was that it was 'too academic'. He went on to explain that,

> At the Staff College they knew a lot about strategy and tactics, military history, reconnaissance work, and all that you might call the higher theoretical aspects of war, but it never occurred to them that *in war* it might be necessary to wash and de-louse a soldier's socks and clothes and to provide him with baths and changes of raiment … And not only one soldier, but hundreds of thousands. They hardly seemed to know there was such a thing called 'War

---

[57]NAM Maxwell 7807-25-7 diary entry 11 April 1906; Simon Batten, *Futile Exercise? The British Army's Preparations for War 1902–1914,* (Warwick: Helion, 2018), p. 73; Duncan, 'Military Education of Junior Officers in the Edwardian Army', p. 200. Similar exercises took place at Quetta, see Godwin-Austen, *Staff and the Staff College*, p. 251. Examples of the type of scheme assigned are JSCSC CR/1908/2/26, 27, 35, Combined Naval and Military Staff Tour, 23 March 1908; Embarkation Scheme, Southampton, 25 March 1908; Disembarkation Scheme (Second Tour), 16 May 1908.
[58]Quoted in Keith Jeffery, *Field Marshal Sir Henry Wilson: A Political Soldier,* (Oxford: Oxford University Press, 2006), p. 70.

> Administration'. The instruction at the Staff College was academic enough to leave out of consideration nearly all of those domestic but vital matters.[59]

While Green acknowledged that he learned 'such things as the organisation and functions of a field ambulance, a supply column and so on' at Camberley, it was not until he was immersed in the 'harder school of war' after 1914 that he felt appreciated what military administration really entailed.[60]

The lectures and exercises discussed above demonstrate the breadth and complexity of the education in logistics matters that was provided by the Staff College. However, Green's observation does pick up on the fact that the curriculum at Camberley contained two glaring omissions: scale and duration. By 1906, Major-General James Grierson was able to assert that 'a war in alliance with France against Germany appears to be within the bounds of possibility'. In the same document, he laid bare the difference between the 120,000 troops Britain (at that time) would be able to field and the French and German forces numbering three-and-a-half million and four-million men respectively. Upon his arrival at the Staff College in the same year, Wilson 'began to preach the likelihood of a European war' and increased the volume of teaching explicitly devoted to the subject.[61] Yet no real thought was given to the possibility that the course of a Franco-German war might require a substantial increase in the size of the British Army. Grierson's memorandum merely stated that 'the soundest policy would perhaps be to devote our attention to keeping up the force … in a state of absolute efficiency in all respects' through the provision of drafts amounting to 'about 20,000 men every three months'.[62]

The Staff College's approach was no different. There is no evidence in the Camberley Reds of students being asked to consider the difficulties that would be associated with training large bodies of men, or of the daunting prospect of having to feed a million men on campaign overseas, or of having to ensure steady supplies of equipment along a vast line of communications. Henry Wilson himself was pro-conscription, yet his support for the policy did not extend beyond the provision of a lecture on the subject that caused 'a tremendous lot of chat' among the students.[63] Across Wilson's tenure as commandant, as well as those of his predecessors and successors during the period

---

[59]A. F. U. Green, *Evening Tattoo: The Story of a Soldier Who Gained Sixteen Decorations & Two Brevets & Was One of the Youngest Brigadier-Generals in France,* (London: Stanley Paul & Co., 1941), pp. 33–34.

[60]Ibid., p. 37.

[61]Jeffery, *Field Marshal Sir Henry Wilson*, p. 79.

[62]LHCMA Robertson 1/2/6 Memorandum upon the military forces required for overseas warfare, pp. 6–7.

[63]Jeffery, *Field Marshal Sir Henry Wilson*, pp. 75–77.

1903–1914, the imaginative horizons of the Staff College were limited to the operations of a force that never comprised more than the six infantry divisions, cavalry division, and supporting units earmarked for the British Expeditionary Force.

The students' deliberations on the question of how that force would be deployed were similarly circumscribed. The so-called 'Belgian scheme' presented to the Senior Division in 1908 presented a scenario in which Germany and France had commenced mobilisation on 21 November, and war had been declared two days later. The students' first task was to 'prepare a memorandum setting forth [the General Staff's] views as to the most effective means of employing the British Expeditionary Force' once its mobilisation was complete on 26 November.[64] Five days later, the students received the second exercise linked to the scenario. The document comprised a summary of the activities of the belligerents' forces between 23 November and 3 December, and an instruction for each syndicate to write orders and despatches to be issued to the British forces and the Secretary of State for War respectively on 3 December.[65] There were no more exercises linked to the scheme, meaning that the students were concerned with their roles and responsibilities at the outbreak of a major continental war for just two weeks, a period in which the students were not tasked to consider such challenges as the exhaustion of stockpiles of critical materials, the need to conduct a lengthy retreat, or the movement of troops and goods around a theatre of operations choked by civilians fleeing from the front line.[66]

Consequently, it was only after August 1914 that,

> We learnt by real practical experience how to handle transport. This meant the combinations and permutations of the first and second line wagons, pack transport, train, corps and army echelons, and bus companies. It included light railways and broad gauge. All these had to be brought into use to transport troops, ammunition, supplies and all the unforeseen requirements of war at the shortest notice in any direction; over roads that had been cratered, were under shell fire, or in bad condition; roads that had to be traffic circuited and timed to avoid congestion and to allow of repairs.

---

[64]JSCSC CR/1908/2/76 Study of operations involving the employment of the British Expeditionary Force on the Continent of Europe, 23 November 1908.

[65]JSCS CR/1908/2/78 Belgian Scheme, Part II, 28 November 1908.

[66]On the BEF's experiences of these issues in 1914, see Hew Strachan, *The First World War: To Arms,* (Oxford: Oxford University Press, 2001), pp. 997–1001; Peter Hart, *Fire and Movement: The British Expeditionary Force and the Campaign of 1914,* (Oxford: Oxford University Press, 2015), pp. 148–179; Christopher Phillips, *Civilian Specialists at War: Britain's Transport Experts and the First World War,* (London: University of London Press, 2020), pp. 97–100.

> A good 'Q' officer must have an intimate knowledge of all of the above so that he can put his transport into operation in the best fashion without undue delay. This he cannot do without a great deal of practice. No book work can do more than give a grounding.[67]

In comparison to Nicholson's wartime experiences, even the most complex of scenarios considered within the walls of Camberley and Quetta appear quaint in their simplicity. Questions about transhipment, the integration of multi-modal delivery systems, or the creation and maintenance of efficient depots for myriad categories of stores and supplies – not to mention the challenges involved in maintaining lines of communication for sustained periods of time within proximity of the enemy – were not dwelt upon at the Staff College.

Furthermore, education in the fields of supply and transportation at the Staff College suffered due to the subject's reputation. As Thompson Capper, an officer with eight years' experience of teaching staff duties to officers (three of which were spent at the Staff College) admitted, 'it is … difficult to make them interesting. Staff Duties is not an interesting subject'.[68] Consequently, as Godwin-Austen recalled in the post-war history of the Staff College, those assigned to logistics duties at the outbreak of war were objects of pity.[69] For many, the disappointment of receiving a post on the lines of communication could be ascribed to the perception that administrative posts reduced an officer's opportunities for career enhancement. However, for some, such as the future Field Marshal Edmund Ironside, a posting to oversee the loading of machinery on board ships at Avonmouth Docks was 'not to his taste' as he felt it unsuitable for someone of his abilities. 'I can well remember my rage and despair at being given *such a pedestrian task*. I had been a Staff officer for nearly five years and had served with the Cavalry, Infantry and Transport, as well as with the Artillery … Surely one could have been given something more suited to one's attainments?'[70] Indeed, Ironside's previous experience and linguistic skills – he spoke seven foreign languages fluently – were impressive, and he did go on to achieve an independent command role by the end of the war. However, as noted by his grandson and biographer, Ironside's assigned role at Avonmouth was 'a vital job that needed doing by someone or other

---

[67]Walter Nicholson, *Behind the Lines: An Account of Administrative Staffwork in the British Army, 1914–1918,* (London: Jonathan Cape, 1938), p. 213.
[68]LHCMA Capper 2/4/4 Lecture delivered to Members of the Royal Military Society of Ireland, at Dublin, 29 February 1912, p. 2.
[69]Godwin-Austen, *Staff and the Staff College*, p. 262.
[70]Edmund Ironside, *Ironside: The Authorised Biography of Field Marshal Lord Ironside,* (Stroud: The History Press, 2018), p. 57. Emphasis added.

and was really no more degrading than the sorts of postings assigned to his classmates'.[71]

The temptation to concentrate on the glamour of command over the pedestrian mundanities of supply – and on battlefield tours and social events over 'details … thought to be petty and beneath the notice of the big-minded man' – has produced an incomplete picture of the Staff College's contribution to military education between the South African War and the First World War.[72] This article has demonstrated that the army did engage with the administrative requirements that underpinned the conduct of modern warfare before 1914. Through a detailed analysis of the curriculum delivered to students at the Staff College, it has shown that there was not 'too much emphasis on sport and games and too little emphasis on the basic administrative functions of staff officers'.[73] The British Army did talk logistics, and its vocabulary responded to the changing strategic environment in which it expected to be deployed.

Students were introduced to a broad range of the circumstances likely to confront an army on campaign, in scenarios that captured the breadth of potential operations the British Army of the time was liable to be called upon to undertake. The plurality of Britain's strategic interests meant that prospective staff officers and commanders had to be proficient both in their understanding of the operations of railway transport and their knowledge of pack mules' road space requirements. The Staff College's curriculum challenged them to engage with these means of communication and many more besides, through the production of written work and through participation in practical exercises that aimed to replicate as closely as possible the 'difficulties and disappointments which so frequently crop up in war … in the most unexpected way'.[74]

However, the Staff College's ability to accurately recreate the specific challenges of 1914–1918 was heavily circumscribed both by the conceptual timidity of the army itself, and the wider organisational and political constraints of the society it existed to protect. As late as 1913, when the location and identity of Britain's most likely opponent in a major war had clearly been recognised – and discussions as to how the threat should be confronted had been ongoing within and beyond the Staff College for many years – the army's system of supply remained 'based on our experience of warfare in less civilized countries where everything has to be got from a remote oversea base', and the army itself remained miniscule in comparison to the gigantic

---

[71]Ibid., p. 58.

[72]William Robertson, *From Private to Field-Marshal,* (London: Constable & Company, 1921), p. 175.

[73]Ian Beckett, Timothy Bowman and Mark Connelly, *The British Army and the First World War,* (Cambridge: Cambridge University Press, 2017), p. 28.

[74]IWM Documents 21220 Lecture by Sir William Robertson, 4 December 1912, p. 3.

armies assembled across the Channel.[75] To solve those challenges from 1914 onwards, the British Army was compelled to learn the hard way.

[75]Arthur Forbes, *A History of the Army Ordnance Services,* (London: Medici Society, 1929), p. 3.

The Equine Learning Curve: Horses and mules in British Army transport services during the First World War

LUCY BETTERIDGE-DYSON*
Independent Scholar, UK
Email: *lucybetteridge@me.com*

ABSTRACT
This article combines research methodologies from military history and animal studies to write equines into the history of the First World War. In doing so, it seeks to demonstrate how considering the animal perspective can advance our understanding of conflict at an individual and operational level. It proposes that the horses and mules used in British Army transport services were not just passive victims as they are often portrayed, but sentient beings who played an active role in operations.

Introduction
Whilst it is widely acknowledged that equines participated in the First World War, the popular narrative often over-simplifies and sentimentalises their contribution, framing them as little more than mute victims of a vicious human conflict.[1] This perspective is informed by wider mythologies of mud, blood and futility, and is reflective of the fact that as animal behavioural historian Stephen Budiansky states 'horses have been enveloped in human dreams, myths, ambitions and sentiment for so long, that the story we have come to think of as theirs, is often but a distorted reflection of our own' – thus, the true experience of the equine is often overlooked.[2] Though equines are not totally ignored in the war's historiography, they are largely absent in historical reconstructions and research has focused on their use in the

---

*Lucy Betteridge-Dyson is a historian, author and lifelong horse lover.
[1]Jilly Cooper, *Animals in War,* (London: Corgi, 1984); Simon Butler, *The War Horses: The Tragic Fate of a Million Horses Sacrificed in the First World War,* (Wellington: Halsgrove, 2011); Michael Morpurgo, *War Horse,* (London: Kaye & Ward, 1982).
[2]Dan Todman, *The Great War: Myth and Memory,* (London: Hambledon Continuum, 2005); Stephen Budiansky, *The Nature of Horses: Their Evolution, Intelligence and Behaviour,* (London: Phoenix, 1997), p. 1.

cavalry, with little attention given to the experience of the far greater number of horses and mules working in transportation.[3] Yet as has been demonstrated by Sandra Swart and Gervase Philips, analysing this equine experience not only advances our understanding of conflict at an individual and operational level, but can provide insights into the character of warfare itself.[4] This article seeks to demonstrate how this can be achieved by combining animal and military history research techniques, to present an equine-centric narrative of the British Expeditionary Force's (BEF) transport services on the Western Front.

Animal history is a historical subfield that has grown substantially over the past two decades. Its primary aim is to challenge human exceptionalism in recognition of the fact that 'there has never been any purely human moment in world history'.[5] The inclusion of the animal turn can shift our perspective, just as the widening of the lens through which events are perceived to include previously marginalised groups (such as women or enslaved peoples) has enriched our understanding of a range of military topics.[6] To achieve this the article will explore the influence of equines as independent actors to build on Swart's theory that by examining the view from *below* the saddle rather than *from* the saddle, a greater understanding of how equines influenced war can be found.[7] The British Army's approach to equine management and changes in transport methodology will also be analysed, to better understand how the developing relationship between the BEF and its equines effected the war effort. This will contribute to a body of scholarly work based around the learning process, which

---

[3]Spencer Jones, 'Scouting for Soldiers: Reconnaissance and the British Cavalry, 1899-1914', *War in History,* 18 (4) (2011), p. 511; David Kenyon, *Horsemen in No Man's Land: British Cavalry & Trench Warfare 1914-1918,* (Barnsley: Pen & Sword, 2019); Stephen Badsey, *Doctrine and Reform in the British Cavalry 1880-1918,* (London: Routledge, 2008).

[4]Sandra Swart, '"The World the Horses Made": A South African Case Study of Writing Animals into Social History', *International Review of Social History,* 55 (2) (2010) pp. 241-263; Sandra Swart, 'Horses in the South African War, c.1899-1902', *Society and Animals,* 18 (2010) pp. 348-366; Gervase Phillips, 'Writing Horses into American Civil War History', *War in History,* 20 (2) (2013) pp.160-181.

[5]Susan Nance, *The Historical Animal,* (New York: Syracuse University Press, 2015), pp. 5-6.

[6]Panikos Panayi, 'Minorities' in Jay Winter (ed), *The Cambridge History of The First World War: Volume 3 Civil Society,* (Cambridge: Cambridge University Press, 2014 [2016]), pp. 216-241; Susan Grayzel, *Women and the First World War,* (London: Routledge, 2002); Richard Fogarty, 'African Labour in Europe', https://encyclopedia.1914-1918-online.net/. Accessed 5 January 2021.

[7]Sandra Swart, *Riding High: Horses, Humans and History in South Africa,* (Johannesburg: Wits University Press, 2010), pp. 254-258.

suggests that the British Army went through a period of transformation as it adapted to modern industrialised warfare.[8] Many historians now accept this theory, but as Philpott points out, it is a highly complex model that requires more thematic study to fully understand 'the British army's way of war, as well as the false starts and trials along the way'.[9] By exploring how the army's attitude towards equines and their usage changed throughout the war, this article hopes to provide an example of how consideration of the animal experience can be a valuable tool in developing existing theory.

Notes on Methodology

In order to widen the historical lens to include animals, it is necessary to rely heavily on anecdotal primary sources, as equines have left no direct oral or written accounts attesting to their experiences. In doing so, it is important to remember the limitations of subjective evidence that was written after events, such as memoirs. Authors may misremember details and have a tendency to impart human emotions onto their equine counterparts which can distort findings.[10] Relying on personal accounts is therefore not without controversy, as ultimately the sources in use emanate from people, and so it could be argued that we are still not really looking at animals, but at the representation of animals by humans.[11] However, as Hilda Kean has noted 'human authored texts can provide insights that are not merely reducible to the human perspective' when the agency of animals is demonstrated through their actions.[12]

Equine Agency

Meeting the subsistence requirements of troops and the increasing use of artillery placed huge demands on the BEF's logistics network, with 5,253,338 tons of

---

[8]Gary Sheffield, *Forgotten Victory: The First World War: Myths and Realities,* (London: Review, 2002 [2001]), p. xvii.

[9]William Philpott, 'Beyond the 'Learning Curve': The British Army's Military Transformation in the First World War', *RUSI,* 7 October 2015 https://rusi.org/explore-our-research/publications/commentary/beyond-learning-curve-british-armys-military-transformation-first-world-war. Accessed 16 January 2024.

[10]Andrew McEwen, '"He Took Care of Me": The Human-Animal Bond in Canada's Great War' in Susan Nance (eds) *The Historical Animal,* (New York: Syracuse University Press, 2015), pp. 273-275.

[11]Erika Fudge, 'A left-handed blow: Writing the history of animals' in Nigel Rothfels (eds) *Representing Animals: Theories of Contemporary Culture*, (Bloomington: Indiana University Press) 2002, p. 6.

[12]Hilda Kean, 'Challenges for Historians Writing Animal-Human History: What is Really Enough' *Anthrozoös* 25 (s1) (2012), p. 61.

ammunition alone shipped to France between 1914-1918.[13] In such a materiel-intensive conflict, efficient transportation became central to maintaining operational tempo, as when, for example, demand for munitions outstripped supply, artillery could not be used and offensives stalled or failed.[14] Although the BEF's supply system increasingly utilised Motor Transport (MT) to move materiel from the railheads, horse transport remained the primary means of transporting goods from divisional supply dumps to forward units throughout the war.[15] The history of BEF logistic services can therefore be conceptualised as interspecific: that which exists or occurs between two different species.[16]

Although equines working in transportation greatly influenced BEF operations, scholarly works on logistics remain anthropocentric in approach; regarding equines as tools utilised by man rather than sentient beings, whose needs and behaviours had a direct effect on the war effort.[17] This is perhaps because as Clausewitz contended, war is an inherently human phenomenon.[18] It 'privileges human language and chronology over smells, images, physical sensations and emotions' and thus the experience of nonhumans is largely ignored.[19] One way to move beyond the anthropocentric is to credit the BEF's equines with agency when analysing personal accounts. By asserting that independence of thought is not exclusive to humans and centring the equine

---

[13]Clem Maginniss, *An Unappreciated Field of Endeavour: Logistics and the British Expeditionary Force on the Western Front 1914-1918,* (Warwick: Helion & Company, 2018), p. 57.

[14]Hew Strachan, 'Shells Crisis of 1915', https://encyclopedia.1914-1918-online.net/article/shells_crisis_of_1915. Accessed 3 January 2022; Christopher Phillips, *Britain's Transport Experts and the First World War,* (London: University of London Press, 2020), p. 322.

[15]A.M. Henniker, Official History of the Great War: Transportation on the Western Front 1914-1918, (The Naval & Military Press Ltd), p. 330; Graham Winton, *Theirs Not to Reason Why: Horsing the British Army 1875-1925* (Warwick: Helion & Company Limited, 2013), p. 208

[16]Greg Bankoff & Sandra Swart, *Breeds of Empire: The 'invention' of the Horse in Southeast Asia and Southern Africa 1500-1950,* (Copenhagen: NIAS, 2007), pp. 10-11; Ian Malcom Brown, 'Logistics', in Jay Winter (ed), *The Cambridge History of The First World War: Volume 2 The State,* (Cambridge: Cambridge University Press, 2016), pp. 220-221.

[17]Nance, *The Historical Animal*, p. 5; Phillips, 'Writing Horses into American Civil War History', p. 60.

[18]Carl Von Clausewitz (translated by Miss Maguire), *On War*, (London: William Clowes & Sons, 1909), p. 57.

[19]Nance, *The Historical Animal*, p. 5; Phillips, 'Writing Horses into American Civil War History', p. 60.

decision, we can consider how they influenced the men around them and events on the battlefield.

Much like humans, the decisions equines make are determined by a complex combination of their environment, genetics and lived experiences. These factors all play a role in shaping the equine's temperament/personality and as Geoffrey Brooke observed of Jack Seely's horse Warrior: 'horses, like men, vary in character'.[20] Mules for instance, have noticeably different personalities to horses. They are described by soldiers as intelligent, independent, suspicious, cunning, or crafty – their distinct traits the cause of both amusement and frustration.[21] The mule's stubbornness is a manifestation of its talent for self-preservation. This 'ever-present sense of apprehension' can be of great benefit to the mule's driver/rider: if a mule takes care of itself then it follows that it will also take great care of its cargo.[22] Studies have shown that the mules' cognitive ability is greater than that of horses, and research demonstrates their hybrid vigour provides them with the ability to think beyond any given moment and comprehend their place and role in situations.[23] Corporal Harry Forrester of the Royal Field Artillery (RFA) recalled a driver of an ammunition limber 'thrashing' a mule that refused to move forward over a bridge. Harry, who was a blacksmith by trade, understood that the mule must have had a reason for not moving forward, so investigated to find the bridge had been blown further forward – 'this mule had sensed it and would not go'. Harry credited 'mule 141' (a number he remembered some 70 years later) with saving him and his men from disaster.[24] The independent decision of this mule to not cross the bridge saved the limbered wagons and ammunition from destruction, allowing Forrester to signal that an alternative route forward needed to be found. That equines could sense things that humans could not had other practical benefits; for example, they often alerted their riders/drivers to things beyond human sight and hearing, such as enemy cavalry riders in the distance, or approaching aircraft.[25] Captain L.E.L. Taylor had a black mare who could even tell the difference between allied and enemy aircraft, providing advanced warning to

---

[20]Jack Seely, *Warrior: The Amazing Story of a Real War Horse,* (Newbury: Racing Post Books, 2011),p. 104.

[21]Imperial War Museum (hereinafter IWM) 10061, Harry Forrester (Oral history); IWM 32096, unknown British bombardier; Blenkinsop & Rainey, *History of the Great War,* p. 93; Ronayne, *Amateur Gunners*, p. 120; Temple Clarke, *Transport and Sport,* p. 86.

[22]Sidney Galtrey, *The Horse and the War,* (London: Butler & Tanner, 1919), p. 46; Lorraine Travis, *The Mule,* (London: J.A. Allen, 1990), p. 4.

[23]Leanne Proops, Britta Osthaus & Faith Burden, 'Mule cognition: A case of hybrid vigour?', *Animal Cognition* 12 (1) (2009).

[24]IWM 10061, Harry Forrester.

[25]Seely, *Warrior,* p. 108.

troops of incoming attacks.[26] This behaviour is reflective of the fact that equines are adept at learning through association. They are able to detect the subtlest of signs that predict a known outcome, such as the sound of the feed room door opening ahead of mealtime. Though Taylor's mare did not actually know the engine sound belonged to an enemy aircraft, resulting events following the slightly different sounds will have shaped a behavioural change in her over time, to the benefit of the men around her.[27] The ability to exploit the natural instincts and cognitive functions of horses (either deliberately or accidentally) could therefore be of great value on the battlefield in unexpected ways.

Learning through association coupled with distinct personality traits also had downsides, however. Frederick Sanders described a mule nicknamed Boxer who had a habit of standing on its rear legs and thrusting out its forelegs to kick anyone who approached it.[28] As a result, this mule had to be picketed on its own and could not be handled by any man in the unit.[29] Boxer likely initially kicked because it was fearful, but, having learnt that this action resulted in being left alone, formed a habit of this disruptive behaviour.[30] No further details are provided as to Boxer's fate, however Alexander Thorburn recounted a similar tale of a mule named Iron Cross who would 'beat a man's brains out with his fore-feet'.[31] Iron Cross could not be handled at all and was left chained to a wheel, until he bonded with one particular driver and could finally be put to work. In these examples, the mules' unwillingness to cooperate with certain humans was expressed through violence which could cause significant disruption and even harm, but sometimes the equines' desire to avoid being put to work/handled took more subtle forms. Captain Charles Rose recalled how one horse, Shrapnel, would suddenly go lame when saddled to go up to the front line at night. After closer inspection from veterinary staff, it was determined that there was nothing medically wrong with Shrapnel and that he was in fact, faking his lameness. Rose concluded that he simply 'did not like it [going out at night]'.[32] The decisions of these animals as to who they chose to accept a bond with, their preferred outcomes and

---

[26]D.S. Tamblyn, *The Horse in War: Horses & Mules in the Allied Armies During the First World War, 1914-18,* (London: Leonaur, 2011) pp. 45-46.

[27]Daniel Mills & Sue McDonnell, *The Domestic Horse: The Evolution, Development and Management of its Behaviour,* (Cambridge: Cambridge University Press, 2005), pp. 173-179.

[28]IWM 8273, Frederick Arthur Sanders (Oral history).

[29]Ibid.

[30]https://paintedqhfarm.weebly.com/mule-facts.html. Accessed 7 January 2022.

[31]Ian Ronayne, *Amateur Gunners: The Great War Adventures, Letters and Observations of Alexander Douglas Thorburn,* (Barnsley: Pen & Sword, 2014), pp. 124-125.

[32]Richard van Emden, *Tommy's Ark: Soldiers and Their Animals in the Great War,* (London: Bloomsbury, 2010), p. 145.

how they chose to express these decisions, could make the difference between them having a positive impact and contributing to a unit's work, or simply absorbing soldiers' valuable time in their care.

These testimonies show that equines could positively and negatively influence the soldiers who worked closely with them and that their decisions could therefore be an important factor in whether the movement of soldiers or supplies was successful. Sociologist Bruno Latour argues that by crediting a greater number of actors with agency in any given situation, it allows for controversies about matters of concern to be mapped more easily.[33] Thus, for the military historian, historical reconstructions that consider the equine point of view, can offer a more holistic view of events.

Whilst the above demonstrates that equines had a degree of autonomy, their choices could be greatly influenced by the soldiers working with them. Writing in 1921 John Moore commented of transport equines that 'the practical command of the most useful war animals was a weapon in the hands of the Allies that went a long way towards the downfall of the enemy'.[34] On each occasion where either practical command was lacking, or usefulness of animals reduced, the BEF's advantage over the Central Powers decreased. To avoid this, horses that repeatedly exhibited unwanted behaviour were often provided with alternative roles or removed from service altogether.[35] In an attempt to control these behaviours and encourage positive equine decision making, the British Army invested in educating soldiers in horsemastership (the art of caring for horses) to enable them to communicate effectively with each animal in their care.

Learning to be Horsemasters
The growing debate between the functionality of the horse and its rights as a sentient being, were reflected in discussions regarding British Army policy in the aftermath of the Boer War, in which many equines perished unnecessarily.[36] Detailed discussion on the causes of this high wastage are out of scope of this paper, but a central reason was poor horsemastership, which Anglesey notes was 'abysmal in all branches of the army' at the time.[37] In *How Britain Goes to War: A Digest and an Analysis of Evidence taken by*

---

[33]Bruno Latour, *Reassembling the social: an introduction to actor- network-theory*, (Oxford: Oxford University Press, 2005).
[34]John Moore, *Army Veterinary Service in War,* (London: H & W Brown, 1921), p. 41
[35]Ronayne, *Amateur Gunners,* p. 126.
[36]W.T. Stead, *How Britain Goes to War: A Digest and an Analysis of Evidence taken by the Royal Commission on the War in South Africa,* (London: Review of Reviews Office, 1903), p. 175.
[37]Marquess of Anglesey, *A History of the British Cavalry Volume 4: 1899-1914,* (London: Leo Cooper, 1986), p. 356; *Minutes of Evidence,* p. 440 & pp. 526-527.

the Royal Commission on the War in South Africa, an entire chapter is devoted to understanding the mismanagement that led to 'the hideous and revolting tragedy of the torture to death wholesale of hundreds of thousands of horses' for which its author blames directly on the British Army.[38] Coverage of the Boer War 'horse wastage scandal' in the press was reflective of the increasing public interest in and wider change in public attitudes towards the welfare of horses.[39] Organisations such as the Humanitarian League and Society of the Promotion of Kindness to Animals added pressure on the British Army to reform equine services, with some even suggesting horses be afforded the same protection as humans under the 1864 Geneva Convention.[40] In response the British Army made a number of changes to improve equine supply and care in the interwar period. With the influence of men such as Lt-Col Birkbeck, Lt-Gen MacMunn, Sir John Moore and Maj-Gen Frederick Smith, the army began to recognise that not only were changes to the Remount Department and Army Veterinary Department required, but an organisational shift in the attitude towards equines was also needed to minimise equine deaths in any forthcoming conflict.[41]

By 1914 the centralisation of and investment in equine services signalled to soldiers of all ranks that horses and mules were more than just disposable, inanimate commodities and the growing pressure on the BEF's logistic system meant that equines became an increasing priority.[42] This was not only because the War Office (WO) recognised that remount supply was finite and the cost of replacing animals significant, but also a recognition that equines were living breathing participants in the war and that a transactional relationship needed to exist to get the most from them. In order to achieve this, the Army sought to recruit personnel familiar with equines and their management.[43] In 1914 many men serving in the ASC were well acquainted with horses and underwent extensive training in horsemastership and stable management; evidence that the British Army had learnt lessons from the Boer War by recognising that the majority of diseases and debility in horses in conflict could be avoided with

---

[38] Stead, *How Britain Goes to War,* p.175.

[39]'Lord Roberts and the Care of Horses in War', *Lancashire Evening Post*, 24 December 1901, p. 3; 'Light on the Horse Wastage', *Oxford Chronicle and Reading Gazette*, 28 March 1902, p. 5; *London Evening Standard,* 4 March 1902, p. 3.

[40]'Care of Wounded War Horses', *Eastern Daily Press*, 11 January 1905.

[41]Graham Winton *Theirs Not to Reason Why,* p. 33.

[42]Steven J. Corvi, 'Men of Mercy: The evolution of the Royal Army Veterinary Corps and the Soldier-Horse Bond During the Great War', *Journal of the Society for Army Historical Research,* 76 (308) (1998), pp. 276-277.

[43]Blenkinsop, Major-General Sir L.J. and Rainey, Lt-Col J.W. *History of the Great War Based on Official Documents. Veterinary Services* (London: HMSO, 1925), p. 59.

good animal management.[44] Yet, whilst many pre-war members of the ASC had good levels of horsemastership, a dilution of men skilled in the art was inevitable with the creation of the New Armies, who were recruited primarily from working class urban backgrounds, with little first-hand experience of horses.[45] The army made strides to retain and bolster institutional equine knowledge, appealing for men who had worked with horses in recruitment advertisements and creating courses to instruct officers and Non-Commissioned Officers (NCOs) on animal management. Training courses covered the basics of horsemastership, such as: recognising signs of disease and loss of condition, the importance of exercise, and tack and hoof care. They were delivered at veterinary hospitals on the Line of Communication (LOC) and though brief, demonstrated that equines should not be treated with indifference, and that ensuring their well-being was the responsibility of all – not just those serving in the Army Veterinary Corps (AVC).[46] This helped to instil a sense of individual pride in the well-being of a soldier's horses/mules – the popularity of recreational horse shows, photographs of which often show impeccably groomed horses, was both a result of and further encouraged this attitude.

In addition to training courses, people-to-people learning methods played a key role in educating soldiers in horse care.[47] During basic training, new recruits were taught how to muck out, groom and handle horses safely. Men who were already experienced with equines found their skills highly valued as great reliance was placed on them to impart their knowledge laterally as the BEF expanded.[48] As ASC recruit John Crumpton Clarke recalled, comrades sharing their experience was vital when training was lacking:

> Not having the slightest idea how to put them [harnesses] together I had to obtain help of Derickson (pre-war territorial). There was no one to give any real help and it was a question of the best man helping the others.[49]

The best men referred to by Clarke mostly came from farming backgrounds and proved vital in helping their fellow soldiers to understand and care for equines on the

---

[44]Temple Clarke, *Transport and Sport,* p. 78.

[45]John Bourne, 'The British Working Man in Arms' in Hugh Cecil & Peter H Liddle (eds) *Fighting Armageddon: The First World War Experience*, (Barnsley: Pen & Sword Books, 2003), p. 336.

[46]Blenkinsop & Rainey, *History of the Great War*, p. 60.

[47]Aimée Fox, "Putting Knowledge in Power': Learning and Innovation in the British army of the First World War' (PhD Thesis, University of Birmingham, 2015), p. 94.

[48]Jane Flynn, 'Sense and Sentimentality: The Soldier-Horse Relationship in the Great War' (PhD, University of Derby, 2016)*,* p.65

[49]IWM 15137 Private Papers of J C Clarke.

job when training time was limited.[50] They essentially acted as translators, teaching men who were unfamiliar or even scared of horses how best to communicate with them and helping them to establish a bond. A more formalised method of this peer-to-peer learning was the appointment of equine experienced Transport Officers to infantry brigades of the New Armies. These were men drawn from civilian equine industries such as hunting, horse racing and logistics, who took on a role of ensuring welfare standards of equine transport in infantry formations. Similarly experienced men were also appointed as Horse Advisors to direct Corps and Divisions on horsemastership, working alongside members of the AVC.[51]

As the war progressed however and the numbers of men unfamiliar with horses dramatically increased, this lateral learning became less effective and standards of horsemastership began to deteriorate. Writing in 1919 Lt-Col Arbuthnot of the RFA noted:

> We were too dependent on the one-man expert who becomes rare in wartime, we need to have a greater interest and more widespread horse-knowledge among both officers and men.[52]

Arbuthnot's view was shared by members of the AVC during the war. In April 1917 the Commander-in-Chief echoed concerns raised by some veterinary officers that a main cause of equine sickness was a direct result of ignorance of horsemastership in Commanding Officers and promptly sent 128 Yeomanry Officers out to Artillery units for 'horsemastership duties'.[53] Efforts to root out this ignorance and place greater emphasis on trying to extend the lifespan of animals on active service by better meeting their physical and mental needs, is evidenced in war diaries from the Quartermaster General (QMG), Deputy Assistant Director Transport (DADT) and Deputy Director Supply and Transport (DDST). These diaries contain many references not just to the supply of equipment vital to providing good horse care, but evolving instructions on how to improve the day-to-day care of animals, such as the procurement of additional rugs specifically for horses arriving from Australia who had not yet acclimatised to Northern European weather.[54] The volume of these entries reveal an institutional

---

[50]IWM 13290 John William Wing Oral history); IWM 10264 William Thompson Oral history.
[51]Blenkinsop & Rainey, *History of the Great War,* p. 61.
[52]A.Q. Arbuthnot, "Horsemanship During The War', *Journal of the Royal Artillery,* 46 (11) (1919), pp. 337-343.
[53]The UK National Archives (hereinafter TNA) WO 95/34/1 Branches and Services: Quarter-Master General, April 1917.
[54]TNA WO 95/291/2, Headquarters Branches and Services: Deputy Assistant Director Transport, May-July 1915; TNA WO 95/31/5, Branches and Services: Quarter-Master

effort to ensure that animals were not only given the basics of good care, but that they were made as comfortable as possible according to their individual needs. During the transfer of the New Zealand Divisional Artillery from Fourth Army to Second Army in October 1916 for example, care was taken not to overexert animals where it could be avoided with orders issued to leave ammunition and grenade crates in the Fourth Army area to 'ease horses on the march'.[55]

This sympathetic consideration of the horses' well-being was impressed on men through strict punishment for misdemeanours and structured checks on equine welfare. During an inspection of the 3 Division train in January 1916, the DADT Second Army noted that four Baggage Section horses that had been sent in for exchange by 4 Battalion Royal Fusiliers, had been 'overworked and neglected' - their condition was empathetically described as 'lamentable' and 'deplorable'. The DADT felt it 'quite wrong' that Baggage Section horses were detached from their ASC companies to First Line Transport (infantry brigades), as this resulted in them 'being worked without consideration'.[56] Such events reveal that the BEF's attempts to ensure excellent levels of horsemastership were not universally successful. However, when animals were found to be in poor condition or abuse was discovered reports from units were required and the consequences for individuals responsible could be severe – including docked pay and even demotion.

Along with inspections, people-to-document methods were also used to help to disseminate the organisational attitude towards horses in an official capacity. *Notes on Horse Management in the Field* compiled by the Assistant Director of Veterinary Services, 1 Division, was issued as an official handbook for transport officers in the First Army. Made explicit in this was that officers and NCOs in charge of wagon lines were responsible for the condition of their horses.[57] Likewise, *Army Service Corps Orders for Drivers* placed firm emphasis on the individual responsibility of each man for the wellbeing and care of his animals.[58] The codification of not only basic horse care instructions, but the notion of individual responsibility made it clear to soldiers of all ranks that equines were incredibly valuable.[59] This can be seen not just in the ASC/AVC but across the army where animals were used in transportation roles. For example, in the Machine Gun Corps, *The Mounted Officer's Book of Horses and Mules*

General, September 1916; TNA WO 95/27, Branches and Services: Quarter-Master General, October 1914.
[55]TNA WO 95/32/3 Branches and Services: Quarter-Master General, October 1916.
[56]WO 95/291/5, Deputy Assistant Director Transport, Feb-March 1915; Flynn, *Soldiers and Their Horses,* p. 73; IWM 8135, Private Papers of J H Reynolds.
[57]Blenkinsop & Rainey, *History of the Great War*, p. 704.
[58]Temple Clarke, *Transport and Sport,* p. 201.
[59]IWM 32096 unknown British bombardier Oral history.

for Transport: The Care of the Horse and Mule and how the harness should fit by Second Lieutenant R.T. Day was issued 'to assist those whose duties are with the Machine Gun Transport.'[60]

The booklet highlights the link between good horsemastership and effective operations, stating in the introduction:

> It is considered a point of honour for the Machine Gunner to keep his Gun firing under all circumstances, so it should be a point of honour for the Driver to keep his animal always in a fit condition and ready for any emergency.[61]

It also emphasised how a soldier's actions can influence those of his equine, and draws a link between this and the ability of a soldier to meet the state of readiness mentioned above:

> Very often the animal is put down as lazy or bad-tempered when the fault really lies with the man in whose care it is … Harsh treatment should never be meted out to mules or horses, and this applies particularly to mules, who strongly resent any beating and refuse to be worked as a consequence. But by kindness, coupled with a firm hand, much good work will willingly be done by these invaluable assistants to the Machine Gun Corps.[62]

The army's approach to horsemastership training utilised both formal and informal methods of disseminating information to teach soldiers about equines and improve their care, which bears out recent scholarship on pragmatic and adaptive learning in the BEF during this period and that 'individuals turned to each other' to gather knowledge, rather than simply relying on doctrine.[63] Soldiers were taught to view animals not just as the property of the British Army, but as theirs, and encouraged to build personal bonds with them to aid in their care. It is difficult to ascertain the direct impact this had on equine mortality throughout the war, since this figure naturally fluctuated in line with external influences such as offensives and the weather.[64] However, the fact that the numbers of BEF equines suffering from accidental injuries such as sprains, galls and punctures of hoof by nails etc were kept low throughout the war and overall wastage was on average just 14% – compared to 80% in the Boer War

---

[60]IWM LBY 71417 *The Mounted Officer's Book of Horses and Mules for Transport: The Care of the Horse and Mule and how the hardness should fit* by R.T. Day, 1916.

[61]Ibid.

[62]Ibid.

[63]Fox, 'Putting Knowledge in Power', p. 260.

[64]Winton, *Theirs not the Reason,* p. 429.

– supports the idea that the majority of soldiers paid careful attention to the welfare of their animals.[65]

Institutional learning related to equines was not limited to their care and management, but also included a growing understanding of how different types and breeds of equines could contribute differently to military operations. In the pre-war period there was an increasing recognition of the value of selecting the right equines for different types of war work. This was reflected in the publication of *Types of Horses Suitable for Army Remounts* to guide Remount Officers and civilian breeders on not just the desired conformation (i.e. shape and physical attributes) of equines for certain roles, but also their temperament and personal characteristics.[66] This growing understanding of how best to utilise different equines, in a conflict that also saw a 2000% growth in the use of motor vehicles, helped to shape changes in transport methodology that resulted in the BEF logistics systems overcoming a number of challenges.[67]

The Changing use of Equines
Remounts suitable for work with the ASC were described in general terms as 'Parcel Vanners' i.e. medium sized draught horses capable of hauling a good load without the need for a great deal of pace.[68] Both heavy and light draught horses were employed and the BEF developed flexibility to use these different types of equines interchangeably as their supply waxed and waned throughout the war.[69] During the ploughing season when supply of heavy draughts such as Shire horses was limited, light draught horses were substituted in a ratio befitting of their difference in size and strength, and vice versa during a critical period of light draught horse shortage in late 1914.[70] These decisions were made by the QMG based on regular communication with the Director of Remounts and transport and veterinary officers. In 1914-1915 the BEF's QMG was Major-General William 'Wully' Robertson who was a highly professional and competent man, as well as a fine horseman who understood how important it was to look after horses well to create an effective fighting force.[71] Robertson's main challenge was to improve the organisation of the LOC which was suffering from severe growing pains towards the end of 1914, as the pre-war system

---

[65]Blenkinsop & Rainey, *History of the Great War*, p. 540.
[66]Board of Agriculture and Fisheries, *Types of Horses Suitable for Army Remounts,* (London: His Majesty's Stationery Office, 1909).
[67]Maginniss, *An Unappreciated Field*, p. 276.
[68] Board of Agriculture, *Types of Remounts,* p. 1.
[69]TNA WO 95/27/13, Quarter Master General's War Diary, May 1915;
[70]Ibid.; Winton, *Theirs not to Reason Why,* p.291.
[71]Hew Strachan, *The First World War: Volume 1: To Arms,* (Oxford: Oxford University Press, 2001) p. 248; William Robertson, *From Private to Field-Marshal,* (Boston: Houghton Mifflin Company, 1911), p. 5.

proved woefully inadequate for the supplies demanded by the swelling BEF.[72] A reorganisation of services went some way to resolve the conflict in push/pull supply that the BEF was experiencing, and Robertson's pragmatism played a key role in ensuring the army's administrative echelons were able to flex sufficiently to cope with increase in supply and demand.[73] An integral part of this was the continual supply of remounts to transport goods from divisional supply dumps to forward positions, and as domestic supply of equines ran low, imports became essential.

The majority of the equines imported by the BEF came from North America, which had a vast population of good quality light draught horses and mules – the latter of which had played an important role within the U.S. military for many years.[74] Robertson was initially against the purchase of mules deeming them an unsuitable substitution for horses. By the end of 1914 when domestic draught supply was dwindling, the BEF began trialling mules in pack and draught roles.[75] Historically the British Army had failed to fully embrace the mule, perhaps as a result of what Anthony Clayton refers to as 'psychological contamination' from its hybrid nature and its associations with stubbornness and obstinance.[76] However, these eccentricities of character were often the result of failing to understand the differences required in their handling compared to horses.[77] Writing in January 1917 the DADT of the Second Army discussed the pros and cons of the mule succinctly:

> Possible objections to the mule which have been put forward are:-
>
> – His tendency to neigh at inopportune moments
> – The greater difficulty in shoeing him
> – Not so reliable under fire

---

[72]Brown, 'Logistics', p. 232;

[73]Ian Malcom Brown, *British Logistics on the Western Front 1914-1919,* (London: Praeger, 1998), p. 67.

[74]Emmett M. Essin, *Shavetails & Bell Sharps: The History of the U.S. Army Mule,* (London: University of Nebraska Press, 2000), p. 3.

[75]Winton, *Theirs not to Reason Why,* p. 291

[76]Anthony Clayton, *The Mule in Military Service,* (Kibworth: The Book Guild, 2017), p. 2.

[77]Rob Thompson, 'Mud, Blood, and Wood: BEF Operational and Combat Logistico-Engineering during the Battle of Third Ypres, 1917' in Peter Doyle & Matthew R. Bennett (eds) *Fields of Battle: Terrain in Military History,* (London: Kluwer Academic Publishers, 2002), pp. 237-256; Galtrey, *The Horses and the War,* p. 50.

> On the other hand the mule is hardier than the horse, and thrives on forage on which a horse would go to pieces.[78]

The ability for mules to do more work on less food, along with their greater resilience to sickness and injury compared to the horse, were 'admirable qualities in the work of transporting food and munitions'.[79] This made them ideal for work on the Western Front, where environmental conditions were extremely challenging for equines.[80] Evidence of the BEF's equine learning is clearly demonstrated through the increasing use of mules throughout the war, with nearly 114,346 passing through the United States's main shipping ports at Virginia and New York between 1916 and 1918.[81] As the number of good quality light draught horses available further decreased due to displacement in civilian life as a result of motor transport, the BEF integrated the mule further into transportation services.[82]

The increasing use of mules may initially appear incongruous when considered alongside the BEF's rapid expansion of motor transport, but there were many areas in which motor transport was not advantageous. Although it provided capacity benefits and allowed the BEF to expand their operating area, supply on the Western Front still ultimately relied on horse transport due to environmental challenges – the most notable of which was mud. The adoption of artillery as the operational tool of choice has been explored in depth by historians, with many citing the development of the creeping barrage as central to the learning curve theory.[83] Yet whilst these artillery-centric tactics are widely praised, the increase in heavy gun use placed unprecedented strain on the LOC to supply not only ammunition, but food and equipment for the additional personnel involved in operations. The strain was so great at first, that during the Battle of the Somme, BEF logistic services came very close to collapse.[84]

It was not just the sheer amount of materiel that required moving that caused issues, but the devastation it wrought on the landscape over which it needed to be moved.

---

[78]TNA WO/95/292/2 Headquarters Branches and Services. Deputy Assistant Director Supply and Transport, January 1917.

[79]Galtrey, *The Horses and the War,* p. 50; Blenkinsop & Rainey, *History of the Great War*, p. 64.

[80]Thompson, 'Mud, Blood, and Wood', pp. 237-256; Galtrey, *The Horses and the War,* p. 50.

[81]Brian Nicholls & Philip Malins, *The Military Mule in the British Army and Indian Army: An Anthology,* (Doncaster: D P & G Military Publishers, 2006), p. 90.

[82]Blenkinsop & Rainey, *History of the Great War,* p. 63.

[83]Robin Prior & Trevor Wilson, *Command on the Western Front: The Military Career of Sir Henry Rawlinson 1914-1918,* (Barnsley: Pen & Sword, 2004)

[84]Brown, *Logistics,* p. 112, p. 134.

The destruction of the top layer of soil, combined with the weather, resulted in forward areas being turned into a series of watery ditches with little or no hard standing, the effects of which were described by an unnamed British bombardier at Ginchy Ridge:

> We could not get to the guns with the ammunition wagons, so we had to take it up by pack horses. Four rounds on the rider and eight on the off horse – and they went through it I can tell you, up to their bellies in mud and water most of the time.[85]

It was simply impossible to use motor transport in these areas, as the vehicles of that time had limited off road capability so pack transport by mule became the only reliable way to move supplies up to the front line. Their reliability in these circumstances stems from the surefootedness and endurance inherited from their donkey sire, and the strength and vigour of their horse dam, which results in an ability to carry heavier loads than horses over more difficult terrain.[86] However, putting more animals into pack work at relatively short notice not only required additional animals suited to the work, but additional tack – which was not readily available and sometimes had to be improvised. Saddle bags were created from sandbags and bayonet fighting sacks, and special crates constructed to carry rations and water to front line troops.[87] Low-level battlefield adaptations such as these have not received as much focus from military historians as broader organisational changes, but do represent an important step in the learning process of the BEF and reflect an ethos of flexibility and individual innovation in the field.[88]

After the Battle of the Somme the reorganisation of British logistics led by Sir Eric Geddes saw the expansion of rail and mechanical transportation and growth of the ASC – bringing many improvements to battlefield supply; yet equine transport was not displaced, as the further development of artillery tactics in 1917 saw an even greater reliance on horse and pack transport.[89] As Rob Thompson has argued the shallow 'bite and hold' tactics used at Messines and during Third Battle of Ypres, for which General Plumer has been praised from an operational standpoint, caused major challenges for

---

[85] IWM 32096 unknown British bombardier (Oral history).

[86] Essin, *Shavetails & Bell Sharps,* p. 4.

[87] TNA WO 95/292/5 July 1917.

[88] Foley, Robert, 'Dumb donkeys or cunning foxes? Learning in the British and German armies during the Great War', *Royal Institute of International Affairs 1944-* vol, 90 (2) (2014), pp.2 79-298

[89] David Stevenson, *1914-1918: The History of the First World War,* (London: Penguin Books, 2005), p. 244

logistics.[90] These tactics used even more concentrated fire than was used on the Somme, with approximately 4.3 million shells fired in the initial bombardment and one 18-pdr gun for every 12.5 yards of front.[91] Troops were then required to move forward swiftly over newly taken ground, consolidate and advance again.[92] The question of how to move supplies across the shell-blown forward areas presented significant challenges, as with no proper roads and soft ground, lorries could not move forward and even horse transport had great difficulties.[93] In order to maintain momentum when traversing the areas destroyed by shellfire, the BEF turned once again to the mules that it had deemed unsuitable for use in the opening months of the war.[94]

In the days preceding the initial attack, mule tracks were laid and transport officers traced supply routes during the day and at night to ensure they were fully prepared. Existing pack transport companies were utilised, and to increase the amount of pack transport available, additional animals and personnel were also drawn from infantry and pioneer battalions and all placed under the command of ASC officers. It was only as a result of the BEF's ability to adapt its use of equines that transport services were able to continue to supply rations and munitions to front line troops with an incredibly high state of efficiency. Supplies were delivered to areas of the front line as quickly as 20 minutes after capture, and though the organisation of pack transport varied in divisions, the advantage of this speedier delivery of supplies meant it was adopted by many units.[95]

It is often said that the BEF's success at Messines was a result of the newly developed artillery tactics, yet without the use of mules, the momentum of the attack would have been severely impeded, undoubtably affecting the outcome. It was the BEFs increased understanding of the mules' unique attributes that shaped transport methodology and represented a distinct change in attitude towards the animals from 1914, when the Deputy Inspector-General of Communications predicted there would be little use for

---

[90]Thompson, 'Mud, Blood and Wood', pp. 237-256

[91]J.E. Edmonds, *Official History of the Great War: Military Operations, France & Belgium 1917: Volume 2* (Uckfield: Naval & Military Press, 2021), p. 135.

[92]Thompson, 'Mud, Blood and Wood', pp. 237-256.

[93]C.A. Rose, *Three years in France with the Guns: Being Episodes in the life of a Field Battery,* https://www.gutenberg.org/ebooks/19814 Accessed 15 January 2024. Chapter V: On the Somme, Para 14.

[94]TNA WO 95/69/1 Headquarters Branches and Services: Director of Remounts, August – December 1914.

[95]TNA WO 95/292/5 Headquarters Branches and Services. Deputy Assistant Director Supply and Transport, July 1917.

pack transport during the campaign on the Western Front.[96] This continued reliance and development of equine transport has been largely overlooked by scholars researching the mechanisation of the British Army, who tend to present the subject in an almost adversarial tone of 'horses versus machines' rather than understanding how the two were used to complement one another. Even those who argued for the abolition of horse transport after the war, such as O.W. White, conceded that horses and mules would always be required in some capacity under certain environment conditions, a prediction that rang true as recently as 2001 in Afghanistan where mules once again played an important role.[97]

Conclusions

Centring the equine allows us to reconsider historical sources in new ways, revealing that the actions of horses and mules used by the British Army during the First World War solicited responses from the humans around them that resulted in both micro and macro changes. From a single transport wagon failing to reach its destination, to a shift in transport methodology that ensured operational tempo could be maintained in a vital offensive, utilising the concept of agency has shown that equines could affect both positive and negative change and were not mere tools in the war. Instead, they were active participants who are deserving of similar historical analysis to soldiers, rather than just comparisons with motor transport.

Viewing events through the animal lens also allows us to shed new light on how the British Army educated its soldiers and embraced knowledge of agricultural and animal psychology matters, and then amalgamated it into policy. The army's relationship with equines on the outbreak of the First World War displayed a level of concern previously unseen in its history, and a greater appreciation of individual equine attributes was gained as it came to recognise how important it was to ensure that not only were sufficient quantity of equines available, but sufficient quality. Further, it came to acknowledge that the continual care and well-being of these animals was a worthy investment and best achieved when all soldiers who interacted with them practised good horsemastership skills. Nowhere was this more important than in transport services, where steps were taken to educate soldiers through formal and informal methods. This included the dissemination of pamphlets, introduction of training courses and efforts to recruit men experienced in equine husbandry who could share their knowledge. Increasing responsibility was placed on individuals for the care of their animals, demonstrating a growing awareness that a strong bond between soldier

---

[96]TNA WO 95/69/1, Headquarters Branches and Services: Director of Remounts, August – December 1914.
[97]O.W. White, 'The Abolition of Horse Transport in the Administrative Services', *Royal United Services Institution Journal* 66 (461) (1921), p. 64.

and equine resulted in healthier animals and that this in turn, meant operations could be carried out more efficiently.

Philpott states that the transformative process of the British Army during the First World War was not a learning curve, but a complex and dynamic series of adjustments; in this respect, the equine learning process is similar. Although many positive developments took place and horse wastage was dramatically reduced from previous conflicts, horsemastership quality varied across units and equine use and care was greatly influenced by external factors such as the development of artillery and the weather. By considering the equine responses to war and exploring the shared experiences of soldiers and their animals, more can be learnt about these factors adding another layer to our understanding of the transformation of the British Army during this period.

Whilst uncovering this additional perspective undoubtably enriches our understanding of how events on the battlefield unfolded, there is a broader, more profound purpose to including the animal turn that the military historian should consider. Integrating animal studies forces historians to revisit the assumed baseline that military history is a human-only phenomenon. It is perhaps an uncomfortable truth to acknowledge that the deaths of circa 6 million living breathing participants (equines) in the First World War have been largely overlooked, yet as this paper has shown, these animals touched the lives of the men who served with them in a multitude of ways. To understand these interactions and consider their place within conflict can only provide a greater insight into the changing nature and character of warfare itself – this is perhaps the true value of viewing history from the hindquarters as well as the headquarters.

'The Forgotten Ones'. Finding and Recruiting the Men on the Ground for the Royal Flying Corps During the First World War

DAVID SPRUCE[*]
Independent Scholar, UK
Email: *davidianspruce@gmail.com*

ABSTRACT

When the First World War began the Royal Flying Corps was just two years old and over the next four years it changed beyond all recognition. To successfully support the Army, the RFC recruited almost 300,000 non-officers, the vast majority for service on the ground and, for most, service in Britain. While their roles were less glamourous than the so-called 'aces' who dominate the historiography, the service would not have existed without them. This article explains how the RFC found multiple ways to attract sufficient manpower to successfully prosecute Britain's first war in the air.

Introduction

The Royal Flying Corps (RFC) ground crew grew from 1,097 men in August 1914 to over 270,000 at the Armistice. As a group, they constituted between 88 and 93 per cent of the total British air force throughout the war.[1] They were vital to the war effort, but the historiography all but ignores their story. While much has been written about recruiting into the armed forces more generally, such works do not focus, or mention only in passing, the recruitment of ground crew into the RFC and RAF.[2] The

[1]H.A. Jones, *The War in the Air: Being the Story of the part played in the Great War by the Royal Air Force: Volume Six,* (Uckfield: Naval & Military Press, 2002, p. 28, footnote 2. Percentage derived from The War Office, *Statistics 1914-1920 of the Military Effort of the British Empire During the Great War,* (London: War Office 1922), p. 227 and p. 506.
[2]See for example, J. McDermott, *British Military Service Tribunals 1916-1918,* (Manchester: Manchester University Press, 2011); T.Bowman, W. Butler, M.Wheatley, *The Disparity of Sacrifice : Irish Recruitment to the British Armed Forces, 1914-1918,*

term 'Forgotten Ones', used in the title here, comes from a rare book on the subject written by former pilot and later Air Chief Marshal Philip Joubert de la Ferté. This article, drawn from new research, sets out to complement de la Ferte's work and in doing so helps fill the gap in the historiography.[3] It will investigate who the men were, how they came to join the Corps and how the RFC ensured they were sufficiently skilled. Such an exploration can only be made with reference to the complex environment in which the recruitment occurred. Consequently, the article must assess the RFC's efforts against the backdrop of industrial manpower demand. Following a broadly chronological path, the article examines how demand and supply shifted across the war years and how the RFC responded to these changes with a combination of pragmatism and creativity.

The First Men of the RFC

The first men of the RFC, upon its creation in 1912, were recruited predominantly from the ranks of the Army, especially the Royal Engineers who had provided the men of the RFC's precursor organisation the Air Battalion. The discipline of these experienced men proved invaluable in the early chaotic days of the war. Describing the pressures of his first taste of combat accompanied by inclement weather, young air mechanic Percy Butcher looked on the experienced men as father figures. He remembered,

> The gales and the Battle of the Aisne almost coincided so that the fitters never left their work […] This is where the new boys like myself owed so much to the skill and technical knowledge of the experienced men who had transferred from the Royal Engineers.[4]

In the early months of the war, recruiting officers had paid little or no attention to the occupations of men enlisting in the infantry. Consequently, men with applicable skills for technical services, such as the RFC, were 'lost'. In October 1914, it was calculated that engineering trades had seen 12 per cent of their workforce leave to enlist, a figure

---

(Liverpool: Liverpool University Press, 2020); K. Grieves, *The Politics of Manpower, 1914-18,* (Manchester: Manchester University Press, 1988); I. Beckett, K. Simpson (eds) *A Nation in Arms, The British Army in the First World War,* (Barnsley: Pen & Sword, 2014); H. McCartney, *Civilian Soldiers. The Liverpool Territorials in the First World War,* (Cambridge: Cambridge University Press, 2011); P. Simkins, *Kitchener's Army. The Raising of the New Armies, 1914-1916,* (Barnsley: Pen & Sword, 2014).

[3]P. Joubert de la Ferté, *The Forgotten Ones: The Story of the Ground Crews,* (London: Hutchinson, 1961).

[4]P.E. Butcher, *Skill and Devotion: A personal reminiscence of the famous No. 2 Squadron, Royal Flying Corps,* (Hampton Hill: Radio Control Publishing, 1971), p. 32

that would rise to 20 per cent by July 1915.[5] This rush to enlist men was understandable given that the focus of the War Office was firmly on the recruitment of the infantry. Lacking direct orders, Sir Hugh Trenchard's biographer Andrew Boyle, claims that initially Trenchard and Deputy Director of Military Aeronautics, Sir William Sefton Brancker, took matters into their own hands. They opened a recruitment centre 'in the West End of London fixing pay rates as high as those offered to the best army tradesmen.'[6] The 10/- a day offered was 'the special rate sanctioned for the Army Service Corps in an emergency.'[7] The scheme proved a distinct success, capturing some of the most skilled tradesmen available.

In its recruitment literature, the RFC was very clear about the professions of the tradesmen it sought. They were listed at length in materials provided to recruiting officers and can also be found advertised on posters and in newspaper advertisements. Midlands motor mechanic James Gascoyne was one man who responded to a poster. He had never so much as seen an aeroplane and laboured under the misapprehension that he would soon be flying. This was not to be the case, though his skills were just what the RFC required and he was promptly sent to France not as a pilot but as a motor mechanic. He fondly recalled the excited and thankful French locals showering his lorry with gifts. So grateful, he claimed tongue-in-cheek that he believed the lorry had more wine onboard than spares when he reached the airfield.[8]

Motor fitter Samuel Saunders responded to a newspaper advertisement. In his case, an October 1914 Dublin newspaper called specifically for mechanics.[9] He was told to report to his local recruitment office at 10 a.m. sharp. In his naivety, Saunders expected this would be a personal appointment and expressed comic incredulity on discovering queues 3-4 men wide and half a mile long containing men seeking to join all three services.[10] Victor Utting, an 18 year old piano shop apprentice, also saw an advert in a newspaper, in this case encouraging men to join and train as wireless operators.[11]

Initial recruitment materials stated that men needed to be 18 to 30 years old and 5'2" or over tall. However, that men who failed to conform to these standards often joined is hardly surprising when an accompanying statement to the recruitment conditions read, 'Candidates not in all respects eligible to physical standard, but otherwise

---

[5]Jones, *WITA, vol 6,* p. 58.
[6]A. Boyle, *Trenchard: Man of Vision,* (London: Collins, 1962), p. 118.
[7] Ibid.
[8] Imperial War Museum (Hereinafter IWM) Sound Archive 16 - James V Gascoyne.
[9] IWM Sound Archive 292 Samuel Saunders.
[10]Ibid.
[11]IWM Sound Archive 9759 Victor Utting.

qualified, may be specially considered for enlistment.'[12] By way of example, an unnamed civilian was sent a rejection letter dated 1 November 1914 by RFC recruitment officers. In it, they tactfully told him that he was too old and had 'no prospect of employment with the RFC'. That was unless he could 'give particulars of very special qualifications.'[13]

In other words, the RFC would be brutally pragmatic regarding recruitment. Their principal concern was always the skillset. Age and height were and would remain strictly secondary priorities. When recruitment was relatively straightforward during the first two years of the war, standards could afford to be more stringent. Then, as recruits became more challenging to find, they were often relaxed. Ernest Humberstone, for example, was rejected by the RFC in 1914 when his chest measurement failed to reach a satisfactory level.[14] He returned in 1916 to less exacting tape measures in 1916 and was accepted. The RFC also recognised that ground crew fitness levels need not be as onerous as for the infantry. Such flexibility opened up a pool of men rejected by the infantry. For example, James Seignior was turned down by the infantry because he was not physically fit enough and encouraged to join the RFC who, he was told, were 'less interested in physique'.[15] Service records throughout the war demonstrate that many men who joined the RFC did so having been wounded or declared unfit for further service in the infantry.

The *qualifying trade test* was a standard RFC recruitment feature used throughout the war. As the title suggests, it aimed to ensure that a man was proficient in his trade. However, they were also used early in the war to find experts who became immediate or near-immediate NCOs in the rapidly expanding service. In December 1915 the RFC opened a dedicated testing centre at Chelsea Barracks.[16] Men sent here for trade tests were given a certificate that could be presented to recruitment officers to help smooth their application. Trade tests often varied in form. Ernest Humberstone, a trainee electrician, was sent for his trade test on a platform fitted to the back of a Crossley tender. He had to name many tools for his examiners before explaining their application. With this done, he went on to become a storeman.[17] Percy Butcher remembered his tests with the appropriately named supervisor, Mr Measures. Butcher's tests involved making a hexagonal ¼-inch nut from a 3-inch metal bar. With

---

[12]'Royal Flying Corps' in *Flight Magazine* (No23, vol IV, June 8, 1912, p. 510).

[13]The UK National Archive (hereinafter TNA) AIR 1/366/15/231/6 - Directorate of Military Aeronautics' Records – Vol. VI.

[14]IWM Sound Archive 22 Ernest Humberstone.

[15]IWM Sound Archive 34543 James Seignior.

[16]H.A. Jones, *The War in the Air: Being the Story of the part played in the Great War by the Royal Air Force: Volume Two,* (Uckfield: Naval & Military Press, 2002), p. 289.

[17]IWM Sound Archive 22, Ernest Humberstone.

these tests complete, he was shown to a Crossley tender. After exercises testing his reversing skills, he was asked to drive his instructors through Farnborough to Aldershot and back. His driving skills impressed more than his metal work, and he became a driver.[18] Dubliner Samuel Saunders recalled a two-stage process. He first had to pass a verbal test before he was allowed to take a practical one – an initial screening element introduced to stop examiners from wasting their time.[19]

Finding Tradesmen Comes Easily
Throughout the first eighteen months of the war, the RFC received far more civilian applications than it needed. For example, Herbert Dodman of the Isle of Wight received a letter in response to his application advising him that 'recruiting for the Royal Flying Corps is open in the London area only to a limited number of first-class tradesmen.'[20] He was warned that any trip to London for a test and interview would be at his own expense. If he was not already suitably discouraged, a hand-written personal message was appended stating, 'Only men possessing a high standard of technical ability will be accepted.'[21]

Some men went to great lengths to join. William Berry made numerous applications before being accepted in October 1915. He recalled he was:

> On constant watch for the opportunity to join the Corps, but whenever the RFC started recruiting within five minutes, it was shut again. They had no problem getting high-calibre men who knew their trades.[22]

Berry, an export clerk, eventually pleaded his case with a sympathetic recruitment officer who allowed him in as a cook on hearing that he had once worked as a chef.[23] It is this 'proficiency' that is on his attestation form. Berry's experience of difficulty entering the Corps is borne out in advertisements in the press. One of numerous examples is found in the *Dundee Courier,* where the advertisement states the following:

> The Royal Flying Corps is now open for a limited number of highly skilled tradesmen. Do Not Delay, or you will be "Too Late".[24]

---

[18]Butcher, *Skill and Devotion: A personal reminiscence,* p. 15.
[19]IWM Sound Archive 292 Samuel Saunders
[20]TNA AIR 1/381/15/231/22 *Directorate of Military Aeronautics' Records – Vol. XXII.*
[21]Ibid.
[22] IWM Sound Archive1 William Berry.
[23]Ibid.
[24]'The Royal Flying Corps', *Dundee Courier,* (14 January 1916, p. 5).

Alongside civilian applicants the Commander of the Administrative Wing, John Salmond, and his Chief Staff Officer, Guy Livingston, devised a scheme to 'comb out' skilled tradesmen from non-technical units of the Army. These men also had the advantage of some military experience and associated discipline. Once identified, and if willing to join the Corps, these potential transferees were subject to trade tests by one of many RFC recruitment parties established in France to vet them. On 22 December 1915 for example, Captain MacSweeney of the Directorate wrote to the Administrative Wing giving details of eighteen men returning from the British Expeditionary Force to join the RFC.[25] These included men like Private A. Nutt and Rifleman C. Gillings. Nutt was a fitter by trade and had been in France since May 1915 with the 1 Battalion Somerset Light Infantry. Gillings, already 41, was a South African War veteran with the Rifle Brigade who had re-joined his old unit in April 1915. He entered the RFC in his pre-war occupation as a coppersmith.

It should be noted that the flow of men was not entirely one-way. The expanding munitions industry also sought skilled men and appealed to the RFC to release those with industry-specific experience. Appeals are evidenced in a letter to the Directorate asking for details of men who had previously worked for Vickers Ltd before the war. On this occasion, in December 1915, six RFC men were identified. However, the men were given a choice as to whether they wished to remain with the RFC or return to England as munitions workers. In this event, only 1/AM Kingsworth opted for release from the RFC.[26] In a further example, in February 1916, 2/AM Edmund Archer was approached about a return to England to work on munitions production with Victor Motors in Kent. In internal correspondence, Major Powell at the Directorate says that Archer will move 'if he is willing', again showing that men had the agency to resist transfers.[27] Archer's service record is unbroken, so he evidently opted to stay with the RFC.[28]

New research supports the assertion that recruitment was relatively straightforward in 1915. Despite more than doubling attestations from 14,344 to 29,615 between 1914 and 1915, the RFC found men in their target trades more successfully. In 1915, 76% of the men whose service records listed a trade matched those in recruiting materials.[29] This proportion was some 10% higher than in 1914 and was more significant than in the two years preceding the war. The most significant trade

---

[25]TNA AIR 1/381/15/231/22 - *Vol. XXII.*

[26]Ibid. AM refers to the rank Air Mechanic. The number refers to first class, second class etc.

[27]Ibid.

[28]https://www.findmypast.co.uk/transcript?id=GBM%2FAIR79%2F33148. Accessed 18 January 2024. Record of E. Archer.

[29]Calculated from searches of over 20 trades plus associated variants.

recruited is, at face value, surprising. There were 2,281 clerks recruited in 1915, more than any other trade, including carpenters and joiners (1,741) and fitters and turners (1,562). Such men were actively sought as well-educated and easily trainable; in many cases they also had organisational skills and some modest man-management experience. As the war progressed there would be two clerks per flight to record flying times, clerks in workshops to keep a tally of tools, and up to a dozen clerks in each store's depot accounting for issues and returns.[30]

Another reason for the relative absence of strain on the recruiting system was that casualties remained very light. Consequently, the demands for extra men from France were relatively modest. In February 1915, for example, just 44 men were requested to replace casualties and support growth. The only stipulation to the request was that the men sent include six coppersmiths, four riggers and five clerks for Headquarters.[31] In comparison, two years later, in 1917, the corresponding monthly request would be for 576 men.[32]

However, even at this early stage, the RFC realised that even skilled men needed training in aeroplane specifics. Early training in squadrons alongside experienced pre-war men was proving insufficient. The solution arrived at by Salmond and Livingston involved an outsourced system whereby fitters, riggers, camera repairers, drivers and wireless operators were sent to suppliers and colleges to be trained in aircraft specifics. The outsourcing scheme, which included more than fifty specific arrangements, operated throughout 1915 and 1916, training thousands of men and proving an invaluable solution while an in-house training system was built in parallel.

Working Harder to Find Those Needed

As 1916 opened Trenchard was happy with both the manpower levels and the recruitment process. He wrote to the Administrative Wing in London to praise Lt. Col. Charlton for his 'excellent organisation' given:

> The various large drafts which have been sent overseas … have invariably arrived on time, in good order and accompanied by clearly made out and accurate nominal rolls giving all the information necessary about each mechanic.[33]

---

[30]TNA AIR1/122/15/40/137 *Schools of Aerial Gunnery & Fighting.*
[31]TNA AIR 1/368/15/231/8 *Directorate of Military Aeronautics' Records – Vol. VIII.*
[32]TNA AIR1/1288/204/11/42 *Personnel - Requirements in for the Expeditionary Force – January to June 1917.*
[33]TNA AIR1/1288/204/11/43 *Requirements of Personnel by trades for the Expeditionary Force - February 1915 to June 1916.*

During 1916 there was a further doubling of attestations to 58,805 and at face value the RFC was similarly successful in finding numbers of skilled men. The proportion of men in target trades was unchanged in 1916 at 76%. However, the RFC had to work harder to make this happen.

They sought more creative ways of attracting men to the Corps. One of the best examples of this was via the use of cinema. The Corps took advantage of the relatively new medium and put on patriotic pictures at cinemas nationwide with increasing frequency. An early example was the screening of '*The Eyes of the Army*'. This propaganda piece was shown before the main picture, '*Far From the Madding Crowd*,' in April 1916.[34] In time, screenings of RFC pictures were accompanied by a presentation by an officer or senior NCO who had returned from France. When the film or presentation ended, recruiting officers swooped and attempted to recruit available men.

In January and May 1916, the Military Service Acts introduced compulsory military service, now better known as conscription, first for single men and then for all men. Some men chose to enlist in the RFC in a bid to avoid being drafted into the infantry. Hubert Harrison, who was 25 in 1916, had a few years of experience in a building yard when he was younger. During this time, he learned many aspects of joinery, the experience he successfully used to join the RFC as a carpenter.[35] Norman Bates, a 19 year old plumber, also opted to use his trade experience to apply for the Corps, and his metalwork abilities allowed him to enlist as a tinsmith.[36] Both specifically joined the RFC to avoid a potential infantry draft. John Boon had signed up under the conscription precursor Derby Scheme in late 1915 but continued his employment as a telephone linesman at the General Post Office for another year. A driven man from a poor background, he had attended night school to gain City & Guilds qualifications. What makes Boon's recollection of joining the RFC just after Christmas in 1916 interesting is that it signifies a subtle but significant change had taken place. He was *assigned* to the RFC and given no choice in the matter. His technical background and employment meant his drafting to a technical service was mandatory.[37]

While the introduction of conscription was in many ways an advantage for the RFC, as summer advanced, it was becoming apparent that finding skilled civilians who could pass trade tests had become significantly more challenging. Competition for resources was intensifying. In July 1916, Air Board minutes captured the situation thus:

---

[34]'The Eyes of the Army', *Dundee Courier* (20 April 1916, p. 1).
[35]IWM Sound Archive 10916 Hubert Harrison.
[36]IWM Sound Archive 10262 Norman Bates.
[37]IWM Sound Archive 9476 John Boon.

The Air Board had written to the War Office regarding the return of skilled workmen from the Army. Meanwhile, the War Office were writing to the Ministry of Munitions with a view to obtaining skilled labour for enlistment in the Army. The Army Ordnance Corps were much in need of skilled artificers. It appeared that there was a general demand for skilled labour in excess of the supply available from all sources.[38]

Demonstrating that the RFC was not immune to these manpower allocation challenges, the removal of sixteen workers from Rolls Royce for service in the infantry in February 1917 stopped all deliveries of magnetos to the RFC even though aeronautical production was supposed to be exempt from such moves.[39]

To produce a functioning service the RFC recognised that it could either recruit men with the necessary skills or train unskilled men to proficiency. Finding a suitable trade-off between the two options would become a perennial challenge as the war progressed. As Livingston commented after the war, 'we were trying to turn butchers and bakers into technical tradesmen' and that with growth, 'the efficiency of the technical personnel would very rapidly deteriorate unless some new method' of obtaining men could be found.[40] Alongside the outsourced training solution, the Corps' first training school, which was to become the School of Technical Training, opened near Reading in July 1916. Accompanied by other specialist schools for wireless and photography, these schools began to take over and centralise the men's training.

Manpower Shortages
In Britain in 1917 the demand for skilled manpower now significantly exceeded the supply. In January, the Government stated that 100,000 men needed to be released from previously protected industries in agriculture, mining and munitions to meet the demands of the Army. A Government Committee was formed to discuss the issue and to confer with Sir Douglas Haig. Their March 1917 report increased to 330,000 the men that would need to be found from protected industries between March and July. After fierce opposition from industry, further discussion took place, and a compromise of 250,000 was agreed upon. The announcement immediately led to large-scale industrial unrest as plans, which included large-scale labour dilution, were resisted.[41] When the scheme's target date of July 1917 arrived, only 18,000 men had been released from munitions industries instead of the 124,000 targeted as part of the

---

[38]TNA AIR 2/127/B12062 *Policy for Development of Canadian Air Service.*
[39]K. Grieves, *The Politics of Manpower, 1914-18,* (Manchester: Manchester University Press, 1988), p. 108.
[40]G. Livingston, *Hot Air in Cold Blood,* (London: Selwyn & Blount, 1928), p. 89.
[41]Labour dilution called for the substitution of skilled men with unskilled men.

250,000 ambition.[42] To provide additional complications, the German decision to declare unrestricted U-boat warfare led to a renewed shipbuilding programme, which required an unplanned 80,000 extra workers.

Amid these issues came a July 1917 decision to double the size of the RFC. Thus, with Britain facing significant labour supply issues, the Corps also needed an additional 17,000 pilots, 5,500 observers, and 61,000 mechanics. Though the RFC's Director of Recruiting stated:

> I feel reasonably confident that we will find all the men required for the RFC, but it is quite certain that this large expansion of the flying corps personnel will affect infantry drafts.[43]

But he was only considering front-line personnel. The extra squadrons would need thirty-five new aerodromes, and each aerodrome would need to be resourced. Extra squadrons meant extra aircraft. Producing these extra aircraft would require 25,000 skilled men, 58,000 unskilled men, and 70,000 women. The challenge was enormous.

Admirably, but to little effect, the RFC attempted to find some internal economies to help the situation. In July 1917, the War Office appointed an RFC Dilution Officer whose duty was to examine the air service stations at home and report on possible savings in skilled labour. This effort was expanded the following month and seventy air stations were eventually visited. Unfortunately, the final report dated 16 November 1917 concluded the opposite of what was desired. Rather than finding savings it reported that skilled fitters were already dangerously thin on the ground and recommended recruiting 30,000 women to help fill immediate shortfalls.[44]

By mid-1917 the RFC had accepted that unskilled men were required to improve the manpower situation. Initially this had proved to be hard to swallow. An internal memorandum as late as February 1917, for example, stated that the RFC,

> Is prepared to accept raw recruits, provided they are not of trades in which they will require to go through a course of instruction before employment in the RFC. That is to say, any raw recruits drafted must be sufficiently skilled in their trades to carry out the work required of them immediately.[45]

---

[42]Jones, *WITA, vol 6,* p. 65.
[43]Ibid.
[44]Ibid.
[45]TNA AIR 1/1288/204/11/42 *Personnel - Requirements.*

Essentially, this gave nothing and was an untenable position. Those men who attested from target trades fell from 76% in 1916 to 68% in 1917. Though the percentage reduction does not sound material it was on a much larger base of attestations and the number of untrained men entering the service was significant. Unskilled labourers doubled to over 2,000. More than 800 salesmen, 600 painters and decorators, and 500 grocers were among the men joining the ranks and requiring training from scratch. An August 1917 advertisement sums up explicitly how things had changed when recruiting tradesmen. For the first time, advertisements looked for 'skilled or unskilled men of almost any occupation'.[46] Age requirements, too, were explicitly relaxed, and advertisements included comments such as, 'men of military age and over age accepted'.[47]

The expansion of the RFC was second only to shipbuilding in the government's priorities, and it was given an unprecedented opportunity to recruit men from previously protected industries. By this stage of the war, most skilled men still at home held what was known as the Red Card – officially Army Form 3476A – that was granted under the Schedule of Protected Occupations.[48] It allowed men in protected industries, such as war production or munitions, to avoid being drafted via conscription. The RFC however, was allowed to call on such men, though it could not force them to join. Newspaper advertisements in 1917 confidently assured men holding the Red Card that they could have it withdrawn if they so wished. As an incentive, adverts stressed that,

> Special rates of pay prevail in the technical Corps. They are higher than those in the infantry [and] it is hoped that large numbers of skilled men will embrace the opportunity of placing their skill at the disposal of the Nation with the certainty that it will be employed to the best advantage.[49]

While digging deep for men in Britain, the RFC also turned to Canada in 1917 to provide some of the answers to their recruitment needs. Canada provided 4,971 air mechanics between March and November 1917, receiving applications from 13,844 men.[50] As can be judged from the relatively low conversion of applicants to recruits,

---

[46]'Wanted at Once', *Exeter and Plymouth Gazette,* (10 August 1917, p. 4); and 'Royal Flying Corps', *Dundee Courier,* (21 September 1917, p. 1).

[47]'Royal Flying Corps', *Nottingham Evening Post,* (14 September 1917, p. 2).

[48]Hansard, (HC Debate, 11 June 1917, vol 94, c586).

[49]For example, 'Artificers Wanted, *Daily News, (London)* (23 June 1917, p. 4) & 'Artificers Wanted to Serve in the Royal Flying Corps', *Manchester Evening News,* (24 September 1917, p. 2)

[50]TNA AIR 2/166/RU4527 *General Statistics of RAF in Canada and Memo on the Development of the RFC in Canada.*

recruitment in Canada was not straightforward. Wage inflation presented a particular challenge for the RFC and resulted in 6,418 men rejecting the RFC on the grounds of insufficient inducements.[51] While RFC rates were 15 per cent higher than the Canadian Expeditionary Forces (CEF) rates for unskilled men, this proved insufficient to attract the best tradesmen.

Canadian Medical Boards proved a further problem for the RFC. The CEF's policy was only to enlist men of Category A fitness. Consequently, the RFC found that 'Boards absolutely refused to pass men for us if other than A.'[52] Though frustrating for the RFC, the Medical Boards were not simply being difficult. Such intransigence can be understood given that if a man was found to be unfit for service on arrival in England, the Board was held responsible for the cost of returning him to Canada. The RFC requested that the British system of A, B and C be adopted for their recruits. Though eventually successful, the debate 'caused considerable delay and had to be carefully handled to avoid friction.'[53]

Between March and August 1917, some 400 men a month were recruited in Canada. Then, on 29 August, the RFC was aided by the Canadian decision to introduce the Military Service Act. The act allowed the Government to conscript men aged 20 to 45. As in Britain, the decision helped swell RFC numbers as men enlisted in the RFC to avoid conscription into infantry units. Numbers enlisting jumped to 691 men in September 1917 and almost doubled to 1,261 in October.

That month, the RFC in London approached Pathé Freres Ltd to create recruitment material for them. The company filmed at nine RFC locations, and commanding officers were asked to,

> Issue instructions for every assistance to be given to the cinema operator, and that he should be allowed considerable latitude in his taking of his photographs as these will be censored later.[54]

The resulting thirteen-minute film was then used in cinemas to aid recruitment in 1918.[55] It is not surprising that even internally produced films were slick. They were often produced by Edmund Distin-Maddick. Distin-Maddick had previously been an officer in the Directorate of Military Intelligence at the Home Office where he assisted in creating propaganda. He had been in charge of cinematographic film production on

---

[51]Ibid.

[52]Ibid.

[53]Ibid.

[54]TNA AIR1/129/15/40/203 *Cinema Propaganda for R.F.C.*

[55]IWM 870 *Basic RFC Training for Pilots in Britain, 1917.*

the Western Front and claimed to have been involved in the famous film *The Battle of the Somme* before transferring to the RFC.[56] An example of how sophisticated the combined propaganda and recruitment evenings became can be found on 30 January 1918, when Lt. Alston presented '*A Pilot's Experiences on the Western Front*' at the Kinnaird Hall, Dundee. Part of a national tour, his presentation of '100 thrilling lantern slides' was accompanied by the band of the Royal Garrison Artillery.[57]

Alongside these initiatives, in mid-1917 the RFC began actively recruiting boys and women in Britain.[58] In the case of 'boys', these young men were required to be between 15½ and 17 years of age. They would undertake an apprenticeship in woodworking, engineering or sail making if selected.[59] Harold Eager was one such 17 year old. Though he had been doing well at school, his family had been unable to afford to send him to college and at fourteen he was working two jobs at a barber shop and at a butchers. By the time he was sixteen, his stepfather had got him a job at a dockyard as a messenger boy. Harold saw the advertisements for this new scheme and joined as a 'boy' in November 1917. He 'learned a trade', became a rigger and transferred to the RAF on his eighteenth birthday in July 1918.[60]

By the time Eager joined, the scheme was going well. A 6 October 1917 RFC memo reported that:

> The experiment of enlisting boys into the RFC […] and of training them in one or other of the Flying Corps trades has already proved most successful. Boys have come forward freely, are of an excellent type and are proving an extremely valuable aid to our work.[61]

Thus, the RFC successfully enlisted young men who while learning a trade were also helping to ease the RFC's manpower crisis. At this stage, the RFC also reversed its attitudes toward using women in the service. In September 1915 Miss Enid Alderson, a 22 year old Australian who lived in Richmond in Surrey, attempted to join the service. Though her letter does not survive, the RFC's response to her request does. In it she was told concisely that 'there is no position in the RFC in which a lady could

---

[56] P. Hodgkinson & J. Clarke, 'The Great War Dead of Norwood Cemetery' in *Stand To! The Journal of the Western Front Association,* (Number 126, April 2022).
[57] 'Royal Flying Corps, Air Fighting in France', *Dundee Courier* (30 January 1918, p. 1).
[58] TNA AIR 1/1288/204/11/42 *Personnel – Requirements.*
[59] 'Required for the Royal Flying Corps', *Rochdale Observer* (12 May 1917, p. 2); and 'Wanted, Fifteen boys for Royal Flying Corps', *Coventry Evening Telegraph,* (11 June 1917, p. 3).
[60] IWM Sound Archive 16310 Harold Eager.
[61] TNA Air 2/12/87/Labour/38 *Employment of Boy Labour 1917.*

be employed, and it is, therefore, regretted your application cannot be entertained'.[62] Two years later, it was a very different story. Female recruits were first used in February 1917 when women began to be recruited as drivers. Later they were recruited in growing numbers to carry out an increasing number of roles including those in repair shops and at service depots.

When the Royal Air Force (RAF) was formed in April 1918, it became necessary to constitute a separate corps for women, the Women's RAF (WRAF), which offered women the option to transfer from the existing air arms of the Women's Army Auxiliary Corps (WAAC), the Women's Naval Service (WRNS) or the Women's Legion. By the end of April 1918, 67 officers and 6,738 other ranks transferred from the WAAC, 46 Officers and 2,821 other ranks from the WRNS, and 496 drivers from the Legion.[63] At the Armistice, some 25,000 women were serving in the WRAF.[64] Though it had been stipulated that none should serve overseas, an exception was made for some women employed at aircraft repair shops at Rouen who had been posted there as members of the WAAC.

Motivations for women joining were as varied as for men. Florence Parrott joined the WAAC and later transferred to the WRAF driven by a desire for revenge. She had been working as a wine waitress at Liverpool Street Station in London when a bomb from a Zeppelin caused damage to the station and lightly wounded her. Parrott joined at the Connaught Club after an interview, which consisted principally of an exercise to discover what applicable skills she had. Having had some previous cookery experience whilst working as a young housekeeper, she joined as a cook and served with the Officer Training Corps at Denham.[65] Dorothy Bairfield, who had been a nurse with a military family, joined the WAAC in 1917 in a desire to do her bit and became a waitress at an airfield at Hastings. Like the male recruits, she enjoyed the feeling that she was working for a 'unique body' and chose to transfer to the WRAF in 1918. She served in the officer's messes on airfields at Shorncliffe and Uxbridge to the war's end.[66]

Outside the RFC, the importance of these women and boys to the aircraft industry cannot be overstated. In August 1916 the industry employed some 12,600 women and 6,500 boys. These numbers accounted for 32% of the workforce. Just fifteen months later, in November 1917, there were 52,700 women and 17,100 boys, 40% of

---

[62]TNA AIR 1/374/15/231/15 - *Directorate of Military Aeronautics' Records – Vol. XV.*
[63]Jones, *WITA, vol 6,* p. 73.
[64]Ibid.
[65]IWM Sound Archive 8857 Florence Parrott.
[66]IWM Sound Archive 3454 Dorothy Bairfield.

employees. Numbers continued to grow, and by the war's end, 126,600 women and 33,000 boys would equate to 46% of the industry's workforce.

All Change. Recruitment in 1918

The sheer scale of ground crew operations in Britain in 1918 was formidable. There were twenty-two aircraft acceptance parks, two Marine Acceptance Depots, thirteen Repair Depots, ten Stores Distributing Parks, eight Stores Depots, as well as a Balloon Acceptance Depot, a Transport Issue Park, and a Transport Depot.[67] The store depots alone employed some 8,000 men and a similar number of women.[68] The RFC/RAF recruited almost 111,000 men during the final eleven months of the war, a 44% increase on those recruited in the whole of 1917. Nevertheless, of 1918 recruitment, Livingston recalled that 'the human material was, of necessity, deteriorating in quality'.[69] While there is no evidence to show that the workmanship of the men in 1918 was inferior, there were essential changes in the type of man being recruited in the last year of the war. A functioning training system allowed the Corps to recruit and train unskilled men rather than relying on their having had relevant civilian occupations. Consequently, the recruits of 1918 were much less likely to come from an advertised trade than at any point in the war. They were also more likely to be much younger or older than those recruited earlier. The men themselves were physically smaller than they had been historically. The RFC/RAF had to widen their geographical net in new ways to find such men.

While some men continued to transfer from the infantry, they were comparatively few compared to previous years. By mid-1918, any attempt to target specific trades or recruit from a narrow age group had been abandoned.[70] Even men who had been previously rejected were asked to reapply.[71] Despite skill shortages and generalised advertising campaigns, the proportion of men recruited from trades listed in recruitment materials was still 62% in 1918. While this is lower than the 76% in 1915 and 1916, it is still a testament to the skill of RFC/RAF recruiting officers. However, as more men joined in 1918, many more unskilled men were recruited in absolute terms. By now, however, the RFC/RAF training system was enormous. Some sixty-five schools had opened to train pilots and men in the intricacies of their roles, allowing unskilled and semi-skilled men to come up to speed more quickly.

---

[67]TNA AIR 1/452/15/312/26 Vol. II *Aerodrome Board. Quarterly survey of Parks and Depots of the RAF (U.K.).*
[68]TNA AIR1/683/21/13/2234 *Precis of Training, RFC and RNAS.*
[69]Livingston, *Hot Air,* p. 113.
[70]'Volunteer Immediately', *Coventry Evening Telegraph,* (6 July 1918, p. 1).
[71]'Irish Recruiting Council', *Londonderry Sentinel,* (31 August 1918, p. 2).

	1914	1915	1916	1917	1918
Total Recorded	6,464	13,699	26,626	30,062	47,257
Occupation	%	%	%	%	%
Fitter/Turner	13	11	10	9	17
Clerk	10	17	13	18	14
Mechanic/Engineer	16	10	7	8	9
Carpenter/Joiner	12	13	26	14	6
Driver	4	7	6	6	4
Electrician	3	5	3	3	3
Sailmaker	1	3	4	3	2
Draughtsman	1	1	1	1	2
Warehouse/Storeman	1	1	2	2	1
Instrument Repair	1	1	1	1	1
Wireless	1	3	1	1	1
Photographer	1	1	2	1	1
Other advertised trade	3	2	3	2	2
Total % in Advertised Trades	**66**	**76**	**76**	**68**	**62**
Labourer	14	7	4	7	13
Students	-	1	1	3	4
Farmer	1	-	-	1	2
Salesman	1	1	3	3	2
Painter/Decorator	2	1	2	2	1
Other Non-advertised	12	12	15	16	16
Total % in Non-Advertised Trades	**34**	**24**	**24**	**32**	**38**

Table 1: Attestation Occupations of Enlisting RFC/RAF Men[72]

Table 1 contains the records of all men where attestation occupations were listed. As shown, more unskilled labourers (13%, 5,930) joined than all classes of employee bar fitters, turners and clerks in 1918. In 1915 and 1916, just 100 students were recruited from schools and universities. In 1918, this number rose to 1,747. There are also sharp rises in teachers, butchers, farmers, grocers, painters, salesmen and miners in the latter part of the year.

The men themselves were also quite different, as the RFC/RAF accepted men younger and older than their previous target range. As shown in Table 2, based on a sample of

---

[72]Using those attestation records where a trade is listed.

random attestations where age is known, 78% of the men recruited in 1918 were either 20 or under or over 30, compared to 33% in 1914.

	1914	**1915**	**1916**	**1917**	**1918**
	%	%	%	%	%
Under 20	11	29	19	36	44
21-25	46	44	31	17	17
26-30	21	16	25	18	5
30+	22	11	24	29	34
Under 20 or 30+	33	40	43	65	78

Table 2: Percentage Age at Attestation, a sample of 1,000 Men.

As stated earlier, from mid-1917, the RFC found that:

> It is possible to employ a considerable number of boys in the RFC in substitution for full-grown men. … The more boys we can take in … and usefully train, the easier will the solution of this very difficult problem become.[73]

A manpower return dated 13 July 1918 shows that 4,900 boys had been recruited.[74] While with contemporary eyes, one may expect this total of 4,915 boys to compare to student recruits in Table 1, they do not. It must be remembered that most of these boys were at work when they joined the RAF. Therefore, they transferred to the Corps from other trades rather than coming from schools and colleges. None of these youngest recruits was allowed to serve overseas before they reached 18. Thus, they were distributed across almost 20 RFC establishments in Britain, including Training Depot Squadrons, training schools, store hubs and depots.[75]

It was not just the young that the RAF were recruiting in 1918. Harold Eager, the former 'boy' recruit mentioned earlier, recalled that by mid-1918, 'old chaps, 55 and that' were joining.[76] The Military Service Act (No.2), effective 2 May 1918, raised the military age to 51, the explicit intention being for these older men to replace younger

---

[73]TNA AIR 2/12/87/Labour/38 *Boy Labour.*
[74]TNA AIR 2/87/RFC/642 *Sanction for the Employment of boys in R.F.C.*
[75]Ibid.
[76]IWM 16310, Eager

ones in support or garrison duties.[77] Like the boy recruits, such men were guaranteed service in Britain, and it was men like Eager who headed to France.[78] The RAF's explicit call for older men to enlist met with a healthy response. There were many examples of men over 50 joining. Tasmanian Bannatyne Macleod enlisted as a 58 year old civil service pensioner. He had previously worked in the Indian Civil Service and married in Bangalore an incredible 32 years before the war broke out. He enlisted on 8 May 1918 as a batman. Sixty one year old Harry Osborn enlisted as a labourer from Salisbury and had served in the Army Medical Corps since October 1916. Oborn, though, is not the oldest recruit this research identified. Thomas Cox was born on the 20 March 1856 in Shrewsbury, and his enlistment form notes his age as 62 ¼. He enlisted in June 1918 and was a labourer with various balloon sections. As noted, men joining at this age were generally guaranteed home service as they fell outside of the Military Service Act. However, men joining the RAF would, at any age, still be offered the chance to serve overseas.[79]

Partly due to the old and young recruits, the physical stature of the men enlisting in 1918 was also very different from earlier in the war. Using the same sample as above for age, this research recorded men's chest and height measurements across the war years. The results show that men were, on average, 2" shorter in height in 1918 - 5'6" on average – compared to 1914 and 3" less broad around the chest at 32". Whilst such differences might not sound significant, as the statistics below show, many men who would have been deemed physically unacceptable earlier in the war were now recruited.

	1914	1915	1916	1917	1918
	%	%	%	%	%
Percentage of men enlisting under 5'3" height	4	7	11	15	17
Percentage of Men Enlisting with Chest Measurement of 30" or less	1	5	7	15	17

Table 3: Percentage of Under Size Men Enlisted by Year

---

[77]J. McDermott, *British Military Service Tribunals 1916-1918,* (Manchester: Manchester University Press, 2011), p. 28.
[78]IWM 16310, Eager.
[79]'Not Too Old at Fifty' *The Halesworth and East Suffolk Advertiser,* (2 April 1918, p. 1).

The 1918 recruits were then, increasingly from outside traditional-age groups and physically smaller than their earlier counterparts. They also came from different regions than those who had joined before them.

The southeast of England had been the traditional recruiting ground for the RFC since its inception in 1912. The proportion of recruits from the southeast had increased to a peak of 55% in 1916. Of course, birth location does not equate directly to enlistment location. Men may have moved locations for work or even to the South East to join the force. By 1918, other regional recruitment centres had also opened. However, even with those caveats, the 1918 change is marked. Table 4 is compiled using all attestation records where a location is known. Though still up in nominal terms, the proportion from the South East collapsed to just 26% of recruits in 1918. Scotland and Ireland, which had accounted for only 6% of recruits in 1917, jumped to 16%. There were also increases in men from northern counties and the Midlands.

	1914	1915	1916	1917	1918
Number of Records	10,498	16,381	22,315	25,434	84,153
	%	%	%	%	%
South East	35	48	55	45	26
North	26	19	18	21	25
Midlands	15	12	10	13	19
Other	10	11	11	13	10
Total England	**85**	**90**	**93**	**92**	**79**
Scotland	8	5	4	5	9
Ireland	4	2	1	1	7
Wales	3	3	2	2	3
Total Other Great Britain	**15**	**10**	**7**	**8**	**19**
Overseas	0	0	0	0	2
Total	**100**	**100**	**100**	**100**	**100**

Table 4: A Geographical Widening of the Net by Year

Ireland accounted for only 253 attestations in 1916, a year marked by the Easter Rising in Dublin. In 1918, the RFC adopted a particular and subtle change of focus in their advertisements seeking men in Ireland. They now required men 'for the maintenance of aeroplanes employed on the destruction of Zeppelins' rather than for service in

France.[80] Nor was this the only 'revenge' focused bid to attract recruits. In May 1918, the RAF advertised for 5,000 recruits to help 'our Royal Air Force keep on bombing Germans'.[81] The fact that the RAF was an independent service and no longer part of the Army also assisted recruiters in Ireland. As Bowman, Butler and Wheatley note in their discussion of Irish recruitment in *The Disparity of Sacrifice*, 'the RAF was the service of choice for recruits in late 1918.'[82] So great was the response to advertisements in Belfast that an appeal went out for men to desist from attending in person at the Recruits Depot until further administrative manpower had been added, and instead to apply in writing.[83] This research shows the significance of Irish recruitment in 1918 by comparing it to total English recruitment across the war years as follows:

	1914	**1915**	**1916**	**1917**	**1918**
English Enlistments	8,896	14,780	20,756	23,218	67,169
Irish Enlistments	379	286	253	294	5,768
English to Irish Ratio	**24:1**	**52:1**	**82:1**	**79:1**	**12:1**

Table 5: Ratio of English to Irish recruitment by year

The ranks of the RAF were also swollen in 1918 by men from America. Britain's need for manpower and America's need for training assistance resulted in a signed reciprocal agreement. The result was that America would send 16,000 technical men to Britain for training, the equivalent of 15% of British 1918 enlistments.[84] Once training was complete, the men would join RAF Training Depot Stations in Britain, allowing the freed-up RAF men to go to France.[85]

Conclusions
The recruitment of the ranks of the RFC/RAF is ultimately one of profound success. When the war was declared, the chief challenge faced was a lack of infrastructure and clarity around potential manpower requirements. Complicating matters was the fact that a significant number of skilled men joined the infantry in the initial flush of recruitment enthusiasm in 1914. However, the relatively slow build-up of the RFC meant that the Corps was relatively untroubled by such issues until mid-1916. At this

---

[80]'Skilled Tradesmen are Required', *Londonderry Sentinel,* (19 September 1916, p. 2).
[81]'Last London Air Raid, Over 200 Casualties', *Dublin Post,* (30 May 1918, p. 3).
[82]T.Bowman, W. Butler, M.Wheatley, *The Disparity of Sacrifice : Irish Recruitment to the British Armed Forces, 1914-1918,* (Liverpool: Liverpool University Press, 2020), p. 132.
[83]'French's 50,000', *Belfast News-Letter,* (26 July 1918, p. 4).
[84]TNA AIR 1/686/21/13/2252 *Statistical data of the R.F.C and R.A.F.*
[85]Jones, *WITA, vol 6,* p. 77.

stage of the war, the competing needs of home industries and the infantry made the recruitment challenge much harder.

Despite competition for manpower, the RFC always found ways to recruit the people it needed, and the statistics presented here highlight its success. In each year of the war, the RFC/RAF recruited over 60% from the class of trades that they had defined in initial recruitment materials. In 1915 and 1916, more than three-quarters were from target trades and throughout the war, the percentage never fell below 60%. This was a considerable achievement, particularly in the context of Britain's national shortage of skilled labour.

The RFC quickly recognised the importance of the skillset over the rigid interpretation of physical attributes, even stating such in their recruitment guidelines. They realised, too, that men not necessarily fit for life in the trenches would be suitable for roles in stores, depots and workshops. As the war continued, men were increasingly likely to be recruited with low medical board examination results. They became shorter and physically less imposing as the war continued, but there is no discernible evidence that the force's efficiency was reduced.

The RFC later spotted an opportunity to recruit younger men, so-called 'boys', into the service. Guaranteeing them service in Britain reduced potential parental opposition and gave them an apprenticeship in a trade. From a service perspective, it created a skilled pipeline of men once they turned eighteen. These young men were joined by increasing numbers of older workers who, unfit for the trenches, were perfectly capable of many roles within the RFC. Across Britain a dilution of skilled labour in factories and munitions plants occurred and women became invaluable to the war effort. The RFC/RAF, too, recruited substantial numbers of women to free up men for service abroad and the WRAF was successfully created in parallel with the men's organisation. As labour shortages became acute by the close of 1917, the RFC had a fully functioning training establishment in place. Its importance in allowing the recruitment of unskilled men was vital in finding sufficient numbers.

Using newspapers and cinemas allowed the RFC/RAF to recruit from beyond their traditional bases in the South East of England. Specifically targeted appeals, such as the one in Ireland in 1918, resulted in unprecedented success when accompanied by a message that stressed the independence of the air service from the Army. Canada also provided significant numbers of tradesmen as it did with pilots. Though recruitment was not without its challenges, there remained a significant Canadian presence from 1917 until the end of the war, bolstering the ranks when most needed.

Combining all the factors above, the RFC and the RAF successfully recruited those needed to fight and win the first war in the air. As this article has shown, it was a success made possible by significant compromise, pragmatism and creativity.

Casualties of War: 1/1 Bucks Battalion, 1915-1919

IAN BECKETT & TIMOTHY BOWMAN[*]
University of Kent, UK
Email: *l.Beckett@kent.ac.uk* and *T.Bowman@kent.ac.uk*

ABSTRACT
The handful of surviving British army 'casualty books' from the Great War are not only a unique source for quantifying the wartime integrity of units but also of answering such additional questions as the incidence and type of disciplinary offences. Equally, the extent of disease and illness can also be determined as well as leave policies and the impact on battalions of secondments, temporary attachments and attendance at training courses. An analysis of the casualty books of 1/1 Bucks Battalion whilst serving on the Western Front and in Italy provide a microcosm of the internal dynamics of a wartime battalion.

Introduction

It has long been the contention of one of the authors of this paper that no single battalion in the British army during the First World War was quite like any other, and that generalising the serviceman's experience of war between 1914 and 1918 is exceptionally difficult since the conditioning of men would depend to a large extent on the unit in which they served.[1] In itself, this is a subjective judgement dependent upon familiarity with diaries and memoirs and some fine studies of individual units but there is invariably an absence of evidence in the form of readily available detailed data on the internal dynamics of units. Trawling through surviving (and incomplete) personnel files in the UK National Archives (Folders WO 363 and 364) for even one unit would be an impossible undertaking. However, there are some other surviving

---

[1]Ian Beckett, 'The British Army, 1914-18: The Illusion of Change', in John Turner (ed.), *Britain and the First World War,* (London: Unwin Hyman, 1988), pp. 99-116 (p. 109).

sources for a few units that can begin to make meaningful comparisons possible. These are battalion 'casualty books' in which each entry records full details of an individual's period in the battalion, including leave and training, wounds and illnesses, transfers, and disciplinary record. Where individuals were killed, there is often also a map reference for the original grave or location of the body, including for many of those whose body was subsequently lost. The significance of this information can be readily imagined. It is a far more complete source than the material so imaginatively mined for prosopographic studies of Irish formations.[2]

What follows, therefore, is an examination of the casualty books of one Territorial Force battalion that served on the Western Front and in Italy between 1915 and 1918, namely 1/1 Buckinghamshire Battalion of The Oxfordshire & Buckinghamshire Light Infantry (OBLI). The changing composition of the battalion with the influx of drafts from other units after heavy casualties in 1916 and 1917 can be readily quantified. The disciplinary entries similarly enable a complete picture to be drawn of the incidence and type of disciplinary offences, and the sentences imposed. Equally, the type of disease and illness can also be determined. This adds significantly to studies on wartime medicine, and on the relationship between British soldiers and French and Belgian civilians.[3]

Following a discussion of the general historiography of the Territorial Force and of the nature of the casualty books and the questions they raise and answer, the paper turns to the initial recruitment of the battalion before offering a detailed analysis of the process of change. This is then further explored through discussion of the contribution to change of issues other than battle casualties such as leave, attachment, illness, and unauthorised absence, which also raises the matter of discipline. At each stage, the evidence is related to the wider historiography. A conclusion is then drawn on the value of the casualty books and the scope for further analysis and comparison.

Historiography
The historiography of the Territorial Force has been transformed in recent years. The initial focus was on the evolution of the Haldane reforms and the weaknesses of the

---

[2]Richard S. Grayson, *Belfast Boys: How Unionists and Nationalists Fought and Died Together in the First World War,* (London: Continuum, Books, 2009); Richard S. Grayson, 'Military History from the Street: New Methods for Researching First World War Service in the British Military', *War in History* 21 (2014), pp. 465-495; Stephen Sandford, *Neither Unionist Nor Nationalist: The 10th (Irish) Division in the Great War* (Newbridge: Irish Academic Press, 2014).
[3]Mark Harrison, *The Medical War: British Military Medicine in the First World War,* (Oxford: Oxford University Press, 2010); Craig Gibson, *Behind The Front: British Soldier and French Civilians, 1914-18,* (Cambridge: Cambridge University Press, 2014).

resulting Territorial county structure between 1908 and 1914.[4] A part-time force intended to bridge the perceived gap between army and society was undermined by political compromises. The latter led both to an emphasis upon home defence rather than the means to expand the army in the event of war and also to the removal of any elective element on the County Territorial Associations (CTAs). Territorials came under sustained assault from those regular soldiers who had little confidence in the military efficiency of amateurs, from those advocating some form of conscription, and from the political left. The force was 63,000 short of its establishment of 314,000 in January 1914. A mere 1,090 officers and 17,788 other ranks had taken the so-called Imperial Service Obligation (ISO) by volunteering for overseas service in the event of war. In any case, with Territorial enlistment permitted at the age of 17, 40,000 were under the age of 19 at which overseas service was legally permissible. A third of the force had failed the modest musketry requirements and, in 1912, only 155,000 men had undertaken the full 15 days' annual camp.[5]

A tentative framework was previously advanced subsequently for the examination of the Territorial experience during the Great War.[6] This pointed to the detrimental impact in August 1914 of the decision of the new Secretary of State for War, Field Marshal Lord Kitchener, to ignore CTAs as a means of wartime expansion for the army. Kitchener's reasoning embraced the legal difficulties relating to the ISO as well as to the inability to transfer Territorials between units, or to amalgamate or disband Territorial units. His concern extended to the age profile of the Territorial Force, the ability of men to seek discharge at the end of their pre-war term of service, and the continued ability of Territorials to enlist for home service only. Nonetheless, there was a degree of prejudice against amateur soldiers and local political influences whilst Kitchener was also fearful of the possibility of German invasion, against which the Territorials were the principal defence. Consequently, there was unnecessary duplication of effort in raising Kitchener's 'New Armies' simultaneously with an expansion of the Territorial Force.

The issue of the ISO and the degree of county integrity of wartime Territorial formations as casualties mounted has remained central to subsequent enquiry. Detailed studies demonstrate that the extent to which Territorials resisted

---

[4]Edward Spiers, *Haldane: An Army Reformer,* (Edinburgh: Edinburgh University Press, 1980); Peter Dennis, *The Territorial Army, 1907-40,* (Woodbridge: Boydell Press for Royal Historical Society, 1987).

[5]Ian Beckett, *Territorials: A Century of Service,* (Plymouth: DRA Publishing for the MOD, 2008), pp. 39-40.

[6]Ian Beckett, 'The Territorial Force', in Ian Beckett and Keith Simpson (eds), *The Nation in Arms: A Social Study of the British Army in the First World War*, (Manchester: Manchester University Press, 1985), pp. 127-164.

'nationalisation' of the army varied considerably.[7] Further studies have analysed pre-war administrative failings and also suggested that the Territorials proved receptive to innovation, capable of initiative, and highly resilient. It is implied that the Territorial Force reached its 'apogee' on the Somme, and thereafter being largely indistinguishable from regular or New Army formations.[8]

Such aspects as morale and discipline that pertain particularly to the perceived character of the Territorial Force similarly reflect the wider number of studies of these aspects of the Great War experience.[9] Generally, there has been increasing emphasis upon the experience of individual formations at both divisional and battalion level.[10]

It is in this context that an analysis of the 'Casualty Books' of 1/1 Buckinghamshire Battalion, Oxfordshire and Buckinghamshire Light Infantry is so valuable. The four volumes constitute a complete source for the 2,906 other ranks and 139 officers (excluding two medical officers and a chaplain) who served in this First Line Territorial Battalion overseas between 1915 and 1919.[11] The Territorial Force was expanded in August 1914 with CTAs authorised to raise new units to replace those volunteering for overseas service, the former being 'first line' and the latter 'second line'. In November 1914 further 'third line' units were raised as first line units proceeded overseas and for all that had not already done so in March 1915. The nomenclature of 1/1, 2/1 and 3/1 battalions was adopted in January 1915. Thus, the pre-war Buckinghamshire Battalion became 1/1 Bucks, the second raised in September 1914

---

[7]K. W. Mitchinson, *Gentlemen and Officers: The Impact of War on a Territorial Regiment,* (London: Imperial War Museum, 1995); Jill Knight, *The Civil Service Rifles in the Great War,* (Barnsley: Pen & Sword, 2004); Helen McCartney, *Citizen Soldiers: The Liverpool Territorials in the First World War,* (Cambridge: Cambridge University Press, 2005); Thomas Thorpe, 'The Extent, Nature and Impact of Military Group Cohesion in London Regiment Infantry Battalions during the Great War', Unpublished PhD Thesis, Kings College, London, 2016; James Kitchen, *The British Imperial Army in the Middle East: Morale and Identity in the Sinai and Palestine Campaigns, 1916-18,* (London: Bloomsbury, 2014), pp. 123-150.

[8]K. W. Mitchinson, *England's Last Hope: The Territorial Force, 1908-14,* (Basingstoke: Palgrave, 2008); K. W. Mitchinson, *The Territorial Force at War, 1914-16,* (Basingstoke: Palgrave Macmillan, 2014).

[9]Timothy Bowman, *Irish Regiments in the Great War: Discipline and Morale,* (Manchester: Manchester University Press, 2003); Alex Watson, *Enduring the Great War: Combat, Morale and Collapse in the German and British Armies, 1914-18,* (Cambridge: Cambridge University Press, 2008).

[10]See, for example, Mark Connelly, *Steady the Buffs: A Regiment, A Region and the Great War,* (Oxford: Oxford University Press, 2006).

[11]Buckinghamshire Archives (hereafter BA) T/A 6/11-14, Casualty Books.

became 2/1 Bucks, and the third battalion raised in March 1915 became 3/1 Bucks. The second and third line battalions were intended initially to provide reinforcing drafts for the first and second lines respectively although, ultimately most second line battalions went overseas in their own right. 1/1 Bucks served with 145 Brigade of 48 (South Midland) Division on the Western Front from March 1915 to November 1917, and then in Italy from November 1917 to February 1919.[12]

Casualty books have also survived for two regular battalions – 1 Somerset Light Infantry (SLI) and 1 Royal Welsh Fusiliers (RWF) – and another Territorial battalion, the 1/6 Kings (Liverpool Regiment).[13] Together with those of 1/1 Bucks Battalion, these have been sampled for a valuable recent thesis by Thomas Davies on the army's reinforcement system during the First World War.[14] In each case, Davies took a sample of soldiers with surnames from A to G. This enables a good indicative degree of comparison in terms of drafting policy and the implications for battalion identity, the overall sample being 6,560 men or around a third of those in the four casualty books. Understandably, there may be anomalies. The first draft of 'strangers' received by 1/1 Bucks in August 1916, for example, was from 1/1 Huntingdonshire Cyclists. All the latter bore surnames with letters between S and W, which suggests something of the allocation process of the Hunts Cyclists within 48 (South Midland) Division.

What are described as casualty books also exist for two other Territorial regiments –1/5 Suffolk Regiment and 1/1 Dorset Yeomanry.[15] What is described as a casualty and sickness ledger exists for 1, 2, 7, 8 and 9 Battalions of the Norfolk Regiment – the latter three all Kitchener service battalions – and catalogues the POW, casualty, sickness, and hospitalisation status of some 15,000 men. These sources, however, do not appear to go further in terms of recording the additional details contained in the 1/1 Bucks casualty books.[16] None have been found for any Scottish unit. For reasons of space and because few other surviving casualty books include them, data for officers has been omitted from this analysis.

---

[12]For 48 Division, see K. W. Mitchinson, *The 48th (South Midland) Division, 1908-19* (Solihull: Helion, 2017).

[13]Somerset Archive DD/SLI/9/4; Royal Welsh Fusiliers Museum, TRWFM 276; Liverpool Maritime Museum, KRO, K2/1.

[14]Thomas Davies, 'Reinforcement Policy and Practice in the British and Dominion Forces during the First World War', Unpublished PhD Thesis University of Kent, 2023.

[15]Suffolk Record Office GB554/H/2/1; Dorset History Centre D/DOY/A/5/1-2.

[16]Norfolk Museums Collection NWHRM 6752.

Enlistment and Recruitment in 1/1 Bucks Battalion

The antecedent pre-1908 Bucks rifle volunteer battalion had become increasingly dependent for its recruits upon Aylesbury printers, High Wycombe chair-makers, and the employees of the London and North Western Railway Company (LNWR) Carriage Works at Wolverton.[17] There were difficulties in establishing the county's new Territorial units in 1908, not least resentment at the abolition of the Royal Bucks King's Own Militia, which prompted a sufficiently vigorous public campaign for the War Office to concede the renaming of the Oxfordshire Light Infantry as the OBLI.[18] Similarly, rather than becoming 5 Battalion, OBLI – the Oxfordshire volunteers being 4 Battalion – the new infantry battalion became the Buckinghamshire Battalion, OBLI. A total of 1,013 men transferred to the Territorial Force from the existing Bucks volunteers and yeomanry units.

The combined establishment of the new Territorial units – the Bucks Battalion, the Royal Bucks Hussars, the 2 South Midland Mounted Brigade Field Ambulance, and the South Midland Brigade Company, Army Service Corps (ASC) – was 1,642. Bucks units reached 93 per cent of establishment in 1909 although this fell to 83 per cent when men were required to re-engage following the end of the initial four-year term of engagement in 1912. The Territorial Reserve stood at only six officers and one man in 1914, although the National Reserve mustered 64 officers and 1,660 ORs.[19]

In common with other Territorial units, the Bucks Battalion was recalled from annual summer camp as the crisis in Europe deepened. The ISO request was put to men on 11 August 1914. Initially, only 553 men took the ISO although the number rose to 600 by the following day. Those who did so were unequally distributed with 70 from the 75 men of the Aylesbury Company and 24 out of 32 from the Chesham Detachment doing so. All 27 members of the band declined. In all, approximately 240 men including many older NCOs declined the ISO.[20] They were separated from the battalion at Chelmsford, stripped of weapons and equipment and returned to Aylesbury to form a nucleus for the 2/1 Bucks Battalion. Labelled 'Never Dies' by the commanding officer, Lieutenant Colonel Francis Wethered, they were, as suggested by Geoffry Christie-

---

[17]Ian Beckett, *Call to Arms: Buckinghamshire's Citizen Soldiers,* (Buckingham: Barracuda, 1985), pp. 43-58; Ian Beckett, 'The Local Community and the Amateur Military Tradition: A Case Study of Victorian Buckinghamshire', *Journal of the Society for Army Historical Research* 59 (1981), pp. 95-110, 161-170.

[18]BA Fremantle Add Mss, D/FR/A/77, Resolutions for public meeting at Aylesbury, 14 Jan. 1908; T/A 1/27, CTA Letter Book, James to Haldane, 15 Jan. 1908.

[19]Ian Beckett, 'The Local Community and the Great War: Aspects of Military Participation', *Records of Bucks* 20 (1978), pp. 503-515.

[20]*Bucks Free Press*, 21 Aug. 1914; Lionel Crouch, *Duty and Service: Letters from the Front* (Aylesbury: Privately printed, 1917), pp. 24-25; Viney, 'Reminiscences', pp. 70-74.

Miller of 2/1 Bucks 'not treated by either officers or men in the manner contemplated by the King's regulations'.[21] The relationship between the two battalions was permanently soured and not improved when 2/1 Bucks refused to send any experienced NCOs to 1/1 in March 1915 in return for men left behind when the latter proceeded overseas.

When 2/1 Bucks was asked in turn to take ISO in April 1915, all but 140 men did so, those not doing so being elderly or unfit. All but one of member of the band now volunteered. Those not taking the ISO were sent back to 3/1 Bucks, the third line battalion formed in March 1915. Fifty others sent back had not been encouraged to volunteer but 35 of these were then sent back to 2/1 Bucks from 3/1 in the first draft.[22]

The number declining to take the ISO in 1/4 OBLI appears to have been about 42 per cent but, overall, about 20 per cent of the men of the 48 Division declined to take the obligation. Generally, there were significant tensions between first and second line units arising from the ISO and the reluctance of the second line units to accept older home service men and to lose their own younger and fitter men.[23]

Additional significant factors with regard to the pre-war Territorial legislation was the ability of men to enlist for home service only until March 1915, while pre-war Territorials could and did seek their discharge at the end of their original four-year term of service until May 1916. There were 82,588 home servicemen still borne on Territorial returns in August 1915. Over 159,000 pre-war Territorials would have been entitled to discharge between 1914 and 1917 under normal peacetime conditions, albeit that this was extended automatically by one year on the outbreak of war. Those who chose to re-engage received a month's furlough and a bounty. Under the first Military Service Act of January 1916, all Territorials under 41 years of age had until 2 March 1916 to take the ISO, resign (if officers) or be discharged (ORs) and thus become liable to conscription. Those compulsorily retained thereafter were given a month's furlough where possible. After 11 December 1915 no more direct recruiting was permitted into the Territorial Force except for a few specified units.

---

[21]Imperial War Museum (hereinafter IWM) Christie-Miller Mss, 80/32/1, Vol. 1, pp. 26-29.

[22]BA D/X 780/29, Diary of Charles Phipps, 28 May 1915; IWM Christie-Miller Mss, 80/32/1, Vol 1, pp. 66-68, p. 78, p. 81; author interviews with J. Stammers, A. Seymour and J. Tranter, 25 Nov. 1980.

[23]Ian Beckett, 'The Territorial Force in the Great War', in Peter Liddle (ed.), *Home Fires and Foreign Fields: British Social and Military Experience in the First World War*, (London: Brassey's, 1985), pp. 21-38 (p. 23); Mitchinson, *48th Division*, pp. 36-38.

Yet a further legislative difficulty was that the form that Territorials signed in assenting to overseas service specified they would remain with their own unit and could not be subsequently transferred to another. Amalgamating or disbanding Territorial units was theoretically illegal. Following the failure of legislation in April 1915, a new form to permit transfer was issued in May 1915 to all new recruits, as well as to all who had already signified assent. It was said by the influential Lord Derby to be 'murdering' Territorial recruitment.[24] In the event, clauses were included in the Military Service Act of May 1916 to remove the anomaly. Temporary amalgamations of many Territorial units took place in the wake of heavy casualties in 1915, and became more permanent in 1916, whilst second line Territorial units took the brunt of reductions on the reorganisation of the BEF amid the general manpower shortages in early 1918.

The 1/1 Bucks Casualty Books are not helpful with regard to the ISO since no individuals' details are recorded prior to embarkation in March 1915. They do provide evidence of those re-engaging at the end of their term of service and those prepared to go home time-expired even in the knowledge that conscription had been introduced. A total of 40 men re-engaged between April 1915 and June 1916. In that same period, 97 chose to go home, the first as early as July 1915. Thus, of those eligible, 70.8 per cent chose to exercise the option to go home. Two of those who chose to go time-expired were winners of gallantry awards, Lance Corporal Gostelow having been awarded the Distinguished Conduct Medal (DCM) in January 1916, and Corporal Smewin the Military Medal (MM) in March 1916. Four men who had been the subject of disciplinary proceedings also chose to go although, equally, two others re-engaged, one later killed and the other sent home with serious wounds. The first man to be retained compulsorily was in June 1916 and, in all, 72 men were so retained by the end of the war.

In August 1914 any men or recruits under the age of 19 were automatically sent to 2/1 Bucks. All those who were fit and aged over 19 were then sent from 2/1 Bucks as a draft in March 1915 to help complete 1/1 Bucks on embarkation.[25] It is impossible to gauge the numbers enlisting underage nationally and attempts to quantify the extent of such recruitment are unconvincing.[26] In the case of the Bucks, just 23 men were sent home under age, ten of them prior to June 1915. The longest had served almost five months with the battalion before being sent home in February 1916. Another sent home after less than a month at the front in February 1916 had actually been in uniform

---

[24] Randolph Churchill, *Lord Derby: King of Lancashire,* (London: Heinemann, 1959), pp. 185-86.

[25] IWM Christie-Miller Mss, 80/32/1, Vol. 1, pp. 2-3, 46.

[26] Richard van Emden, *Boy Soldiers of the Great War* 2nd edn., (London: Bloomsbury, 2012); John Oakes, *Kitchener's Lost Boys: From the Playing Fields to the Killing Fields,* (Stroud: History Press, 2009).

since July 1915. It suggests that under-age enlistment was not as widespread as supposed. A total of 27 men were either commissioned into other units or went to commissioning cadet units. Whilst dealing with the question of young soldiers in general for his thesis, Davies did not interrogate his sample from casualty books to enable a comparison to be made between 1/1 Bucks, 1 SLI, 1 RWF and 1/6 Kings.[27]

One aspect that should be emphasised is the level of Jewish recruitment. The wealthy Rothschild banking family had long been associated with the Royal Buckinghamshire Hussars. The *Jewish World* reported in August 1915 that Lionel de Rothschild had recruited over 40 young Jews for the Royal Bucks Hussars, Bucks Battalions, and 2 South Midland Mounted Brigade Field Ambulance. In November it carried an advertisement for the newly opened Rothschild recruiting office in London. *The British Jewry Book of Honour* yields 109 Jews who served in the Bucks Battalions including two officers.[28] The editor, Rev. Michael Adler, recorded in his diary on 11 August 1916 that he had met 'a party of fifty newly-arrived Jewish soldiers belonging to the 1/1st Bucks Battalion' outside Bouzincourt on the Somme and conducted a brief service.[29] A total of 27 of those listed in *The British Jewry Book of Honour* appear to have served in 2/1 Bucks and three in 3/1 Bucks, while 79 served in 1/1 Bucks. At least 14 died serving with 1/1 Bucks and 10 with 2/1 Bucks.[30] The majority of the Jewish soldiers arrived after the first heavy losses on the Somme. Through recording the ultimate destination of Jewish recruits, *The British Jewry Book of Honour* misses that most of those in 1/1 Bucks came from 3/1 Bucks. Hawtin Mundy, a LNWR apprentice, who enlisted in 1/1 Bucks, was sent to 3/1 Bucks to recover from wounds in May 1915. He recorded later of the 3/1st that 'they was nearly all of them Jewish chaps'.[31] Davies suggests that, not unexpectedly, 1/1 Bucks received more recruits from London over time than 1 SLI, 1 RWF and 1/6 Kings. The level of Jewish recruitment from London clearly added to such a trend.[32]

---

[27]Davies, 'Reinforcement Policy', pp. 198-199.

[28]Michael Adler (ed.), *British Jewry Book of Honour,* (London: Caxton Publishing Co., 1922), pp. 334-337.

[29]Justin Cavernelis-Frost, '"There are three types of men": Lionel de Rothschild and the Jewish War Services Committee, 1915-19', *Rothschild Archives Review of the Year 2013-2014*, pp. 36-44 (p. 41).

[30]Harold Pollins, 'Jews in the British Army in the First World War', *Jewish Journal of Sociology* 37 (1995), pp. 100-111; Harold Pollins, 'The Rothschilds as Recruiters for Buckinghamshire in the First World War', *Bulletin of the Military Historical Society* 50 (1999), pp. 196-205.

[31]Hawtin Mundy, *No Heroes, No Cowards,* (Milton Keynes: The People's Press, 1981), p. 26.

[32]Davies, 'Reinforcement Policy', pp. 160-61.

In keeping with the legislative difficulties and the retrospective authorisation for transfers between units, there were just 24 prior to June 1916: 13 of them went to the Brigade Machine Gun Company whilst five were transferred to the Ministry of Munitions at home as well as one sent home on compassionate grounds. Of the remainder, three went to the Royal Engineers, one to the Royal Flying Corps, and one for unknown reasons to 10 (Service) Battalion, The Lincolnshire Regiment – the 'Grimsby Chums'. Thereafter, transfers were frequent with a wartime total of 185 men transferred up to January 1919. In addition, 41 men were posted directly elsewhere after recovering from wounds or injury on the Somme in July 1916. This was probably regarded as acceptable since 40 of them went to 2/1 Bucks, the other individual to the Royal Engineers. These men are counted as not returning through wounds or injury rather than as transfers in Table 1 (all tables a shown at the end of this article).

Patterns of Change: Battle Casualties

The degree of change in 1/1 Bucks Battalion is easily traced in Table 1. It is convenient to see the battalion's war experience as comprising three periods of relative stability (March 1915 to June 1916, September 1916 to June 1917, and September 1917 to November 1917) interspersed with two short and intense phases of operations (July to August 1916, and July to August 1917). The period from September 1917 onwards is divided by the battalion's departure for the Italian front at the end of November 1917, justifiable in terms of the very different conditions then experienced. The two intense periods are defined by the Somme and Third Ypres. Even then, the most significant casualties occurred around Ovillers and Pozières on the Somme between 21 and 24 July 1916, which cost 242 casualties, and at St Julien on 16 August 1917 during that part of Third Ypres classified as the Battle of Langemarck, which cost 291 casualties.

Proceeding overseas on 30 March 1915, the battalion occupied an acknowledged quiet sector at Hébuterne between July 1915 and July 1916. Embarkation strength was 30 officers and 916 other ranks.[33] Five men went sick on 3 April but the first casualty was Private Holland mortally wounded by shell fire on 8 April 1915 when the battalion was under instruction in the trenches. Holding the line from July 1915 to June 1916 involved considerable work to improve insanitary and waterlogged French trenches, the demands from the Royal Engineers for labour being reflected in the Casualty Books. Raiding as opposed to patrols into No Man's Land remained novel and experimental.[34] The Bucks mounted only a dozen significant fighting patrols or raids, the largest on 1 April 1916 by two officers and 25 Other Ranks (ORs), which cost

---

[33]The UK National Archives (hereinafter) TNA WO 95/2763/2.
[34]Mitchinson, *48th Division*, p. 72.

four dead and two wounded.[35] Raids were intended to harass the enemy whilst instructing men in new, or honing existing, military skills. Patrols achieved the same object but with the additional purpose of acquiring useful intelligence.[36]

Infantry fatalities for 48 Division between March 1915 and June 1916 have been estimated at just 567. These were light when 46 (North Midland) Division had suffered over 3,700 casualties on a single day at Loos in October 1915, 50 (Northumbrian) Division had also suffered over 3,700 casualties at Second Ypres in April 1915, and 47 (1/2 London) Division over 2,300 at Festubert in May 1915.[37] For the Bucks the total loss in its first fifteen months of active service between April 1915 and June 1916 amounted to 37 killed, 15 died of wounds, one missing, and 192 wounded, of whom 79 did not return to the battalion. Apart from an initial cluster of 12 fatalities (including four died of wounds) in May 1915, there were only five fatalities (including four died of wounds) between June 1915 and January 1916. Most of the 12 fatalities in February 1916 occurred as a result of a single shelling incident on 10 February whilst 23 casualties in May 1916 again came from shelling on 15 May 1916. Thirteen of the wounds were accidental as was one death, Bugler Ridgway being killed in bomb throwing practice on 31 May 1915.

The rate of change did not substantially accelerate until July 1916. It is still the case that adding those who chose to go home time-expired, those transferred and those commissioned to the fatalities, non-returning casualties and injuries, 416 men were lost to the battalion prior to July 1916 – a third of embarkation strength. There were reinforcing drafts totalling 410 men between June 1915 and June 1916, the first significant draft of 99 men arriving in June 1915 followed by 110 in February 1916, 125 in March 1916, and 63 in May 1916. Typically, these men, as well as those wounded returning from treatment in England, passed through base depots and entrenching battalions before reaching the Bucks whilst those with less serious wounds often passed through convalescent or rest camps before rejoining. Although the casualty books do not record the source of drafts prior to the Somme, it can be assumed that most were from 2/1 or 3/1 Bucks. Most second line Territorial units were required to be reduced in September 1915 to 22 officers and 600 ORs with the remainder drafted overseas or, if unfit, to the third line.[38] The battalion history records the first

---

[35]P. L. Wright, *The First Bucks Battalion,* (Aylesbury: Hazell, Watson & Viney, 1920), 222-23; Crouch, *Duty and Service*, pp. 99-102.

[36]For discussion on the utility or otherwise of raids, see Connelly, *Steady the Buffs*, pp. 72-92; Mike Senior, *Haking: A Dutiful Soldier – Lt. General Sir Richard Haking, XI Corps Commander, A Study in Corps Command,* (Barnsley: Pen & Swords, 2012), pp. 7-8.

[37]Mitchinson, *48th Division*, p. 82.

[38]Major General J. C. Swann, *Citizen Soldiers of Bucks, 1795-1926,* (Aylesbury: Hazell, Watson & Viney, 1930), p. 137.

draft of 97 'strangers' as those arriving mostly from 1/1 Hunts Cyclists in August 1916 although at least these were Territorials.[39] In fact, there were 357 new arrivals in July and August, 92 of them from the Hunts Cyclists.

Between September 1916 and June 1917 another 563 men were lost to the battalion from all causes. Increasingly, drafts were to be from specified units, and, in each case, they were 'compulsorily transferred'. Those drafted from specified units amounted to 174 in July and August 1917 and another 278 in September 1917. Of those arriving in July 1917, a total of 30 came from 4 Devon Reserve Battalion and 93 from 1 Battalion, The Hampshire Regiment. In September, 52 men arrived from 1 Battalion, The Royal Berkshire Regiment, and 225 from the ASC Motor Transport. Significantly, from September 1917 onwards only nine men arrived in the 1/1 Bucks without being drafted from a specific unit. Private Darbyshire, conscripted in May 1917, arrived at 55 Infantry Base Depot on 14 September and was initially slated for 1 Royal Berkshires, only to be transferred to the Bucks 'of which I had never heard' on 29 September.[40] Many new arrivals became casualties almost at once in both 1916 and 1917. Generally, the initial drafts to the division were trained and fit but those arriving subsequently were not always well received.[41] This can be borne out by the disciplinary statistics for the battalion as suggested below.

Since the casualty books provide no indication of a soldier's origin other than by regiment, it is *Soldiers Died in the Great War* that provides a rough indication of geographical change. In 1915, some 65% of the battalion's dead originated in Bucks parishes, and 70 per cent among those lost in 1916. In 1917, the percentage from Bucks parishes declined to 34 per cent, rising marginally to 38 per cent among the dead of 1918. This cannot be precise since losses may have fallen disproportionately within battalions, but it is persuasive in its implications.[42] Studies focussing on Western Command have suggested that its Territorial units maintained significant homogeneity throughout the war despite casualties. If not from the same regiment, replacements were from the same region with real efforts made to ensure this was so.[43] It has also been suggested that regional identity remained strong in 54 (East Anglian) Division in the Middle East but, by contrast, a London identity was far less important than other

---

[39]Wright, *Bucks*, p. 36.

[40]BA, T/A 6/13, Casualty Book; D-X 1253, Darbyshire Diary.

[41]Mitchinson, *48th Division*, pp. 103-104. For a wider analysis of training standards, see Davies, 'Reinforcement Policy', pp. 322-361.

[42]*Soldiers Died in the Great War,* (London: HMSO, 1921), Pt 47, and pp. 53-63.

[43]McCartney, *Citizen Soldiers*, p. 71; Alison Hine, 'The Provision and Management of Casualty replacements for British Infantry Units on the Western Front during the First World War', Unpublished PhD Thesis, University of Birmingham, 2015, pp. 197, 204-05, 216-21, 286-91; Mitchinson, *Territorial Force at War*, pp. 205-207.

modes of group cohesion in 56 (1st London) Division.[44] Scottish Command, too, was able to maintain the essential Scottish nature of 51 (Highland) and 52 (Lowland) Divisions although identity was greatly diluted in 1917 and 1918: recruitment then reflected a greater Scottish rather than a greater British identity.[45]

Generally, the reinforcement policy relating to the Territorial Force – as established in terms of the first, second and third lines in 1914-15 – was far more logical than the haphazard evolution of a system for the New Armies. The identity of New Army units was diluted even before significant casualties occurred, although the War Office did attempt to maintain regimental and regional identities before and after the introduction of the centralised Training Reserve in September 1916.[46]

Buckinghamshire was placed in District 7 of Southern Command. Of those specific units identified as providing drafts, Devon fell within District 8 of Southern Command, Berkshire and Hampshire were split between Southern Command and Aldershot Command. Huntingdonshire was in Eastern Command. It might be argued, therefore, that units in Southern Command were not treated as generously in replacement terms as those in Western or Scottish Command.

In his thesis, Davies has undertaken additional research on individuals' identities from the census and other biographical sources. This suggests that there was a growth in regional if not local identity in 1916-17 within 1 SLI, 1 RWF, and 1/6 Kings compared to a decline in 1/1 Bucks. His sample of surnames A – G suggests 86.8% of reinforcements were from Bucks in 1915, 42.6% in 1916, and only 8.2% in 1917. He also suggests that whereas 90.5% of reinforcements for 1/1 Bucks came from Southern Command in 1915, this declined to 47.3% in 1917. He postulates that 1/1 Bucks was less able to transition from a local to a regional identity than the other three battalions, primarily through the relatively small size of the county.[47]

---

[44]Kitchen, *British Imperial Army*, pp. 123-50; Thorpe, 'Military Group Cohesion', p. 185, pp. 205-06.

[45]Craig French, 'The 51st (Highland) Division during the First World War', Unpublished PhD Thesis, University of Glasgow, 2006, pp. 88-141, esp. pp. 140-41; Christopher Forrest, 'The 52nd (Lowland) Division in the Great War, 1914-18', Unpublished PhD Thesis, University of Salford, 2012. French relies largely on *Soldiers Died* to establish identity.

[46]Thomas Davies, 'Sustaining Britain's First "Citizen Army": The Creation and Evolution of the Reinforcement Policy for Kitchener's New Armies, 1914-16', *British Journal for Military History* 8 (2022), pp. 20-39.

[47]Davies, 'Reinforcement Policy', pp. 156-165.

The scale of casualties on the Somme and at Third Ypres that necessitated these drafts is readily apparent. In terms of total loss to the battalion, there were 408 battle casualties in July and August 1916, and then another 296 in July and August 1917. If those wounded who returned subsequently to the battalion are also taken into account (Table 2) then the total of casualties rises to 616 and 394 respectively. The casualty rate was never so great again. Divisional casualties as a whole were surprisingly light both during the Austro-Hungarian offensive on the Italian front in June 1918 despite the division's line being broken, and again during the allied offensive in October 1918.[48]

The reductions in brigade strength implemented on the Western Front in the spring of 1918 were enacted in Italy in September 1918. 1/5 Gloucesters was selected for reduction in 145 Brigade, its personnel absorbed into 25 Division. It is suggested that each of the remaining battalions received drafts of 200-300 men.[49] In the case of the Bucks, there were just 10 men drafted to the battalion between November 1917 and June 1918, one of them from the Chinese Labour Corps. Another 22 arrived from 4 and 12 Battalions, The Duke of Cornwall's Light Infantry in September 1918 but 71 men from 12 Battalion, The Durham Light Infantry in October 1918, with 40 from the Royal Army Medical Corps (RAMC), and three from 9 Battalion, The Yorkshire Regiment with an additional two men from the RAMC in November. The overall total of 148 is far less than might be assumed. Davies considers the draft from the Durham Light Infantry comprised 38.6% of those received in 1918 based on those with surnames A – G. The reality was that the Durham draft represented 51.4% of those arriving in 1918 and 47.9% of those arriving whilst the battalion was in Italy.[50]

Taking the war as a whole, drafts kept pace with casualties. It should be noted that Tables 2-6 reflect totals that conceal the extent to which individuals were wounded, became ill, went on leave or attended courses more than once.

Injuries – contusions, fractures, incisions, sprains, etc. – were never more than a minor factor. Much more will be said of illness below but it can be noted that it has been suggested that the ratio of fatalities to wounded, sick and injured in 48 Division was generally in the ratio of 4.5 per each fatality.[51] For the war as a whole, the Bucks suffered 564 fatalities (579 less the 15 missing who proved eventually to be POWs) but 4,277 wounded, sick or injured: a significantly higher ratio of 7.5 per each fatality.

---

[48]Mitchinson, *48ᵗʰ Division*, pp. 218-219.

[49]Ibid, pp. 236-237.

[50]Davies, 'Reinforcement Policy', pp. 255-256.

[51]Mitchinson, *48ᵗʰ Division*, p. 192.

Patterns of Change: Non-battle Factors

Soldiers did not spend their entire service in the front line. Charles Carrington recorded of his service in 1/5 Battalion, Royal Warwickshire Regiment in 48 Division in 1916 that he spent 65 days in the front line, 36 days in close support to the front line, 120 days in reserve, 73 days at rest behind the lines, and the remaining 72 days variously on leave, sick, travelling or attending courses.[52] Between April 1915 and June 1916, the Bucks spent 121 days in the line or in support (32.5%), five days training, 15 days entirely on working parties, 15 days on the move, and 216 days in billets (58%) but with substantial numbers of men detached on working parties or in training and few complete days of rest.

Temporary attachments and courses also took men away from the battalion. In all, 215 men were sent on temporary attachments prior to June 1916, while 150 went on courses. Most attachments were to the Royal Engineers (presumably on working parties), the Brigade Machine Gun Company, and the Trench Mortar Battery although some were detached as batmen or officers' servants. One man in January 1916 temporarily joined the divisional concert party. Other attachments were to the Horse Transport Depot and to the Salvage Company. Many courses are simply listed as army, corps, divisional or brigade schools of instruction, but specific courses concerned the use of machine guns (21), trench mortars (20), and gas (16). No less than 61 men attended 'grenadier' courses in August and September 1915. One man was sent on a cold (horse) shoeing course in January 1916.

This pattern was maintained throughout the war although, understandably, attachments and courses were far fewer in the periods of intense operations. Following the Somme there was now emphasis on the use of the Lewis Gun (39) and on various aspects of sniping (9) with five men sent on a Stokes Mortar course in December 1916. The attachments were enormously varied including some to the staffs of town majors, POW companies, as batmen and officers' servants, and one as a butcher's assistant. In the spring of 1917 army, corps, divisional and brigade schools predominated in terms of courses although 25 men were despatched to a musketry course in June 1917. The period in Italy was especially noted for men on attachments (470) and on courses (240). There appears to have been inventiveness in keeping the men occupied. Attachments included the Sanitation Section, the Divisional Baths, the Divisional Burial Party, the Divisional Soup Kitchen, Traffic and Road Control, POW Companies, the Censor's staff, the Corps Cloth Exchange, the Corps Laundry, Field Bakeries, and an Aircraft Park. One man was assigned in July 1918 to accompany the war artist Sir William Orpen whilst he was in Italy. Courses in Italy were also more varied with the usual arms schools supplemented by attendances at cookery, pack

---

[52]Charles Edmonds [sc. Carrington], *A Subaltern's War,* (London: Peter Davies, 1929), p. 120.

transport and farrier schools and on contact aeroplane, power buzzer and pigeon-man's courses.

Those who returned to the battalions after wounds, especially if the wound had been sufficiently serious for treatment in England, could often be absent for some months. Based on the sample of those with surnames A – G, Davies finds that 1/1 Bucks were more reliant upon what he terms 'recycled' reinforcements than 1 SLI, 1 RWF, and 1/6 Kings Liverpool. Whilst his figures do not represent the whole – he counts 293 returning wounded compared to the actual figure of 649 – this is probably broadly true.[53]

There was also the question of leave. As suggested earlier, those who re-engaged and those compulsorily retained were entitled to a month's furlough. Both seven and eight day leaves were granted between April 1915 and June 1916 but eight days became more common from December 1915. In all, 86 men were on leave in both November and December 1915, with 100 on leave in January 1916. By the autumn of 1916 ten days was the standard leave period but, occasionally, leave was extended for personal circumstances such as family illness. Once in Italy there were extensive leave periods granted, generally for 15 days to enable men to reach England. A few visits were permitted to Venice for 24 or 48 hours in January 1919. As with wounds, attachments and courses, some individuals had more than one leave, especially if they were long-term members of the battalion. In one case leave was declined in September 1918 to Private Goldsmith, one of those drafted in from the ASC, as he had been given extended leave in December 1917 during his wife's illness: there were now 200 men ahead of him in the queue, of whom 30 had not been home for 18 months.[54] As shown in Table 2, the number of absences on courses, attachment or leave amounted to 3,337 over the course of the war, to which can be added 784 absences from injury and wounds.

Illness was the most significant factor in absences with the periods between April 1915 and June 1916 and between December 1917 and January 1919 the most significant (Table 3). There were 244 cases of influenza between April 1915 and June 1916 and 34 cases of German measles or measles. Influenza – also known in Italy as 'mountain fever' – accounted for 103 cases in June 1918 alone, the outbreak in Italy incapacitating at least 30 per cent of 48 Division at the moment that the Austro-Hungarians launched their major attack.[55] Skin diseases such as scabies, impetigo, boils and eczema were a continual feature while dental caries and other dental problems also recurred, the

---

[53]Davies, 'Reinforcement Policy', pp. 298-300.
[54]IWM, Reynolds Mss, 74/136/1, Letter 8 Sept. 1918.
[55] Mitchinson, *48th Division*, 209; G. H. Barnett, *With the 48th Division in Italy* (Edinburgh: Blackwood, 1923), p. 64; TNA CAB 45/74, Airedale to Edmonds, 6 June 1944. .

imperfect knowledge of a heathy diet contributing to poor dental health.[56] Recording of illness was not always definitive, many fevers being recorded as kinds of pyrexia while inter-connected tissue (ICT) was a generic description for problems with muscles and arm and leg joints. What is especially noticeable is the dramatic increase in venereal diseases in Italy. Generally, British hospital admissions for venereal cases in 1918 were higher in Italy (41.8 per 1,000 men) than on the Western Front (32.4 per 1,000).[57] Although it has been suggested that malaria was a problem in Italy, only one man was so diagnosed in the Bucks in May 1918. Other illnesses are not as statistically apparent as those catalogued in Table 3 but they covered an extraordinary variety of complaints: abscesses, inflammations, varicose veins, piles, rheumatism (25), hernia (22), and even diphtheria (11).

The increased incidence of venereal cases in Italy raises the question of discipline. Regulars tended to accuse the Territorials of lax discipline without real comprehension of the dynamics of the force. Certainly, there was a different ethos deriving originally from the idea that volunteer officers and men might be social equals although this now tended to apply only in more exclusive London 'class corps'.[58]

The Casualty Books record 303 separate disciplinary offences between March 1915 and January 1919 (Table 4). A total of 242 were single offences committed by individuals with 18 men each committing two offences, two men (Summers and Paige) committing three offences, three men (Lawton, Moffatt and Novels) committing four offences, and one serial offender (Christie) committing seven offences. Lawton was an original member of the battalion whilst Novels was an early draft in July 1915, presumably from 2/1 or 3/1 Bucks. Paige and Summers were both drafted from 1 Hants in July 1917. Moffatt and Christie arrived from the ASC in September 1917.

Davies notes in his thesis that Private Dearness drafted in from the ASC in October 1917 felt sufficient loyalty to 1/1 Bucks to refuse to receive his war medals if they were marked as ASC. This is suggested as an indication of the battalion being more accommodating to newcomers.[59] Nonetheless, the arrival of the ASC personnel coincided with a major increase in crime in the battalion. Some 20 offences were committed by former members of 1 Hants but, with the added impact of the frequency of offences by Moffatt and Christie, the ASC accounted for 54 separate offences, representing 31.7% of all military crimes committed after September 1917. It is also

[56]Rachel Duffett, *The Stomach for Fighting: Food and the Soldiers of the Great War* (Manchester: Manchester University Press, 2012), p. 231.
[57]John Dillon, *Allies are a tiresome lot: The British Army in Italy in the First World War* (Solihull: Helion, 2015), pp. 74, 91-93.
[58]Meaning the more socially exclusive London units.
[59]Davies, 'Reinforcement Policy', p. 261, quoting Dearness' file in TNA WO 363.

clear that, after the initial bedding down of the battalion in terms of the disciplinary requirements of front line service between March 1915 and June 1916 (30.0% of the total), the majority of offences occurred after September 1917 (56.1%) with 47.8% of all wartime offences occurring in Italy.

Absence (usually from billets or parades), and disobedience or insolence (usually to NCOs) were the most common offences: both increased dramatically in Italy (Table 5). Field Punishment No. 1 (FP1) – men being fettered to a fixed object such as a gun wheel or a post for up to two hours per day – and Field Punishment No. 2 (FP2) – men being placed in fetters but not tied to a fixed object – were the most significant punishments. Increasingly, loss of pay was also applied. The use of the latter in Italy compared to Field Punishment accords with the hypothesis of increasing adoption of 'pious perjury' in 1917-18 and, especially so, on the Italian Front.[60] There was no consistent pattern with regard to the application of Field Punishment and clearly much depended upon judgement of the seriousness of the offence. Generally, FP1 was applied for 7 days (10 cases), 14 days (15 cases) or 28 days (25 cases) whereas FP2 was generally applied for 7 days (28 cases) or 14 days (24 cases).

Field General Courts Martial (FGCM) were utilised for the most serious cases but they did not always result in severe sentences (Table 6). In all, there were 26 by January 1919, of which eight resulted in FP1, one in FP2, and four in reductions in rank. Thirteen resulted in sentences of hard labour but in one case all charges were dropped subsequently. In other cases, sentences were commuted. The initial seven cases of hard labour between March 1915 and June 1916, four of them in August 1915 suggest examples being made. Privates Stratford and White were convicted for sleeping on sentry duty: no further cases occurred. Stratford received 12 months' hard labour and White six months but neither completed their sentences, both being released upon re-engagement. Privates French and Tandy received six months' hard labour for drunkenness and disobedience respectively, but the former had his sentence commuted to three months FP1 whilst Tandy's sentence was suspended and then remitted upon reconsideration. The future serial offender Lawton received two years hard labour in September 1915 for insubordinate language but this was reduced to one year and then commuted to three months FP1. The only other soldiers sentenced to hard labour between March 1915 and June 1916 were Privates James and Stevens for drunkenness in November 1915. Both received 90 days hard labour but Stevens's

---

[60]Gerald Oram, 'Pious Perjury: Discipline and Morale in the British Forces in Italy, 1917-18', *War in History* 9 (2002), pp. 412-430; David Englander, 'Discipline and Morale in the British Army, 1917-18', in John Horne (ed.), *State, Society and Mobilisation in Europe during the First World War,* (Cambridge: Cambridge University Press, 1997), pp. 132-136; Thorpe, 'Military Group Cohesion', pp. 139-160, p. 238.

sentence was commuted to 60 days FP1 while James had his sentence remitted and went home time-expired in March 1916.

As with FP1 and FP2 sentences, consistency is not always apparent from the sentences applied, indicating differing judgements. Nonetheless, there is logic in the two cases of absence from the trenches in December 1916. Private Moseley was absent for 47 hours and Burns for 77 hours, accounting for the more severe sentence handed the latter. In the case of James, his absence for nine hours from a carrying party whilst attached to the Trench Mortar Battery on 16 August 1917 resulted in his detention awaiting trial on 23-24 August and his conviction on 25 August. Four days later before he could start his sentence, he was killed in action, hence the conviction being overturned. Presumably, Private Bernstein initially received a slightly harsher sentence in the following month for being absent from a company attack and absent for just over ten hours: both James and Bernstein were detained by Military Police. The most serious case of all was that of Private Griffith, who was charged with desertion for absenting himself from signaller duty for a trench raid and being absent for 12 hours. Why the sentence was then suspended is not clear. His further absence from the trenches for another nine hours until arrested then resulted in him serving 90 days' FP1.

Of those sent before FGCM, Munday was killed in 1916 and both Moseley and Novels were sent back to England after serious wounds. Among the serial offenders, Paige was also killed. One early offender, Company Sergeant Major (CSM) Bishop, who received a reprimand for allowing sentries to sleep in June 1915, went on to win the DCM and the Croix de Guerre. Even the incorrigible rogue, Christie, had one of his sentences in May 1918 remitted for gallantry in action. Odell, who received three months FP1 for breach of censorship regulations in October 1915 had his sentence remitted to two months for good work on patrol: subsequently, he won the MM in Italy. It might be added as a counterweight to indiscipline, that other ranks were awarded four Military Crosses (MM), 21 DCMs, 75 MMs (two with a bar), 7 Meritorious Service Medals (MSM), 20 mentions in despatches (one individual twice), and 12 foreign decorations.[61]

Lieutenant Colonel Lewis Reynolds's letter books reveal some indication of his attitude towards indiscipline after taking command of the battalion in June 1916. He was conscious of the inexperience of NCOs in two of the cases that went to FGCM. Sergeant Smith failed to place Private McPherson under arrest for drunkenness sooner than was the case in December 1917 and before McPherson threatened him. Smith was reprimanded although it went unrecorded in the casualty book.[62] Similarly in

---

[61]Wright, *Bucks*, pp. 176-178.
[62]IWM, Reynolds Mss, 74/136/1, 22 Dec. 1917.

March 1918, Lance Corporal Goodway was unaware that he should have placed Trott under close arrest for swearing at him and had not immediately informed CSM Loveday.[63] Trott had form, having received 14 days FP1 for obscene language towards an NCO in November 1917. Reviewing the cases of Corporal Wallace and Privates Ashley and Chaplin in July 1918, Reynolds was not altogether happy with the evidence of them threatening the Military Police, commenting that the latter's general attitude 'is a direct cause of crime in some instances'. Reynolds thought Wallace to be generally reliable. Whilst all three had admitted being in an out of bounds café, he believed them when they said they had gone to buy leather polish and were not aware the premises was also a café. One of the military policemen who corroborated the testimony of others had not even been present.[64] Unsurprisingly, the casualty books show all three receiving only severe reprimands.

With the armistice in Italy signed on 4 November 1918, news of that on the Western Front seven days later was met 'with no very great excitement'.[65] 1/7 Royal Warwicks was selected to remain in Italy and 1/6 Gloucesters sent to be part of the Allied Control Force in Albania, hence the 92 men sent to the former and 16 to the latter by the Bucks in February and March 1919. One man, Colour Sergeant Pallett, had engaged as a regular for 21 years in September 1918 and was retained for the Army of Occupation in February 1919. Pallett was later commissioned and, as Captain Quartermaster, was one of the few officers of 1 Bucks Battalion to escape from the destruction of the battalion at Hazebrouck in May 1940: he was awarded the MC for extricating the 'B Echelon' after it was cut off.

Amid the routine training and frequent sports, 34 men found themselves on attachments in February, many at Labour or POW camps, some on the Leave Train and two men operating the cinema of 1/4 Battalion, OBLI. There was also the death of Private Thompson from injuries sustained in an unspecified fatal shooting incident at Cherbourg in February 1919 for which a court of enquiry was instituted. Thompson had rejoined the battalion from leave in January 1919 and had been retained for further service and was presumably on his way back to England. There were a few disciplinary offences in February and March 1918. Two men lost pay for absence in February with another awarded seven days FP2 for deficiencies in the kitchen wagon on the troop train and absence from duty at the kitchen. There were two further FGCM, Private May, formerly of the ASC, receiving six months hard labour for disobeying commands whilst attached to the laundry, and Private Wardell receiving 30 days FP1 in March for negligently discharging a pistol and wounding an Italian civilian. As men were

---

[63]Ibid, 30 Mar. 1918.
[64]Ibid, 3 Jul. 1918.
[65]TNA WO 95/4251.

transferred or demobilised, the battalion dwindled to a cadre of five officers and 50 men with its last parade in Italy on 23 March 1919. The cadre reached Aylesbury on 31 March 1919.

Conclusion

What then can be deduced from the Bucks Battalion Casualty Books? Change was constant even without the heavier losses resulting from intensive operational periods, those wounded or falling ill increasingly less likely to return to the Bucks. Temporary attachment, courses and leave periods took large numbers away from the battalion during less intensive operational periods but the extent of illness was even more significant. Influenza was the predominant illness and made its presence felt long before the outbreak usually associated with the 1918-19 pandemic. Drafts, which invariably kept pace with losses, increasingly came from non-Bucks units. New arrivals in 1917 posed greater disciplinary challenges, coinciding with general deterioration of discipline in Italy, by which time there was also less willingness to inflict severer forms of punishment. Nonetheless, overall, the disciplinary record was good.

The data provides hard evidence to back up general suppositions within the wider historiography relating to reinforcement policy in general and its impact on regional and group identity within the army. It points in particular to the relative failure of Southern Command to maintain regional identity compared to Western and Scottish Commands. It accords well with the study of so far undertaken of three other surviving casualty books. It gives concrete support to the notion of greater leniency with regard to discipline being extended in Italy. Particular aspects of the battalion's experience were somewhat unique such as the degree of Jewish recruitment but, generally, the study offers further important findings on issues specific to the Territorial Force as a whole, not least the impact of the Imperial Service Obligation and other legislative limitations relating to Territorial service. It also offers clues *inter alia* as to the real incidence of under-age recruitment in 1914.

The 1/1 Bucks Battalion looked very different in 1919 than that which had embarked in 1915. In this respect, it provides a microcosm of the internal dynamics of a Great War battalion. This should provide a basis for the wider analysis of the full scope of other surviving casualty books as yet not analysed. Such a full comparison can provide further hard data to show how far any single battalion was like another.

Tables

Changes in Personnel	Mar 1915 to Jun 1916	July 1916 to Aug 1916	Sept 1916 to Jun 1917	July 1917 to Aug 1917	Sept 1917 to Nov 1917	Dec 1917 to Jan 1919	Totals
Killed	37	62	56	69	18	27	269
Missing	1	61	3	44	5	9	123
Died of Wounds	15	23	14	11	7	2	72
Died	-	1	4	1	-	9	15
Wounded and did not return	79	261	74	172	32	78	696
Injured and did not return	9	5	5	5	2	3	29
Illness and did not return	137	29	146	19	53	68	452
Time-expired	97	-	-	-	-	-	97
Under Age	10	3	9	-	1	-	23
Commission	7	-	12	2	3	3	27
Transfer Out	24	41	19	10	29	62	185
Total Lost	416	486	342	333	150	261	1988
Drafts In	410	357	563	194	313	153	1990

Table 1: Changes in OR – Personnel

Absences	Mar 1915 to Jun 1916	July 1916 to Aug 1916	Sept 1916 to Jun 1917	July 1917 to Aug 1917	Sept 1917 to Nov 1917	Dec 1917 to Jan 1919	Totals
Illness and rejoined	881	126	422	62	118	707	2316
Injury and rejoined	50	9	19	4	8	45	135
Wounded & returned	113	208	78	98	24	128	649
Attachments	215	14	176	49	45	470	969
Leave Periods	511	11	222	73	231	554	1602
Courses	150	22	238	32	84	240	766
Total	1920	390	1155	318	510	2144	6437

Table 2: OR Absences

Illnesses	Mar 1915 to June 1916	July 1916 to Aug 1916	Sept 1916 to Jun 1917	July 1917 to Aug 1917	Sept 1917 to Nov 1917	Dec 1917 to Jan 1919	Total
All Illness	1018	155	568	81	171	775	2768
Influenza	244	18	24	-	-	143	429
German Measles/ Measles	32	1	9	-	-	-	42
Fevers/ Pyrexia	20	46	146	7	31	77	327
ICT	38	21	82	20	49	66	276
Scabies/Boils /Eczema/ Impetigo	94	12	87	5	21	104	323
Dental Problems	85	1	4	1	3	14	108
Diarrhoea/ Dysentery/ Enteric	12	-	30	4	8	65	119
Synovitis	22	1	16	1	-	6	46
Myalgia	18	1	14	4	1	10	48
Tonsillitis	12	3	18	3	1	14	41
Venereal	6	1	6	2	3	46	64

Table 3: OR Illnesses

Punishments	Mar 1915 to Jun 1916	July 1916 to Aug 1916	Sept 1916 to Jun 1917	July 1917 to Aug 1917	Sept 1917 to Nov 1917	Dec 1917 to Jan 1919	Total
Field Punishment No. 1 (FGCM)	26 (2)	2	5 (1)	1	5	39 (5)	78 (8)
Field Punishment No. 2 (FGCM)	38	4	7	5 (1)	5	34	93 (1)
Hard Labour (FGCM)	7 (7)	-	2 (2)	1 (1)	1 (1)	2 (2)	13 (13)
Reduction in Rank (FGCM)	10	1	4 (1)	1 (1)	2	10 (2)	28 (4)
Loss of Pay	9	3	6	-	12	49	79
Reprimand	1	-	-	-	-	11	12
Total	91 (9)	10	24 (4)	8 (3)	25 (1)	145 (9)	303 (26)

Table 4: OR Punishments

Offences	Mar 1915 to Jun 1916	July 1916 to Aug 1916	Sept 1916 to Jun 1917	July 1917 to Aug 1917	Sept 1917 to Nov 1917	Dec 1917 to Jan 1919	Total
Absence (FGCM)	6	-	7 (2)	1 (1)	12 (1)	73 (2)	99 (6)
Censorship Offences (FGCM)	1 (1)	-	1	-	2	-	4 (1)
Disobedience/ Insolence (FGCM)	32 (2)	7	7	4 (1)	6	37 (3)	93 (6)
Disturbance/ Fighting (FGCM)	7	-	1	-	-	3	11
Drunkenness (FGCM)	4 (4)	-	1 (1)	1	1	14 (1)	21 (6)
Gambling (FGCM)	8	3	-	-	-	2 (1)	13 (1)
Neglect of Duty/Loss of Equipment etc (FGCM)	27	-	6	1	4	10 (2)	48 (2)
Leave Offences (FGCM)	2	-	-	1 (1)	-	6	9 (1)
Self-inflicted Wound (FGCM)	-	-	1 (1)	-	-	-	1 (1)
Sleeping on Sentry (FGCM)	2 (2)	-	-	-	-	-	2 (2)
Theft (FGCM)	2	-	-	-	-	-	2
Total	91 (9)	10	24 (4)	8 (3)	25 (1)	145 (9)	303 (26)

Table 5: OR Offences

CASUALTIES OF WAR: 1/1 BUCKS BATTALION 1915-1919

Name	Date	Offence	Sentence	Outcome
A.G. Munday	July 1915	Drunkenness	FP1 3 months	Served
G. French	Aug 1915	Drunkenness	HL 6 months	Commuted to FP1 3 months
F. J. Stratford	Aug 1915	Sleeping on Sentry	HL 12 months	Remainder Suspended on re-engagement Jan 1916
H. A. Tandy	Aug 1915	Disobedience	HL 6 months	Remitted
E. White	Aug 1915	Sleeping on Sentry	HL 12 months	Remainder suspended on re-engagement Mar 1916
T. Lawton	Sept 1915	Disobedience and Insubordinate Language	HL 24 months	Remitted to HL 12 months then commuted to FP1 3 months
G H Odell	Oct 1915	Breach of censorship	FP1 3 months	Remitted after two months for good work on patrol
F. W. James	Nov 1915	Drunkenness	HL 90 days	Served
H. Stevens	Nov 1915	Drunkenness	HL 90 days	Commuted to FP1 60 days
G. Pykett	Nov 1916	Drunkenness	Reduced in Rank	-
E. J. Moseley	Dec 1916	Absence from Trenches	FP1 3 months	Commuted to FP1 1 month
H. H. Burns	Dec 1916	Absence from Trenches	HL 6 months	Served
D. Novels	June 1917	Self-inflicted wound and negligence	HL 24 months	Commuted to FP1 90 days
J. Mortimer	July 1917	Disobedience	FP2 28 days	Served
A. Stokes	Aug 1917	Forging leave pass	Reduced in Rank	-
A.J.James	Aug 1917	Absence from carrying party	HL 9 months	Cleared of conviction
M. Bernstein	Sept 1917	Absence from attack	HL 12 months	Suspended and Remitted

E. C. Marshall	Dec 1917	Gambling and Obscene Language	FP1 56 days	Served
J. McPherson	Dec 1917	Disobedience and Threatening Superior	HL 12 months	Commuted to FP1 90 days
A.W. McLaren	Dec 1917	Disobedience	FP1 90 days	Served
W. Christie	Feb 1918	Drunkenness	FP1 70 days	Served
F. Trott	Mar 1918	Disobedience and Threatening Superior	FP1 90 days	Served
A.G. Holyoake	May 1918	Neglecting to post sentries	Reduced in Rank	-
J. F. J. Griffith	Aug 1918	Desertion from duty during raiding party	HL 7 years	Suspended
J. F. J. Griffith	Oct 1918	Absence from trenches	FP1 90 days	Served
C.W. Stevens	Oct 1918	Neglecting to relieve sentries	Reduced in rank	-

Table 6: OR Field General Courts Martial

The German Unit of the *Palmach*: a suicide commando in the Second World War Palestine Mandate

JACOB STOIL*
US Army School of Advanced Military Studies
The Modern War Institute at West Point, USA
Email: *stoil.jacob@gmail.com*

ABSTRACT
In 1942, the Special Operations Executive (SOE) partnered with the Haganah to provide irregular forces to defend the Palestine Mandate. One force, known as the German Unit, was remarkable – it was a suicide unit and required its members to shed their liberated identities and assume the personas of their former oppressors. This article examines how the unit, trained by both organisations, prepared for their task. By employing a combination of traditional sources and interviews, it explores the role of identity and restores this little known story to the historiography of the Second World War while recovering the voices of the unit.

Introduction
Suicide missions and suicide commandos are, despite popular imagination, more often the province of Hollywood films than history. Despite their prevalence in film tropes, true suicide units rarely had a place in Allied forces during the Second World War. An exception to this rule, the German Unit of the *Palmach* existed as a suicide unit which ultimately survived but its survival was far from the only factor which made it exceptional. Examining this unique unit, how it prepared for its task, and its postscript will help build understanding of how the experience of preparing for a specific type of battle shaped and was shaped by the experiences of the individuals who trained for it. Despite the relevance of this unit, it remains all but neglected in the broader historiography – a mere curiosity. Investing the unit, the historical context that brought it into existence not only enriches the broader historiography of the Second World War by restoring neglected voices, but provides lessons on the preparation of

*Dr Jacob Stoil is the Chair of Applied History at the Modern War Institute at the West Point Military Academy and Associate Professor of Military History at the US Army School of Advanced Military Studies at Fort Leavenworth, USA.

suicide units. It demonstrates that while the preparation for battle may occupy a particular moment in time, its effects outlast its duration.

In the midst of a period of crises and invasion scares in 1941 and 1942, the British Empire and the *Haganah,* the primary Jewish paramilitary organisation in the Palestine Mandate, cooperated in establishing a number of contingency plans for use in the event of an Axis invasion of Palestine Mandate. The German Unit was one such contingency, among others which included the Palestine and the Friends Schemes to create other stay behind units to destroy both the critical infrastructure of the Mandate territory and create combat capable auxiliaries. The mission of the German Unit was deceptively simple: infiltrate the advancing German Army as individuals or small teams, make it to critical locations or people, and destroy or kill them. There was no exit plan. Those behind the Unit assumed that the members of the German Unit would be killed undertaking their mission.

The scarcity of literature on the subject of irregular indigenous forces including the German Unit, and especially on their use in Palestine Mandate, results in part from difficulties in obtaining sources. The structure of the cooperation between the *Yishuv* (the primary organised Jewish community at the time of the Palestine Mandate) and the British Empire was such that few written records have yet been discovered that provide detailed accounts of the daily activities of cooperative units. Many documents employed in this examination were declassified only recently. The secrecy, organisational complexity, and internecine bureaucratic warfare of the Special Services, including the Special Operations Executive (SOE), its predecessors, and other organisations such as the Secret Intelligence Service (SIS), means that much went unrecorded and many records were lost or not filed logically. Additionally, officers received orders to 'destroy all incriminating documents,' which meant that many documents and details were forever lost.[1] Even where documents exist, there is a question as to their veracity. There is evidence that the politics of special operations and the internecine bureaucratic warfare was such that personnel were willing to falsify the war diaries, which indicates a general willingness to write misleading official documents and reports.[2] This necessitates handling any official documents with care and a healthy dose of scepticism.

---

[1] The UK National Archives (hereinafter TNA) HS 7/86 *SOE History 53, History of SOE in the Arab World*, 1944-1945, *'Telegram to RWW'*, 09 September 1945.
[2] Leo Marks, *Between Silk and Cyanide: A Codemaker's War, 1941-1945,* (London: Harper Collins, 1998), p. 588.

Most of the archival documents employed come from two archives, the UK National Archives and the *Haganah* Archives in Tel Aviv.[3] The personal papers examined largely replicate the information in the operational documents. As a result, the project research focus remained on the documents the unit generated, and the broader cooperation between the *Haganah* and SOE which generated items such as meeting minutes, telegrams, financial documents, and reports from the field. Collectively, these sources provide some understanding, not just of the overall scheme of cooperation and its political dynamics, but details of how this cooperation functioned on the ground and at the tactical level. The recent declassification, and the remote location of many of the documents, means that other researchers have yet to examine many of the documents generated.

To compensate for missing material, this paper employs oral history, which allows the inclusion of new indigenous perspectives and information on those aspects of cooperation unobserved by official British sources.[4] Potential interviewees were identified through their participation in formal and informal social networks such as veterans of the German Unit as well as those who participated in other aspects of the cooperation between the SOE and *Yishuv*.

Oral history is an imperfect medium where there is margin for error and problems with memory. The author personally conducted all of the interviews cited in this article and the interview process was designed to identify inconsistencies. In most cases, interviews began with general narrative questions before switching to interrogative questioning in order to expose discrepancies. When possible, the interviews occurred over multiple hours with a break between the forms of interview. In some cases, this process was repeated with the same interviewee on several occasions in order to incorporate information gained from other sources. Beyond approaching the interviewees through trusted networks, non-targeted questioning, such as questions about unit marching songs, helped build trust and make for productive sessions. Although it was not always possible to employ the full interview method, the balance between narrative and interrogative questioning remained. In many ways, the interview process provides verification superior to that available to the researcher who engages solely with official sources, as there tend to be very few ways to determine whether an official report suffers from an author's lapses in memory or intentional obfuscation. Whether its origin was documentary or oral, information critical to the analysis was considered substantiated only if it was possible to verify the information, at least in principle, through cross corroboration and critical analysis.

---

[3]The author was also able to access a number of personal files of kibbutz members held in various kibbutz archives, but due to issues of permissions they cannot be cited but have been employed solely for the purpose of verification.

[4]All Interviews were conducted by the author.

The region at the focus of this study is marked by contested language and narratives. To avoid becoming overly involved in the regional politics of narrative, ownership, and belonging, this article employs, in most cases, the nomenclature (though not always the spelling choices) of the British records. Throughout, the mandate territory is referred to as Palestine or the Palestine Mandate. This does not imply any legitimacy to any given claim or historical attachment to the territory. It is shorthand for the League of Nations Mandate for Palestine that was awarded to Britain in 1920, and which was the full, legal description of the territory at the time. This study does not endorse or deny the narrative of Arab or Jewish people within the territory that was the Palestine Mandate. Except in direct quotations from sources, this article refers to the Arab population of Palestine as the British records do, and the Jewish population is referred to as the *Yishuv*. The term Britain or British also includes British Imperial forces such as the British Indian Army, the Australian Army and New Zealand Army, and associated air and naval forces.

The German Unit existed as a result of cooperation between the *Yishuv* and the British Empire. By the Second World War, the relationship between the *Yishuv* and the British Empire had gone through a number of interactions that helped establish the specific historical moment during which the German Unit could come into existence. As a result of the First World War, the British Empire gained control over the territory of the Southern Levant.[5] In 1920, military rule ended, and in 1923 the governance of the region fully transferred to the British as part of a League of Nations mandate. Almost as soon as the Mandate began so did a series of violent disturbances, which extended through the 1930s.[6] In each, the targets of violence were the Jewish community and in each case the British did not have enough personnel on hand to respond with enough rapidity. During the 1936-39 riots the British had little choice but to reach out to local Jewish organizations to supplement the internal security and defence of the mandate territory.[7]

In Mandate Palestine, the primary Jewish armed organisation with which the British cooperated was the *Haganah*, the dominant Zionist paramilitary in the Mandate. The Jewish communities in the Palestine Mandate set up the *Haganah* in 1920 as small part-time volunteer defence force which the individual settlements and cities themselves

---

[5]Benny Morris, *1948, A History of the First Arab-Israeli War*, (London: Yale University Press, 2008), p. 11.
[6]Ibid., p. 12.
[7]Martin Thomas, *Empires of Intelligence*, (London: University of California Press, 2008), p. 244.

funded.[8] These forces proved insufficient to respond to the attacks that came in the 1920s and 1930s.[9] By the time of the Arab Revolt of 1936, the *Haganah* was under the authority of the Jewish Agency, which functioned both as the shadow government of the *Yishuv,* and as the primary official representation of the *Yishuv* to the British. During the 1936 Arab Revolt the *Haganah* for the first time established a unified national command, a standing field force, and first entered into organised cooperation with the British.[10]

It is hard to estimate the exact number of members of the *Haganah* as it was thoroughly integrated into society and the majority of its members served locally in a reserve capacity. Good estimates of the scale of the *Haganah* and the numbers from which it could draw to supply special units are even more elusive when it comes to the period of the German Unit. For example, Benny Morris cites an MI6 report from 1942 to arrive at the number of roughly 31,000.[11] This would mean that roughly one in sixteen of the overall population of the *Yishuv* were in the primary paramilitaries. Other estimates suggest Morris may have undercounted and indeed there is evidence to suggest moving the count higher.[12]

As war broke out, the *Haganah* found itself in a complicated relationship with the British. As the violence of the Arab Revolt died down the British Government changed its policies towards the Palestine Mandate by banning all immigration and Arab land sales to Jews. With this change in policy, Britain now viewed the *Haganah* as a threat not a partner. As a result, on one hand, the *Haganah* continued its cooperation with the British even as the British turned against it and arrested its members; on the other hand, it organised protests and worked to undermine British policies within Palestine. This complicated relationship with the British would shape the experience of those who served in the German Unit, and how the German Unit saw its role.

The tense situation in Palestine worsened as the war progressed. By the end of 1940, the mandate administration had introduced restrictions on the sale or transfer of land

---

[8]Edward N. Luttwak and Daniel Horowitz, *The Israeli Army 1948- 1973,* (Cambridge, MA: ABT Books, 1983), p. 7.

[9]Ibid., p. 9.

[10]Ibid., p. 11.

[11]Morris, *1948,* p. 28.

[12]Others, such as an SOE estimate from the period put the number closer to 60,000 while others have put it still higher – see: TNA HS 3/146, *Memorandum on Jewish Settlement Police*, 06 September1941.

to Jews.[13] This led the mandate administration, among others, to object repeatedly to the employment of indigenous forces recruited from within Palestine, and especially from the *Yishuv*. Through 1942 the British maintained a bifurcated approach to working with the members of the *Yishuv* in indigenous force schemes. Although they actively sought opportunities to leverage the skills and capabilities offered by the *Yishuv,* they were also deeply concerned about the long term and after-effects that such cooperation would bring, especially in terms of the transferability of skills. This reflected not only a genuine debate within British imperial agencies but also competition between them. As late as June 1942, Security Intelligence Middle East (SIME) in Cairo was concerned that allowing the *Haganah* to form a home guard would endanger the security and stability of Palestine, especially after the war, and considered this danger might be so great as to outweigh the benefits of having additional forces to resist an Axis invasion.[14] The High Commissioner for Palestine (HC Palestine) was particularly concerned about this issue, terming the *Haganah* 'a menace to security'.[15]

Some of the Palestine government's objections to the use of indigenous forces by special operations and the military may have had more to do with inter-organisational politics than with real concerns. For example, in a meeting with the local heads of the Special Operations Executive (SOE), Moshe Shertok, head of the Political Department of the Jewish Agency (JA), noted that he 'failed to see why authorities which themselves employed tens of thousands of men supplied by the JA should develop an obsession with the sinister purpose when a handful of similar men were employed by SOE.'[16] Prior to the Second World War, the number of members of the *Yishuv* authorised by the mandate administration to carry weapons reached about 23,000, the bulk of whom were *Haganah* members.[17] While the administration may have had some discomfort with the employment of the *Haganah* by SOE, it also employed large numbers of *Haganah* members itself. It would appear, then, that either this was a case of the right hand not knowing what the left was doing on the part of the mandate administration, or that, given the antagonism between the administration and the SOE, the objections to the employment of indigenous forces were, for the most part, a way to assert the administration's authority. The relationship between the SOE, the administration (and the British Army), and the *Yishuv* as well as a lack of trust between the *Yishuv* and the various British authorities would have a profound effect on the German Unit and its eventual preparation and employment.

---

[13]Norman Bentwich and Helen Bentwich, *Mandate Memories: 1914-1948,* (London: Schocken Books, 1965), pp. 165-166.

[14]TNA KV 5/34 *Extract from Security Summary, SIME Cairo, M.E. No. 51*, 04 June1942.

[15]TNA CO 733/448/15, *Cypher Telegram to SOS Colonies*, 01 April 1942.

[16]TNA HS 3/207 *Minutes of Conference of Palestine Scheme*, 09 November1942.

[17]TNA HS 3/146 *Memorandum on Jewish Settlement Police*, 09 May1941.

A SUICIDE COMMANDO IN THE SWW WAR PALESTINE MANDATE

The crises and invasion scares of 1941 such as a coup d'état in Iraq and the perceived threat of invasion from Lebanon and Syria were exacerbated by the German advance towards El Alamein in 1942. These events unfolded against a backdrop of rivalry, mistrust, and competition within the Mandate territory. By the end of April 1941, many believed that an Axis invasion through Lebanon and Syria was imminent. The fall of Greece and the Axis conquest of Crete magnified those fears with the mandate administration quickly becoming more willing to collaborate with the *Haganah*. The General Officer Commanding (GOC) Palestine made several recommendations to the HC Palestine during the invasion scare that previously would have been both unthinkable and certainly opposed. Included in these recommendations was a far greater level of para-militarisation of the *Haganah* controlled Jewish Settlement Police (JSP) than had been the case even at the height of the Arab Revolt. The GOC proposed converting Jewish settlements into strong points and training the JSP for anti-paratrooper work, to engage in tank hunting, to adopt guerrilla tactics, and to protect settlements against Arab attack, and all without British assistance.[18] Furthermore, he suggested overlooking the possession of illegal arms by members of the Jewish community.[19] HC Palestine agreed in principle to all of these proposals; in his initial response on the question of arms, he wrote, 'in view of urgent need for additional equipment for defence purposes I am prepared to acquiesce in this procedure.'[20] This relaxation of restrictions was critical for the establishment and training of the German Unit. Under the pre-1941 conditions it would have been difficult for the German Unit to conduct the wide ranging and open training required for its mission. Moreover, it would have been far more difficult for SOE to provide resources and work with the Unit as openly as it did.

The crises of 1941 and Operation Exporter (the British invasion of Syria and Lebanon) lent support to the argument that the British Empire should take better advantage of the resources available through the *Yishuv*.[21] For example, during Exporter, cooperation with the *Haganah* alleviated the British manpower shortage to some extent as the continued expansion of the JSP freed up British forces to be sent to the elsewhere and the provision of scouts from the *Palmach (Plugot Machatz* or Strike Companies – elite forces within the *Haganah*) – augmented the strength and capabilities of the reconnaissance elements of British forces. The SOE's unpublished official history mentions that cooperation with the *Haganah* during 1939-1941 was 'to some extent necessitated through the lack of suitable personnel to undertake their

---

[18]TNA CO 968/39/5, *Cypher Telegram to SOS Colonies*, 02 May 1941.
[19]Ibid.
[20]Ibid.
[21]TNA SOE History 53, *History of SOE in the Arab World,* p. 2, pp. 1944-1945.

requirements.'[22] The weakness of the Army and SOE in preparations for the invasion of Syria led those in the SOE who favoured cooperation to comment that the situation might be 'for the first time, a real opportunity to use Friends Organization (*Haganah)*', partially because the various British stakeholders would now finally countenance their employment.[23] This meant that when the next crisis came soon after, the SOE was primed to help establish *Haganah* and *Palmach* units to address the crisis, and they had a better set of conditions to train such units.

This next crisis, which would see the establishment of the German Unit, was not long in coming. In May 1942 the tide of battle in North Africa turned against Britain and preparations began to establish contingencies in case the Palestine Mandate was overrun by the advancing Axis forces. The British authorities began to anticipate this possibility some time earlier. In April 1942, HC Palestine wrote that he recognised 'that circumstances may arise in which the training in arms and discipline given to individuals by these organisations may be capable of utilisation in the country's defence.'[24] This helped give the SOE and *Haganah* the space they needed to establish units, such as the German Unit, as part of the 'Palestine Scheme', the title given to a series of plans developed in case of a German invasion. This planning became even more urgent when, in July 1942, reports began to filter back to London of the possibility that Palestine might be overrun in a matter of weeks.[25] At this moment of crisis the German Unit was born out of the *Palmach*.[26]

The *Palmach* itself was an organisation created out of cooperation between SOE and the *Haganah* and was central to all the SOE's plans for raising indigenous forces from the Zionist paramilitaries of Palestine in1941. The *Palmach* was the wellspring from which most cooperative arrangements flowed. It provided recruits for the German Unit and provided most of its supportive infrastructure. By 1942, the SOE could count on at least 600 members of the *Palmach*, organised into six companies. The *Palmach* received a high level of training from other elements of the *Haganah* which the SOE

---

[23]TNA HS 3/201, *Report to A/D*, 11 September1940.

[24]TNA CO 733/448/15, *Cypher Telegram to SOS Colonies*, (01 September1942).

[25]TNA HS 3/207, *Telegram to AD/H*, (12 July1942); Edward Horne, *A Job Well Done: Being a History of the Palestine Police Force 1920-1948,* (Tiptree, Essex: Palestine Police Old Comrades Association, 1982), p. 249.

[26]There were other units that made use of German Jewish refugees, the majority of these were part of the British Military and neither a form of indigenous force nor formed from direct cooperation with the *Palmach*, they included the SIG which served in the Western Desert, Number 3 Troop of 10 Commando, and the Secret Listeners from MI19.

could then use.[27] In 1942, a SOE officer on a tour of Palestine reviewed the *Palmach* and pronounced them to be suitable for all of the SOE's purposes. The officer stated that he was 'much impressed by their bearing and obvious determination no less than by their remarkable efficiency' and quoted the remark allegedly made by the Duke of Wellington, 'I do not know what the enemy will think of them, but by God they frighten me.'[28]

When reporting on the suitability of members of the *Haganah* for the requirements of SOE and its training, the SOE Commander explained his opinions by noting:

> The men selected for training speak a number of different local and European languages…no better human material could exist for our purpose; these are honourable fanatics who will stick [sic] at nothing, physically and mentally tough, highly disciplined and used to guerrilla warfare.[29]

Although he was speaking of the *Haganah* in general, this quote applied particularly well to the members of the German Unit. Indeed, their personal backgrounds in many ways helped to ready them for each of the three aspects of the arduous training they undertook. The commander of the Unit was Shimon Avidan. Avidan was born in Germany but moved to Palestine Mandate in 1934 and his various combat experiences included service in the Spanish Civil War.

While not all members of the German Unit had Avidan's level of combat experience most had gone through periods of life that helped prepare them. Hayim Miller was from Vienna and had as young teenager taken part with his family in the Austrian Civil War of 1934.[30] Avigdor Cohen was born in Austria, had entered Palestine illegally, bypassing British attempts to stop immigration.[31] He was eventually arrested – not as an illegal immigrant – but because the British feared he and other German Jews were Nazi spies. He was held in detention and upon his release spent time in the *Palmach* before joining the German Unit.[32] As part of the early *Palmach* he had experience evading capture by the mandate administration's Palestine Police. Even before joining the German Unit, he had been injured and had and lost members of his unit fighting dissident Jewish paramilitaries.[33]

---

[27]Author's interview with Hayim Miller, 14 January 2010.

[28]TNA HS 3/207 *Situation Report for October*, 1942, (24 October 1942).

[29]TNA HS 3/207, *Report to D Section Cairo*, (05 August 1940).

[30]Author's interview with Hayim Miller, 14 January 2010.

[31]Author's interview with Avigdor Cohen, 06 September 2010.

[32]Ibid.

[33]Ibid.

Oreon Yoseph had not seen significant combat by the time he entered the German Unit but had faced severe deprivation.[34] Yoseph had been a talented athlete before escaping Europe to Palestine.[35] On arrival in Palestine he joined a work collective which lived outdoors and split the pay and resources they gained among the collective. In this group, five workers a day fed a group of around fifty people. In practice they starved.[36] These conditions lasted for several years. Many of the members the Unit had similar stories. Thus, when they entered the German Unit they were in some ways already prepared for the intensity of training as well as the physical and psychological challenges it entailed. In addition to these qualities the members of the Unit had certain other demographic similarities. Most if not all were secular but identified Jews; all were Zionist; and all were recent arrivals from Germany or Austria. This gave the Unit a series of common experiences and identities on which to build a cohesion that extended beyond hatred for the enemy.[37] At the same time their experiences at the hands of the Nazis cannot be discounted; almost all had personally suffered from the activities of the Nazis and their allies.

Preparing the Unit
In order to achieve the objectives of the German Unit its members required three distinct forms of preparation with each relating to a different component of the mission. Looming in the background was the suicide nature of the unit. This required its own distinct form of preparation – one for which the members of the unit were already well primed. The unit also needed to ready itself for the physical and combat related tasks that would be incumbent on members of the unit. This aspect of training in some ways closely resembled that of other elite combat units. Perhaps most difficult issue was the members of the unit had to learn to blend effortlessly into the German Army.

Preparing for Suicide
Readying for a suicide mission might appear to be the most difficult aspect of preparation for the German Unit; however, neither the training curriculum itself nor the veterans' memories of the Unit emphasised the suicide nature of the Unit. Interestingly, unlike the culture and training of Japan's kamikaze pilots or the more modern suicide bombers, there is no evidence that the German Unit developed any culture, identity, or ritual of martyrdom. Not only was there little direct preparation

---

[34]Yoseph had seen some combat – just not as much as many of the others - interview with Oreon Yoseph (Lux), 15 September 2010.
[35]Author's interview with Oreon Yoseph (Lux), 15 September 2010.
[36]Ibid.
[37]This is worth noting as it was not the case with other attempts to create units out of German Jewish refugees such as the SIG or No. 3 Troop 10 Commando.

or instruction given about the suicide nature of the Unit, at least according to one veteran, it was neither discussed nor particularly emphasised in the thoughts of the men.[38] Rather than demonstrating a lack of preparation for their anticipated death, this may reflect a larger cultural acceptance of the possibility of death in combat among certain important subcultures within the *Yishuv* during this period. If this was the case, then specific preparation was unnecessary since the broader cultural moment prepared them for the results of their mission.

Two important factors might have encouraged the personal acceptance of the mission and the nature of the Unit among its members: ideology and historical contingency.[39] Historical contingency influenced ideology and became a means through which history was interpreted in a reinforcing cycle that led individuals including those in the German Unit to accept or, more accurately, self-enforce discipline and adherence to mission. The personal experiences of the members of the Unit amplified these already powerful trends.

Ideologically, the participation in self-defence, even at the cost of one's life, was a key principle within the ideology of the *Yishuv*. As Meir Chazan noted in a study of Kibbutz women and guard duty, by the late 1930s, even the most strident pacifists of the *Yishuv* believed ideologically in the necessity of armed self-defence.[40] For most of the members of the German Unit, who were more ideologically associated with Labour Zionism (a revolutionary, socialist leaning ,and often agrarianist stream within Zionism), armed self-defence was a means to an end, a means to throw off the taint of the old world and become 'a new Jew'. Taking part in defence and security was, especially for the *kibbutzim*, a part of the revolutionary nature of the Zionist project to make the individual worthy and overcome their Diaspora background.[41] Further, taking part in self-defence was integral to building a socialist utopia.[42] The society of the kibbutz and its ideological youth movements, did not see taking a role in self-defence as an act of bravery as much as failing to do so was seen as an act of cowardice.[43] This to some extent may explain the absence of martyrdom narratives,

---

[38]Author's interview with Avigdor Cohen, 06 September 2010.

[39]Historical contingency is an often overused phrase with a plethora of meanings – in this article it refers to collective memory and experience of past events.

[40]Meir Chazan, 'The Struggle of Kibbutz Women to Participate in Guard Duties During the Arab Revolt, 1936–1939', *Journal of Israeli History: Politics, Society, Culture*, 1 (2012), p. 92.

[41]Ibid., p. 98 & p. 87.

[42]Ibid., p. 98 & p. 87.

[43]Ibid., p. 90.

both within the memories of the veterans of the German Unit, and within their training curriculum.

Being part of an ideological oriented community is one thing, accepting the ideology another, but the members of the Unit were not ideological automatons. Rather, their adherence to the mission and its ultimate outcome reflected their individual agency. That they accepted the ideology was based at least in part on historical contingency, which the ideological organisations selectively interpreted and presented to members. The ideological and historical context that set the conditions for the acceptance of the suicide mission may not have begun entirely with the Kishinev Pogrom of 1903, but the pogrom and its aftermath were critical.

For the Zionist movement as a whole the Kishinev pogrom and the pogroms that followed it resulted in widespread calls for self-reliance in the form of self-defence.[44] In the immediate aftermath of Kishinev, the calls for self-defence organisations arose from across the more secular segments of the Jewish community of Eastern Europe. Even the cultural Zionist, meaning one against the establishment of a political state in the Levant but a supporter of the establishment of a national home, and its leader Ahad Ha'am argued for the necessity of armed self-defence. In widely distributed writings immediately following Kishinev, Ahad Ha'am wrote that 'it is a disgrace for five million human souls to unload themselves on others, to stretch out their necks to slaughter and cry for help, without as much as attempting to defend their own property, honour and lives.'[45] The anti-Zionist, socialist Jewish organisation known as the Bund responded to Kishinev with calls for the creation of Jewish self-defence organisations. The labour Zionist movements reacted similarly and thus began establishing self-defence groups in Jewish population centres in Eastern Europe.[46] Those who formed these groups – formed the ideological antecedents for and, in some cases were members of the leadership of the *Yishuv* during the Second World War. In the German and Austrian context such self-defence groups were not widespread in the immediate aftermath of Kishinev, however the communities formed similar groups following the First World War. In Germany, Jewish First World War Veterans banded together to create the Reichsbund jüdischer Frontsoldaten (RjF) which fought to protect Jewish property and people, and to honour the Kapp Putsch

---

[44]Inna Shtakser, 'Self-Defence as an Emotional Experience: The Anti-Jewish Pogroms of 1905-07 and Working Class Jewish Militants', *Revolutionary Russia*, no. 2 (2009), p. 164.

[45]Monty Penkower, 'The Kishnev Pogrom of 1903: A Turning Point in Jewish History', *Modern Judaism,* no. 3 (2004)*,* p. 194.

[46]Ibid., p. 193.

(1920) and the riots of November 1923.[47] Many members of the German Unit had fathers who were First World veterans in the areas where RjF was active, while others had families who participated in similar self-defence groups organised around the protection of workers.

The Kishinev pogrom might have had less of an impact on members of the *Yishuv* such as those went into the German Unit had it not been for the inclusion of two poems, *City of Slaughter* by Hayim Nahman Bialik and *He Told Her by* Yosef Haim Brenner, which were on the compulsory reading list of all labour Zionist affiliated educational organisations during the period.[48] This means that most if not all of the members of the Unit would have been intimately familiar with them. The ideological movements used the poems as a lens through which the youth were to understand the collective experience of the pogroms and their current reality. Bialik's work is accusatory, attacking those who did not rise to take part in self-defence and implies that, because they failed to take part in defence, their deaths, like their lives, were pointless.[49] Anita Shapira, one of the foremost scholars of the *Yishuv*, noted that Brenner actively argued for self-defence but with an emphasis on revenge.[50] The marching song of the German Unit echoes Brenner's call for vengeance. Brenner argued that 'the desire for revenge demarcates the young New Jews from their forebears'. For Brenner, vengeance was part of the healthy emotional fibre of a nation in renewal, whereas to shrink from vengeance is a symptom of disease, not a lofty moral quality.'[51]

As Shapira noted, Brenner's poem both established and reflected the *Yishuv*'s understanding of the role of self-defence:

> A worthy versus a pointless death became a cardinal question for the crystallizing Zionist-national ethos. It found expression in the distinction between dying in defence of Jewish life, honour, and property in the Land of Israel and dying in a pogrom in exile. And note not only Jewish life and property,

---

[47]Derek Penslar, 'The German-Jewish Soldier From Participant to Victim', *German History,* 3 (2011): p. 439.

[48]Anita Shapira, '"In the City of Slaughter" versus "He Told Her"', *Prooftexts*, 1-2 (2005), p. 86.

[49]Hayim Bialik, "The City of Slaughter" in *Complete Poetic Works of Hayyim Nahman Bialik*, ed. Israel Efros, (New York: Histadruth Ivrith of America Inc, 1948), pp. 129-143

[50]Shapira, "In the City of Slaughter," p. 101.

[51] Ibid., p. 99.

but Jewish honour as well. Honor was an important element of the new national ethos: it was pivotal to the distinction between the New Jew and the Old.[52]

Such a sentiment also provided the answer to Bialik's challenge of how to imbue life and death with meaning. If as the conduct of their lives suggests, the members of the German Unit adhered to this ideology, then an understanding this ideology provides a window into why the issue of the suicide nature of the Unit was not of cardinal importance. For the members of the German Unit, if the situation had deteriorated to the point where the Unit was called upon to fulfil its tasks, the choice was not one between a long life and suicide rather it was a choice to determine the manner of death. On one hand was the threat of death without meaning, while on the other was the chance to imbue the inevitable with vengeance, honour, and ultimately meaning.

The personal experience and sentiments of the members of the German Unit only served to enhance the desire for vengeance and the potential for a meaningful death. It is important to note that many of the members of the Unit were more recent arrivals from Austria and Germany and therefore had already experienced life as a Jew under the Nazis. As Avigdor Cohen testified, by 1942 they knew what was going on in Europe and what the Nazis were doing to the Jews and so for the members of the Unit the war was personal.[53]

A brief analysis of the marching song of the Unit reflects the personal identification with the war. The song, a mixture of humour and seriousness, concludes with the line 'צוררינו את גרמניה', which translated from Hebrew means 'Germany you are our enemy.'[54] In Hebrew there are two words commonly translated as enemy, צר and אויב. However, there are differences between the two. Whereas אויב refers more directly to 'enemy' in a general context, in the context of the song צר (צוררינו) implies a more personal enemy, one who wishes the destruction of each Jewish person.[55] Such an

---

[52] Ibid., p. 95.

[53] Author's interview with Avigdor Cohen, 06 September 2010; This was not unique to the German Unit rather similar experiences were not uncommon among members of the Haganah – multiple interviewees such as Avraham Benyoseph, Yonah Hatzor, and Avraham Silverstein who all served in the same period testified to this such as Avraham Benyoseph, Yonah Hatzor, and Avraham Silverstein.

[54] Author's interview with Hayim Miller.

[55] צר comes from a root word meaning to besiege, it then seems to have developed the implication to destroy entirely. צר is used in a classical rabbinic to refer to an attacking enemy serious enough to justify holy war, it is also worth noting that among the interviewees צר was used to refer to the Germans but not the Arabs in either the context of the 1936 Arab Revolt or the 1948 War, in these cases אויב was employed.

individualised characterisation in a unit marching song both reflects and reinforces the sentiments expressed by some of the interviewees. Their war was deeply personal.

Members of the German Unit did not require a strong narrative of martyrdom to prepare them for the suicide nature of the Unit. Their acceptance of the potential outcome came from their culture and experiences before they joined. These provided an individualised hatred for the Nazi enemy and a personal identification with the war. It was coupled with a realistic understanding of the situation, again built on their experiences and aspects of historical contingency. Ideology reinforced this already powerful mixture together with concepts of a worthy death which likely rang true to the members of the Unit based on their previous experiences of the Nazis. Taken together this helps explain that while the idea of a suicide unit, and its preparation for that ultimate eventuality might be of particular interest to historians, for the members of the German Unit it was not the most salient feature of their own preparation for battle.

Becoming German
By 2010, decades after the German Unit had disbanded, two aspects of their training remained with the Unit veterans. One was a specific exercise in loading and firing pistols taught to them by an SOE trainer and the other were some of the most incongruous elements of the Nazi German identity they learned to emulate. When interviewed for this research they recalled to perfection the words of some antisemitic songs they sang such as the *Hekerleid* with its lyrics "*Judenblut vom Messer spritzt, dann gehts nochmal so gut* (the Jewish Blood sprays from the knife and once again things are so good)". They remembered the antisemitic jokes, and in some cases they even retained Nazi material and could still remember Nazi procedures. To some extent this is unsurprising for those in the German Unit as no aspect of their preparation was more important than their ability to infiltrate the German Army. Without this none of their other preparations would have been relevant and their mission would have failed. To guarantee the success of their planned operations the members of the German Unit had to develop not only a fluency in the customs, culture, and practice of the German Army but a level of innate comfort with them as well. The Unit achieved this by creating a bifurcated world and training environment.

In the forest above *Mishmar HaEmek* was a line. On one side of the line was the Palestine Mandate and on the other Germany.[56] On the German side was an immersive training world where the members of the Unit would learn to assume the identities of their personal oppressors. The difficulty of the process meant that it did not happen overnight. Initially, even though most had only been members of the *Yishuv* for a short time, they found it difficult to purge themselves entirely of their new identities and

---

[56]Author's interviews with Oreon Yoseph (Lux), Hayim Miller, and Avigdor Cohen.

language. They found it difficult to return to speaking German exclusively, the language that had been their native tongue a few short years earlier. Eventually, while in the camp they were able to fully return to the language of their former homes and add the slang of the German Army.[57] It was not just language that they learned to adopt. Across the line they marched as Germans, carried themselves as Germans, developed proficiency with German weapons, and familiarised themselves with the German military. In the camp they had German documents, paraphernalia (such as songbooks, passports, IDs, and pay-books), equipment, weapons, and some German uniforms.[58] In this regard the course resembled one more suited to spies than commandos.[59]

Learning the language, movements, organisation, and techniques of an adversary is one thing while seamless integration requires something more – an adoption of the culture. In the case of the Nazis this would have proven a particular challenge for the members of the Unit as it meant adopting a culture in which hatred of Jews was a central feature. This meant members of the Unit would have to seem to find antisemitic jokes humorous and originate such jokes themselves. For Avigdor Cohen this meant singing the songs, such as the *Horst-Wessel-Lied,* that less than four years earlier he had been forced to stand and sing every day in front of his class in Austria as a form of humiliation.[60] There was some irony in the fact that a tool of humiliation and oppression was relearned and recontextualised as part of a tool set to allow for vengeance and a form of redemption. It appears that these more cultural aspects of training were successful; some members even started to originate new antisemitic cartoons for fun.

The cognitive and identity challenge presented by becoming the oppressor may explain the strong identity retained by the members of the Unit. For many members it was not the first unit with which they trained. It was not a unit in which they saw combat and it was not the last unit in which they would serve. Some served later in other elite units. Yet, at least those interviewed for this research seemed in particular to retain a strong bond and sense of identity as veterans of the German Unit. This suggests that there was something specific about the experience of serving in the German Unit that shaped their identity. As already mentioned, the combat training was not significantly different from that of other units and the suicide mission of the Unit was never at the forefront of their thoughts. It seems probable that this experience of becoming

---

[57]Ibid.

[58]Author's interviews with Oreon Yoseph (Lux), and Hayim Miller.

[59]The German Unit's sister unit, the Arab Unit, trained near them in the forests above Mishmar HaEmek in a very similar style. That unit was, at least initially employed in an intelligence gathering fashion and is a part of the lineage of several Israeli intelligence and commando units.

[60]Author's interview with Avigdor Cohen.

German was one which bound the members of the Unit together. It was an experience not shared by other members of the *Yishuv* and was one which few others outside could identify or understand. This provides a key insight into the cognitive aspects of training as distinct but as potentially and equally important to combat focused training in shaping individual identity.

Physical & Commando Training

One of the challenges of physically preparing the German Unit for its eventual function was that no one was sure of the exact skill set the members might require. It seems that as a result the Unit received wide-ranging training in a large number of skill sets. All of it was at high level and overall, it represented some of the best that SOE and the *Haganah* could muster. Yet, it is worth noting that despite the close cooperation and level of training, the training was not conducted at an SOE facility but with the SOE coming to the *Haganah* facilities. The SOE also provided sanction and official cover for all the training conducted. This allowed the Unit to conduct training openly, which in earlier years would have been impossible. Additionally, as with all units of the *Palmach*, the training was not full time. The land for the German Unit's training as well as the food and other supplies came from *Kibbutz Mishmar HaEmek*. As a result, the members of the Unit split their time between weeks of training and weeks of agricultural and physical labour. While this may have taken away from time specifically for training it provided the resources the Unit needed to exist and was, in and of itself, physically demanding. Coupled with this work physical training included intense physical fitness training and route marches.

Preparing for the Unit's employment clearly required more than physical fitness. Their training emphasised a wide range of combat and special operations skills. For some of these courses the trainers came to the unit, but for the majority of the courses the members of the German Unit travelled to other locations, many of which were simply further up Mount Carmel from *Mishmar HaEmek*.[61] For the courses that took place away from the *Mishmar HaEmek* and during their time working in agricultural labour, the unit had to pretend to be a standard unit of the *Palmach*. The *Haganah* put the members of the German Unit through almost every course run by the *Haganah* at the time. While some courses were common to many members of the *Palmach* others were more unusual. Among the more common courses were those on small unit tactics and fighting in a built up environment.[62] The entire unit also went to the machine gunners training course where they were taught by none other than future IDF Chief of General Staff and Prime Minister Yitzhak Rabin, who was already a rising

---

[61]Author's interviews with Hayim Miller and Avigdor Cohen.
[62]Author's interview with Oreon Yoseph (Lux).

star within the *Palmach*.[63] Throughout the courses they learned proficiency with German, French, Italian, and British weapons.[64] These were likely supplied by SOE.

Among the less common courses which the *Haganah* provided to the German Unit was one on small craft sailing and navigation.[65] Interestingly, in order to achieve a higher standard of training the *Palmach* sent the entire Unit through a squad commander course together.[66] It is worth noting that at the time the squad commander course one of the highest courses available in the *Palmach*.[67] There is some suggestion that the Unit also may have received some form of platoon commander course. There are two potential explanations for why the Unit was sent to such command courses. One possibility is that the nature of the mission meant that each member of the Unit would have to make independent command decisions. However, the command courses were in many ways the most serious tactical courses available to the members of the *Palmach* and it simply may have been an expedient way to undertake a higher level of training.

In addition to those courses taught solely under the auspices of the *Palmach*, there were courses taught by the British and curricula that were replicated by both the British and the *Palmach*. Of these courses several were directly relevant to the special tasks which the members of the Unit undertook after the *Palmach* disbanded the German Unit. One of these was the course on sabotage and demolitions. Both the British and *Palmach* took part instructing these courses.[68] Unlike some of the other courses, sabotage and demolitions were of direct relevance to the Unit mission. In these courses Unit members learned how to manufacture different types of improvised explosive, how to plant mines, and how to plan demolition for maximum effect.[69] In addition to the use of explosives, these courses also taught how to sabotage infrastructure such as railroads.[70] During these courses unit members practiced on the infrastructure that existed in Palestine.[71] Together with the sabotage courses were

---

[63] Author's interviews with Hayim Miller and Oreon Yoseph (Lux).

[64] Author's interview with Avigdor Cohen.

[65] Author's interview with Oreon Yoseph (Lux). This course was likely the same one undertaken by the PALYAM - the precursor to Israel's Flotilla 13 naval commanders.

[66] Author's interview with Hayim Miller, Oreon Yoseph (Lux), and Avigdor Cohen.

[67] The platoon commander course was only established in 1941.

[68] Author's interview with Oreon Yoseph (Lux).

[69] Author's interviews with Hayim Miller, Oreon Yoseph (Lux), and Avigdor Cohen.

[70] Author's interview with Oreon Yoseph (Lux), 15 September 2010.

[71] The German Unit was not the only *Palmach* Unit to practice sabotaging and infiltrating British infrastructure as a part of cooperative training with SOE. A fact that would eventually prove problematic to the British in their fight against the *Yishuv* a few years later.

ones on infiltration, reconnaissance, and surveillance. They would have direct utility to those who took part in the *Saison de Chasse* when members of the German Unit were called upon to fight to supress the *Irgun Tzvai Leumi* (IZL), a rival paramilitary within Palestine.

Of all the courses the one that had the most profound effect on the identities of the veterans of the German Unit was one delivered by a British instructor named Hector Grant Taylor.[72] Grant Taylor was one of the SOE's top trainers in close combat and assassination and he ran a course sometime referred to as the 'school for murder'.[73] In this course the members of the Unit learned how to identify and prioritise targets in a fluid combat environment. They learned ways to take decisive action and rapidly overwhelm their enemies. Grant Taylor instructed them in the use of a wide variety of weapons and techniques for close combat.[74] The course prioritised speed and accuracy as a critical aspect of assassination. The training regime was intense in order to develop the muscle memory and instinctive motions required.[75] Decades later when interviewed for this article, the veterans of the Unit enthusiastically volunteered to show off the motions they had memorised so long ago. These techniques, which were of clear relevance to the mission of the Unit, eventually served many of the members of the Unit in other unexpected contexts.

The wide variety of physical and tactical training that the members of the German Unit received could speak to a lack of organisation and a lack of focus on purpose. They were given training because it was available not because it was relevant. However, given the resources the training involved, another explanation is more likely. Without a clear idea of the circumstances that the German Unit would face, the SOE and *Haganah* worked together to equip it with a set of skills that would serve regardless of the specific context of the Unit's eventual employment. This, in and of itself, is one concept of preparing for battle. Rather than trying to anticipate the specific physical and tactical skills the unit needed, SOE and the *Haganah* tried to equip them with a broad skill set to cover many eventualities. The broad nature of the skill set meant it was extremely fungible to other types of operation while at the same time the elite status of the Unit, and some aspects of their training, resulted in a form a path dependency for some members in setting the stage for the next phase of their lives.

From Training to Practice
Despite years and the intensity of preparation the German Unit never performed its function. After the Second Battle of El Alamein in November 1942, the sense of crisis

---

[72]Author's interview s with Hayim Miller, Oreon Yoseph (Lux), and Avigdor Cohen.
[73]Gavin Morimer, *The SBS in World War Two*, (New York: Bloomsbury, 2013), p. 52
[74]Authors interviews with Hayim Miller, Oreon Yoseph (Lux), and Avigdor Cohen.
[75]Ibid.

waned as the Nazis retreated. For a while the German Unit lingered on as an elite unit with no purpose. Several members of the unit infiltrated Prisoner of War camps to gain intelligence from captured Germans. Their ability to do so suggests the efficacy of their training. There was talk of bringing the unit into the British force structure but the *Palmach* did not want to surrender control.[76] As of 1944 parts of the Unit remained in training above *Mishmar HaEmek*. It is here the second phase of their story began, a phase in which they made use of the training they received though not in the way it was intended.

As time elapsed members of the unit left in small numbers to other assignments, although the core remained. In February 1944 the IZL declared a revolt against the local British administration and by spring the *Haganah* had made the decision to oppose the revolt by military means which began a period known as the *Saison de Chasse*. The *Haganah's* decision risked a civil war and the *Haganah* realised it required elite forces for the task. The remnants of the German Unit proved ideal for the task. *Mishmar HaEmek* evolved from a kibbutz and training facility to an underground prison. Avigdor Cohen found himself serving first as a prison guard and interrogator of captured high value members of the *Irgun* who were held at the German Unit's base in *Kibbutz Mishmar HaEmek*.[77] However, potentially in recognition of his special training, he and several other members of the unit were sent to act as bodyguards for leaders of the *Haganah* and the Jewish Agency who feared *Irgun* retaliation.[78] He also helped to ambush and attack IZL members.[79] Hayim Miller put his training to use in more direct ways. Miller ran a team in charge of covert surveillance and the identification of high value IZL personnel.[80] He directly employed his training from the German Unit. Only by late 1944 did Hayim Miller and other members of the unit join the Jewish Brigade Group in Italy, and finally find themselves fighting the enemy against which they had trained for so long.[81] For many members of the German Unit, the Second World War was only the start of many wars to come. On return from Europe,

---

[76]The British had created another unit called the SIG for infiltrating the German Army in North Africa. Jews were not put in command which instead was given to a Nazi deserter who betrayed the unit on its operation. Some members of the German unit indicated that they knew of this and it must have played a part in their decision not to go under direct British Army control. This has proven impossible to verify. It is worth noting that the German Unit and SIG were two of several attempts made, including the British 3 Troop No. 10 Commando, and the American Ritchie Boys of German Jewish refugees.
[77]Authors interview with Avigdor Cohen.
[78]Ibid.
[79]Ibid.
[80]Author's interview with Hayim Miller.
[81]Ibid.

they fought the British and the skills of clandestine warfare they had learned several years earlier undoubtedly proved useful. What followed were more wars as they took part in the 1948 War and later service in the Israeli Defence Force (IDF).

The history of the German Unit demonstrates that the story of preparing for battle is longer than the period of training. What prepared the members of the German Unit for their suicide mission began many years earlier and was part of a more general cultural moment. The aspects of the training that centred on re-Germanisation may also have had lasting effects on the identities of participants. The preparation for the physical and military requirements of their task were highly fungible and proved useful in contexts never intended. The German Unit may have only existed for a short period when its members prepared for suicide but when they survived, the impact of their preparations carried on throughout their lives.

The Bow and Arrow Versus the Atom Bomb: Air Defence in Scotland 1945-1955

JIM GLEDHILL[*]
Independent Scholar, UK
Email: *j_gledhill@outlook.com*

ABSTRACT
This article proposes that the development of Britain's air defence system in the 1950s should be viewed concurrently with that of her nuclear deterrent. Faced with a new threat from the Soviet Union in the late 1940s, Britain began engineering a new generation of anti-aircraft weapons. Using Scotland as a case study, the strategic relationship between air defence and nuclear deterrence will be explored in the British transition from a defensive to an offensive stance, and orientation toward American nuclear technologies in the late 1950s.

Introduction

[T]he critical situation of this country should it be attacked with thermo-nuclear weapons, to which I referred in my last report, persists. You will recall that I said "…if the whole of the Russian L.R.A.F. attacked this country in widespread raids highly concentrated in time, we would… have absolutely no chance of survival by night, and by day only a miracle could save us." Since then there has been no accident or inspiration of science, which I contended was required to reverse the predominance of attack over defence.[1]

Air Marshal Dermot Boyle, 1955

---

[*]Dr Jim Gledhill FSAScot is an independent scholar specialising in British contemporary social and military history.

[1]The UK National Archives (hereinafter TNA) CAB 21/3433, 'The State of the Air Defences of the United Kingdom: December 1954', Air Defence Commander's report to the COS, 22 March 1955, p. 1. LRAF means Long Range Air Force.

AIR DEFENCE IN SCOTLAND 1945-1955

The advent of new technologies and geopolitical realities in the Cold War forced British strategists to rethink their approach to national defence. This would have a huge impact on the way in which Britain's air defence was organised and the responsibilities of the armed forces. Early Cold War British thinking was heavily coloured by the experience of German air raids in the 1940s, particularly attack by unmanned V-weapons that suggested a new way of warfare.[2] From 1945 Britain's strategy was shaped by a self-awareness of her unique geographical vulnerability and long-standing fear of enemy bomber penetration.[3] The British Chiefs of Staff Committee (COS) began planning the country's post-war air defence a year before Nazi Germany's surrender. In the immediate aftermath of victory, their Sub-Committee on the Allocation of Active Air Defences proposed a ten-year plan that assumed two years' warning of another major war. Assessing potential threats, the Sub-Committee discounted the non-existent German and 'relatively weak' French air forces but highlighted the 'strong air force' of her wartime ally the Soviet Union.[4] Anticipating the obsolescence of anti-aircraft artillery in the face of faster bombers, the Sub-Committee argued that new defences were needed, including guided weapons in the long-term and modernised guns in the interim. These measures would become fundamentals of British air defence planning until the mid-1950s. Under the plan, Britain was divided into 'Defended' (the eastern and southern coasts) and 'Shadow' (the west coast north of St David's Head in Pembrokeshire) areas protected by a 'nucleus force' of Anti-Aircraft and Fighter Commands in peacetime, mobilising to a 'full-scale force' in the event of war.[5] The plan was formulated in the pre-Hiroshima world, and by 1946 the COS were already reconsidering it in light of a rapidly changing, albeit unclear strategic picture. Before 1947 Britain did not consider nuclear war with the Soviet Union likely owing to her underestimation of the latter's atomic progress.[6] Nonetheless late in 1946, the Joint Planning Staff concluded that in strategic terms 'the enemy is Russia'.[7]

In 1949 the COS convened a scientific-military Air Defence Committee to consider how to develop Britain's air defences up to 1957 in an austere economic climate. The

---

[2]Matthew Jones, *The Official History of the UK Strategic Nuclear Deterrent Volume I: From the V-Bomber to the Arrival of Polaris, 1945-1964,* (London: Routledge, 2017), p. 5.
[3]Ian Clark and Nicholas J. Wheeler, *The British Origins of Nuclear Strategy 1945-1955*, (Oxford: Clarendon Press, 1989), p. 76.
[4]TNA CAB 82/19, 'Air Defence of Great Britain During the Ten Years Following the Defeat of Germany', 15 June 1945, Annex II, p. 3.
[5]Ibid., pp. 7-9.
[6]Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy, 1945-1952 Volume I*, (London: Macmillan, 1974), pp. 209-210.
[7]TNA AIR 8/1446, 'Future Scale of Air Attack on the United Kingdom', 7 December 1946, Annex I.

Committee recommended modernising the Royal Artillery's existing arsenal of 3.7 and 5.25 inch guns, and developing new fully automatic medium and heavy anti-aircraft guns capable of faster rates of fire, the latter at higher altitudes.[8] Echoing Britain's policy of nuclear deterrence, the Committee emphasised that 'the most potent method of defence against atomic attack will be in our ability to deliver an overwhelmingly heavier scale of atomic attack than the enemy'.[9] Guided weapons would ultimately be the most efficient means of improving anti-aircraft lethality to meet the threat posed by 'weapons of mass destruction'.[10]

Heightening tensions between the western allies and the Soviet Union following the 1948 Berlin crisis, communist victory in China, and insurgencies elsewhere in Asia moved the COS toward a more offensive policy. In 1950 they soberly acknowledged that Malaya demonstrated how 'Cold War merges imperceptibly into something very like hot war'.[11] As the Korean War raged, the Joint Planning Staff recognised the military co-dependency of Britain, Western European powers and the United States. American atomic supremacy was also conceded: 'the "Pax Atlantica" rests to-day on the atomic weapon as the Pax Britannica of the 19th century rested on the British fleet.'[12]

In 1952 the Air Defence Committee frankly admitted 'the fact that no known form of defence can prevent a really determined enemy, provided he is suitably equipped, from dropping a proportion of his atom bombs on this country has completely altered the air defence problem.'[13] Their report indicated that by 1957 new surface-to-air guided weapons (SAGWs) would make heavy and medium anti-aircraft artillery practically obsolete. In the estimation of Anti-Aircraft Command's wartime commander-in-chief, General Sir Frederick Pile, the guided missile was the 'weapon of the future' to supplant the fighter interceptor.[14] His prediction was echoed in 1954 by Sir Robert Cockburn, director of scientific research on guided weapons at the Ministry of Supply, who declaimed that the missile would 'undoubtedly replace the fighter as the killing

---

[8]TNA AIR 8/1786, 'Air Defence of the United Kingdom in 1957', Air Defence Committee (ADC) report to the COS, 1949, p. 5.

[9]Ibid., p. 14. On the Attlee government's early commitment to deterrence, see John Baylis and Kristan Stoddart, *The British Nuclear Experience: British Nuclear Strategy 1945-1964*, (Oxford: Oxford University Press, 2015), p. 13.

[10]TNA AIR 8/1786, 1949, p. 17.

[11]TNA, AIR 20/11154 'Defence Policy and Global Strategy', 1 May 1950, p. 13.

[12]TNA AIR 20/11154, 'Defence Policy and Global Strategy', 29 May 1951, p. 5.

[13]TNA AIR 8/2474, 'Air Defence of the United Kingdom up to 1957', report to the COS, April 1952, p. 3.

[14]General Sir Frederick Pile, *Ack-Ack: Britain's Defence Against Air Attack During the Second World War*, (London: George G. Harrap, 1949), p. 392.

weapon'.[15] However, in the early 1950s Britain lagged behind the United States and the Soviet Union in the field of guided weapons.[16] The Committee argued that medium anti-aircraft guns could still be effective against aircraft flying below 15,000 feet and proposed continuing the modernisation of the Royal Artillery's arsenal for defending major ports, shipping channels, naval repair centres and convoy and fleet anchorages.[17]

After the Soviet Union successfully tested a hydrogen bomb in 1953, the COS were once again forced to re-evaluate. Planning was complicated by inter-service rivalry, defence budget cuts and disagreement over whether to prepare for a short or a long 'broken-backed' war. Of the 'Three Pillars' responsible for Britain's national defence, the RAF advocated preparing for a short war whereas the British Army and Royal Navy anticipated an inconclusive initial nuclear exchange after which the 'broken-backed' belligerents would have to fight on.[18] Amid this contention, Britain's armed services were not only competing for limited resources but also struggling to define their respective roles in the nuclear age.

The history of Anti-Aircraft Command during the Second World War has been documented by Colin Dobinson, with valuable information on the early post-war period.[19] Wayne Cocroft and Roger Thomas's landmark work has recorded Britain's Cold War air defence network in England, with significant reference to Scotland.[20] Scottish Cold War history has also been the subject of significant commentaries in the last two decades.[21] This case study of Air Defence of the United Kingdom (ADUK) in

---

[15]TNA DEFE 8/46, ADC Working Party minutes, 2 September 1954, p. 4.

[16]See Stephen Robert Twigge, *The Early Development of Guided Weapons in the United Kingdom, 1940-1960*, (Reading: Harwood, 1993); Richard Moore, 'Surface-to-Air Guided Weapons for UK Air Defence in the 1950s', *Prospero* 2 (Spring 2005), pp. 193-212. On early Soviet SAGWs, see David Miller, *The Cold War: A Military History*, (London: Pimlico, 2001 [1998]), pp. 288-289.

[17]TNA AIR 8/2474, April 1952, p. 14.

[18]Clark and Wheeler, *The British Origins of Nuclear Strategy*, p. 183; John Baylis, *Ambiguity and Deterrence*, (Oxford: Clarendon Press, 1995), p. 144; Richard Moore, *The Royal Navy and Nuclear Weapons*, (London: Routledge, 2001), Ch. 2.

[19]*Anti-Aircraft Command: Britain's Anti-Aircraft Defences of the Second World War*, (London: Methuen, 2001); see also Ian Hogg, *Anti-Aircraft: A History of Air Defence*, (London: Macdonald and Jane's, 1978); N. W. Routledge, *History of the Royal Regiment of Artillery: Anti-Aircraft Artillery 1914-55*, (London: Brassey's, 1994).

[20]P. S. Barnwell (ed.), *Cold War: Building for Nuclear Confrontation 1946-1989*, (Swindon: English Heritage, 2003); see also Mike Osborne, *Defending Britain: Twentieth-Century Military Structures in the Landscape*, (Stroud: Tempus, 2004), Ch. 7.

[21]Brian P. Jamison (ed.), *Scotland and the Cold War*, (Dunfermline, Cualann Press, 2003); Niall Barr, 'The Cold War and Beyond', in Edward M. Spiers, Jeremy Crang and

the Scottish context will examine Britain's early Cold War air defence strategy, arguing that it should be seen concurrently with the development of her offensive nuclear capability. In the early 1950s the Churchill government attempted to balance the urgency of reviving Britain's economy with investing in home defence at a time when public anxiety over a possible nuclear confrontation was growing. The Strath Committee's 1955 report to the Cabinet laid bare Britain's vulnerability to new Soviet thermonuclear weapons and linked the credibility of her deterrent to the nation's preparedness for surviving a nuclear attack.[22] In the decade after NATO's formation in 1949, Britain came to see collective security within the bloc as vital to safeguarding her approaches, particularly from the north where expanding American air defences could bolster the RAF's patchy control and reporting organisation. Until the late 1950s, however, British military planning and industrial production were guided by the ideological imperative of 'national technological security'.[23] Britain relied on her indigenous ingenuity to engineer new air defence systems in the 1950s. In so doing, she failed to modernise her anti-aircraft guns, and her success in producing SAGWs was restricted by government imposed budgetary constraints limiting their deployment and further development. Combined technical and financial uncertainty in air defence planning anticipated Britain's technological orientation toward the United States for provision of her nuclear deterrent at the close of the decade.

In considering the Scottish dimension, the author will focus primarily on the British Army's role in air defence, and especially heavy and medium anti-aircraft infrastructure – a relatively neglected area of Britain's early Cold War military history. After outlining the provisions made for Scotland in this period, the four 'gun defended areas' (GDAs) under Anti-Aircraft Command's 3 Group (Scotland and Northern Ireland) will be described individually. In the analysis of ADUK in Scotland, reference will also be made to the RAF's and the Royal Navy's part in its planning and organisation. Archival lacunae, especially the lack of surviving Territorial Army and Royal Naval Reserve unit diaries, have produced disparity between paper plans and the facts on the ground. Research findings have accordingly been based on the archaeological record as well as documentary evidence. These will demonstrate how the logistical shortfall between

Matthew J. Strickland (eds), *A Military History of Scotland*, (Edinburgh: Edinburgh University Press, 2014), pp. 600-624; Trevor Royle, *Facing the Bear: Scotland and the Cold War*, (Edinburgh: Birlinn, 2019).

[22]Jeff Hughes, 'The Strath Report: Britain Confronts the H-Bomb, 1954-1955', *History and Technology* 19, 3 (2003), pp. 257-275; Matthew Grant, 'Civil Defence and the Nuclear Deterrent, 1954-1968: Strategic Imperative and Political Expediency', in Matthew Grant (ed.), *The British Way in Cold Warfare*, (London: Bloomsbury, 2011), pp. 52-54.

[23]David Edgerton, *Warfare State: Britain, 1920-1970*, (Cambridge: Cambridge University Press, 2006), p. 104.

military planning and the reality of localised situations can enhance our understanding of strategic issues and external factors influencing top-level decision making.

The 'air defence problem' in Scotland

Air defence planning in the late 1940s took place with Britain in a state of flux as she struggled to repair her shattered economy and maintain her status as a world power. Scotland was initially allocated nucleus force anti-aircraft defences for the Clyde and Forth GDAs with fighter cover from the RAF's 13 Group headquartered at Inverness. The Defended Area was divided into two sectors: 'Turnhouse' covering eastern and central territory south of Inverness and 'Kirkwall' for the Highlands, Orkney and Shetland.[24] Continuing its wartime role, the Home Office Key Points Intelligence Directorate identified centres of military-industrial importance for the provision of anti-aircraft guns. Key points, such as the Royal Navy's torpedo factory at Greenock and Rosyth naval dockyard were in vital areas for any potential war effort and therefore prioritised for the nucleus force.[25]

From the outset the planning efforts of Anti-Aircraft Command and Fighter Command were hampered by three problems: lack of manpower, availability of gun sites for full-scale deployment, and the urgency of overhauling the RAF's control and reporting organisation which underpinned the entire air defence system. In 1946 the Sub-Committee on the Allocation of Active Air Defences reported that it was necessary to restrict the Defended Area to England between Flamborough Head in Yorkshire and Portland Bill in Dorset.[26] In response, the Cabinet Defence Committee called on Anti-Aircraft Command to plot its expansion over the following two years in cooperation with Fighter Command. The Royal Observer Corps would be reactivated to boost the RAF's control and reporting network and the War Office would be authorised to acquire land for new gun sites.[27] The recall of Territorial Army units in 1947 was intended to provide a fresh pool of recruits as demobilisation and the departure of skilled tradesmen to more attractive civilian jobs were diminishing available manpower. Specifically, the exodus of servicemen from the Royal Electrical and Mechanical Engineers deprived Anti-Aircraft Command of vital technical knowledge. In July 1947 the COS' reconstituted Sub-Committee on Air, Coast and Seaward Defences warned that even with the introduction of National Service, it would not be possible to deploy the nucleus force 'quickly at full strength' before

---

[24]TNA CAB 82/19, 15 June 1945, Annex II, p. 8, and map in Appendix A.

[25]TNA CAB 82/20, 'Vital Areas and Key Points in the United Kingdom Essential to the War Potential', 9 September 1946.

[26]TNA CAB 82/20, 'Short Term Plan for the Air Defence of Great Britain', 6 June 1946, p. 2.

[27]TNA CAB 82/20, 'Air Defence of Great Britain', note by the Joint Secretaries, 9 August 1946.

1952.[28] By 1949 the scale of nucleus and full-scale forces envisioned in 1945 had proved unrealistic. The Sub-Committee still highlighted insufficient manpower; in Scotland only half the anti-aircraft defences and limited fighters were available to protect the high priority Glasgow and Clyde GDA. Fighter cover remained sparse outside the contracted 'Main Defended Area' from Flamborough Head to Portland Bill and control and reporting was practically negligible. The Sub-Committee concluded that 'should an air offensive be launched against this country, without a warning, we should be virtually defenceless.'[29]

Attempts to revise the original ten-year plan were abandoned in favour of the 'Igloo' scheme based on a reduced number of gun sites and proportionate manpower. Pre-existing Second World War gun sites were earmarked for modernisation and new 'virgin' sites were to be acquired to broaden the layout. Both 1938 and 1941 pattern heavy anti-aircraft emplacements were replaced by a new pattern designed to accommodate modernised 3.7 inch guns.[30] Given added impetus by the Malayan and Korean conflicts, Igloo was a phased pre-mobilisation scheme to deploy medium anti-aircraft artillery at 54 sites in 'vulnerable areas', including Britain's main ports, with regular Royal Artillery regiments able to man half the troop positions at 30 hours' notice from the summer of 1951. In the second phase, a further 54 sites were to be made ready for deploying all regular units in peacetime. By 1957 a total of 665 sites would be operational after the acquisition of additional virgin sites by the War Office.[31]

Contemporaneously with Igloo, the Air Ministry launched the colossal 'Rotor' project to overhaul the RAF's control and reporting infrastructure for atomic warfare. Under Rotor, new radar stations with subterranean bunkers were constructed on Scotland's east coast and covering her northern approaches.[32] To protect command, a Type R4 bunker was excavated for the RAF sector operations centre (SOC) at Barnton Quarry in Edinburgh between 1951 and 1954.[33] A Royal Artillery control and reporting

---

[28]TNA AIR 8/1446, 'Air Defence of Great Britain,' report to the COS, 9 July 1947, p. 3.

[29]TNA CAB 122/379, 'Air Defence of the United Kingdom', report to the COS, 21 March 1949, p. 4.

[30]See Dobinson, *Anti-Aircraft Command*, p. 145, p. 332. On the new pattern 3.7 and 5.25 inch gun emplacements, see Cocroft, Thomas and Barnwell (ed.), *Cold War*, pp. 152-153.

[31]TNA DEFE 8/19, 'Anti-Aircraft Defences', War Office report, 5 April 1951, Annexure III, p. 15.

[32]For a description of Rotor at national level, see Cocroft, Thomas and Barnwell (ed.), *Cold War*, pp. 86-87.

[33]Edinburgh City Archives, Acc. 370, Box 4, EP/3/9/1, Mott, Hay and Anderson architects' drawings for the Air Ministry, 1953-1954.

battery, predominantly a territorial unit with a small regular component, would work alongside RAF personnel under the authority of the latter's sector commander. From the SOC, the fire control troop would relay instructions to the anti-aircraft operations room (AAOR) in the GDA. Meanwhile the reporting troop would alert all AAORs within 100 miles of the plots on the table at the RAF combined filter and plotting centre (CFP). The CFP would receive intelligence from Royal Observer Corps group headquarters and RAF radar stations to identify incoming enemy aircraft. Joint AAORs (JAAORs) operated in areas where anti-aircraft and coast defence artillery were accompanied by the guns of Navy warships. Communication would be via telephone lines, with VHF wireless as a contingency, to be operated by the Army's Royal Signals and Women's Royal Army Corps units.[34]

Between 1951 and 1954 new AAORs were constructed under the Ministry of Works for the four Scottish GDAs: Glasgow and Clyde; the Clyde Anchorage; Forth and Rosyth and Loch Ewe. AAORs were situated at a distance from the gun sites to offer a degree of protection from atomic, biological and/or chemical weapons. Unlike Second World War gun operations rooms, AAORs were built to a standard design as two-storey steel reinforced concrete bunkers; some were above ground, others semi-sunken. They were not intended to withstand a ground burst from an atomic bomb at close range nor the effects of radiation fallout. Upon mobilisation the AAORs would be manned by Royal Artillery fire command troops and gun batteries supplied from local Anti-Aircraft Ordnance Depots, Equipment Ammunition Depots and Intermediate Ammunition Depots, with technical and logistical support of Royal Electrical and Mechanical Engineers, Royal Ordnance and Royal Army Service Corps units. In Scotland, 'mixed' fire command troops were composed of regular and territorial soldiers. In the early 1950s, the concept of dividing Scotland into two sectors was preserved with a new SOC and CFP to be built at Inverness for the 'Sector of the Isles'. Plans for a separate SOC had been dropped by 1954 and all Scottish AAORs remained under the Caledonian SOC at Barnton Quarry.[35]

Igloo was never completed on a national scale and was implemented unevenly in Scotland. After Anti-Aircraft Command's mobilisation scheme was abruptly curtailed in 1953, much of its Scottish organisation withered and was confined to paper planning. Although land for gun sites was legally protected under the 1947 Town and Country Planning Act (Scotland), the War Office faced difficulties requisitioning sites owing to competition from local authorities, keen to build new housing. Emplacements also required sufficient distance from power lines to allow for radar guided gun-laying which meant finding accommodation with the Scottish electricity boards. As a result,

---

[34]TNA WO 106/5914, AA Command Standing Orders for War, March 1954, Section A, p. 11.
[35]TNA, ADM 1/24859, Note by the Admiralty Director of Plans, 15 January 1954.

anti-aircraft defence of vulnerable areas remained inadequate to meet the potential threat. Anti-Aircraft Command was officially disbanded in Scotland on 2 August 1955 with the headquarters of 12, 77 and 78 AA Brigades placed in 'suspended animation' by the War Office.[36]

Glasgow & Clydeside

As it contained a high priority vulnerable area, a major industrial centre with numerous key points for shipbuilding and armaments production, Glasgow and Clydeside was the only Scottish GDA included in the Igloo scheme.[37] The new AAOR for the Glasgow and Clydeside GDA was built in the grounds of Torrance House at East Kilbride, which would serve as 68 AA Brigade's wartime headquarters prior to the bunker's completion in 1953.[38] Glasgow and Clydeside was the only Scottish GDA to be allocated immediate anti-aircraft defence with 28 guns to be deployed when Anti-Aircraft Command was mobilised on M(AA) Day.[39] At the start of Igloo, regiments mainly comprised territorials from Glasgow and Lanarkshire, with one from Belfast and three northern English units from 5 AA Group.[40]

From archaeological evidence, however, it would appear that not all gun sites were successfully requisitioned, and in several cases the War Office had to improvise. At the onset of Igloo in 1951, 53 gun sites were earmarked either for inclusion in the first two phases of Igloo, or for future requisitioning by the War Office.[41] Medium anti-aircraft emplacements were built to the new pattern for 3.7 inch guns at Brackenhurst (near Bellsmyre), Drumbowie, Midnetherton (near Carmunnock), East Yonderton and Mugdock.[42] Elsewhere new pattern heavy anti-aircraft emplacements were constructed for 5.25 inch guns at Pattiston, Limekilnburn and Stockiemuir.[43] The archaeological remains suggest that Anti-Aircraft Command was forced to depart significantly from the original Igloo list; many new emplacements were never built and some pre-existing ones only partially modernised. Nevertheless in 1952 an inter-

---

[36]TNA WO 32/14627, War Office memorandum to Anti-Aircraft Command Headquarters, 25 June 1955.

[37]TNA DEFE 8/21, 'Vulnerable Areas', Sub-Committee for Air, Coast and Seaward Defences report to the ADC, 4 December 1951, Appendix A, p. 3, and map in Appendix B.

[38]TNA WO 106/5913, AA Command Mobilisation Scheme, April 1952, Appendix F.

[39]TNA, WO 106/5912, AA Command Mobilisation Scheme, October 1951, Appendix E Part 2.

[40]TNA WO 106/5912, October 1951, Appendix A, Section 3, p. 1.

[41]TNA WO 106/5911, AA Command Mobilisation Scheme, April 1951, Appendix QA.

[42]TNA WO 106/5912, October 1951, Appendix QA; see also Canmore IDs 107533, 107534, 43809, 107523 and 105603 for the archaeological record.

[43]See Canmore IDs 106351, 105315 and 106350.

service report concluded that the inner Clyde between Greenock and Glasgow had 'strong MAA defences' although a later report to the Air Defence Committee noted 'serious gaps' in the northern approaches.[44]

By 1954, construction of the AAOR and a limited number of new emplacements was complete. Telephone lines connected the AAOR to the SOC in Edinburgh and a wireless mast allowed for radio communication with the gun batteries. On paper at least, a total of ten Royal Artillery regiments were available for deployment.[45] A military camp was also established at the AAOR, for which the War Office later paid £932 in compensation to the East Kilbride Development Corporation for replanting trees on the site.[46]

The Clyde Anchorage
Air defence planning for the Clyde Anchorage GDA was more rudimentary than its Glasgow and Clydeside counterpart. The bunker at Inverkip was designed to be operated with the Royal Navy as a JAAOR. Construction work began in 1951 on a hillside position overlooking the Firth of Clyde. Out of 28 gun sites identified after Igloo was initiated, none seem to have been prioritised for the Clyde Anchorage.[47] A Second World War site at Flatterton was part-modernised with two new pattern 3.7 inch gun emplacements.[48] New pattern 5.25 inch gun emplacements were also constructed at Rosneath and Wemyss Bay.[49]

The 77 AA Brigade took part in the 'air defence phase' of NATO's Exercise Mariner held in September-October 1953. During Mariner the Clyde Anchorage from the Dunoon/Cloch Point line to the Tail of the Bank was jointly defended by 'blue' forces

---

[44]TNA DEFE 8/28, 'Defence of Vital Shipping Channels', Admiralty report to the ADC, 30 June 1952, p. 9; DEFE 8/29, 'Surprise Atomic Attack – The Toll', report by E. J. Kingston-McCloughry, Chief Air Defence Officer, to the ADC, 16 October 1952, p. 3.

[45]TNA WO 106/5915, Anti-Aircraft Command Mobilisation Instruction, May 1954, Annexes A, F.

[46]South Lanarkshire Archives, East Kilbride Development Corporation Minutes Vol. X (1957-58), 1 March 1958, p. 240.

[47]TNA WO 106/5912, October 1951, Appendix QA.

[48]See Canmore ID 105645.

[49]See Canmore IDs 106348 and 107527. Rosneath was of strategic significance in 1951 owing to contemporary plans for an Anglo-American submarine base on the Gare Loch (TNA ADM 1/21931, Letter from W. V. McCaig to the Secretary of the Admiralty, 10 September 1951). The site at Wemyss Bay is listed under the Glasgow/Clydeside GDA (TNA WO 106/5912, October 1951, Appendix QA) but given its location south-west of Inverkip this must be in error.

consisting of Army artillery, Navy warships and RAF aircraft. The Navy's seaward defence headquarters was located at Cloch Point along with anti-small battle unit (ASBU) guns manned by the 105 Coast Artillery Brigade.[50] Information on incoming 'orange' (enemy) aircraft was passed to ships of the striking fleet from the SOC at Barnton Quarry via the JAAOR at Inverkip.[51]

Despite the lack of modernised gun sites, the Clyde Anchorage JAAOR was fully operational with telephone and wireless communications connected by late 1953. After it was relinquished by the War Office, the bunker was taken over by the Navy and recommissioned as an emergency wartime headquarters in the 1960s, staffed by the Royal Naval Reserve unit HMS Dalriada during several exercises.[52]

The Forth & Rosyth
The Forth and Rosyth GDA covered multiple key points, including the Rosyth naval dockyard, Port Edgar and the ports of Granton and Leith. Planning for new anti-aircraft artillery defences proceeded slowly with the JAAOR at Craigiehall, near South Queensferry, scheduled to be completed last out of the four.[53] The bunker was located in the grounds of Craigiehall where 3 AA Group was headquartered. Troops from only two 'mixed' heavy anti-aircraft regiments (494 [M] based at Edinburgh and the mobile 558 [M] from Coatdyke, later 471 [M] headquartered at Dunfermline) equipped with 3.7 inch Mk 2C guns were to be deployed across 12 sites.[54]

---

[50]Cloch Point was earlier listed as a potential gun site by Anti-Aircraft Command, and the Exercise Mariner plans note an existing ASBU battery there (TNA ADM 116/6327, Outline Plan for the Improvised Seaward Defence of the Clyde, 16 May 1953, p. 4). A subsequent report complained that the coast artillery units had not participated on a 'war footing' with territorial troops mostly participating at weekends (TNA ADM 116/6327, 'Exercise Mariner – Seaward Defence Phase' report to the Flag Officer, Scotland, 15 October 1953, p. 28).

[51]TNA ADM 116/6327, General Orders for A.A. Defence Exercise in the Seaward Defence Phase of Exercise Mariner, 27 August 1953. Although not mentioned in documentation, it is assumed that the JAAOR was manned by the Royal Artillery 77 (M) fire command troop as per the current mobilisation scheme (TNA WO 106/5913, April 1953, Appendix G). For a broader discussion of Exercise Mariner, see Brian Lavery, *Shield of Empire: The Royal Navy and Scotland*, (Edinburgh: Birlinn, 2007), p. 399, and Moore, *The Royal Navy and Nuclear Weapons*, pp. 97-98.

[52]See the memoirs of the former Commodore Clyde Rear Admiral P. G. La Niece, *Not a Nine to Five Job* (Yalding: Charltons, 1992), p. 221.

[53]TNA DEFE 8/19, 5 April 1951, Attachment to Annexure VI, p. 20.

[54]TNA WO 106/5912, October 1951, Appendix A, Section 3, p. 2; see also Norman E. H. Litchfield, *The Territorial Artillery 1908-1988*, (Nottingham: The Sherwood Press, 1992), p. 300, p. 292, p. 283.

In 1952 the Air Defence Committee proposed to the COS that the Forth be prioritised for medium anti-aircraft artillery.[55] Concerned by the comparatively weak defences in the Firth of Forth, the Admiralty pressed for increased medium anti-aircraft firepower to defend the narrow shipping channel west of the Isle of May. This allowed access to the base at Rosyth and the emergency convoy anchorage in Largo Bay off the east coast of Fife.[56] Despite naval pressure, little progress seems to have been made with modernising gun emplacements in the Forth and Rosyth GDA where plans relied largely upon 'rehabilitating' Second World War sites.[57] In the early 1950s, coast artillery defences were gradually dismantled before the organisation was disbanded in 1956.[58] By 1954, the JAAOR at Craigiehall was operational for coordinating anti-aircraft fire from onshore gun emplacements with Navy warships in the Firth of Forth launched from Rosyth and Granton.[59]

Loch Ewe
Of all the Scottish GDAs, Loch Ewe best illustrates the competing interests of the 'Three Pillars' through its ad hoc planning and unresolved logistical issues. Loch Ewe was not among the Scottish GDAs proposed by the Air Defence Committee in 1949.[60] Its subsequent inclusion was almost certainly at the behest of the Royal Navy. Conceived as a JAAOR, construction began on the bunker at Gairloch in 1951 and was completed in 1953. Originally the guns on Loch Ewe would be crewed by territorial troops from 362 Heavy Anti-Aircraft Regiment. However, it had to be replaced by the territorial 501 Heavy Anti-Aircraft Regiment headquartered in Aberdeen owing to the former's meagre strength.[61] In the event of war, transporting guns by road from the railway station at Achnasheen would likely have been difficult, even impossible in winter when the single track frequently became impassable.[62]

---

[55]TNA AIR 8/2474, April 1952, p. 20.
[56]TNA DEFE 8/28, 30 June 1952, Annex.
[57]Structures can be found at the following gun sites: Myrend (Canmore ID 84195), Kinghorn (84257) and Liberton (118887).
[58]TNA, WO 305/141, 245 Armament Unit Battery RA, Record of Unit Tasks 1 April 53 to 1 March 54, 26 March 1954, Appendix A; see also Gordon J. Barclay and Ron Morris, *The Fortification of the Firth of Forth 1880-1977*, (Edinburgh: Society of Antiquaries, 2022), p. 81.
[59]TNA ADM 1/25641, Port Plan for Granton and Leith, 1 June 1954, Appendix 8, p. 1, and map at Annex A.
[60]TNA AIR 8/1786, 1949, Fig. 1.
[61]TNA WO 106/5912, 1 October 1951, p. 2; see also Litchfield, *The Territorial Artillery*, p. 272.
[62]TNA ADM 1/25630, Office of the Flag Officer Commanding Scotland and Northern Ireland report to the Admiralty, 5 January 1950, p. 4.

Defence arrangements for the Loch Ewe GDA continued to be subject to inter-service discussions after the Igloo scheme was put into action. In February 1952, Loch Ewe became a priority two defended port as an 'Advanced Fleet Anchorage, Fleet Working Up Base and Convoy Assembly Point'.[63] Under NATO's Emergency Defence Plan, Loch Ewe was to act as an assembly point for Scandinavian convoys, a scenario rehearsed during Exercise Mariner. Further cooperation with the Navy on developing the defensive infrastructure on Loch Ewe was agreed by the Army's Scottish Command and 3 AA Group. The Navy envisaged a seaward defence headquarters at Leacan Donna, an examination battery at Camas Cliabhach and an ASBU battery at Rubh' a' Choin, armed with two 3.7 inch guns each.[64] The Army stressed that it could not meet the Navy's requirements for anti-aircraft gun emplacements in the short term, owing to the prerequisite of building new roads and hard standings. Mobile anti-aircraft guns could be provided, but at the expense of the examination battery.[65] Archaeological remains would suggest that Second World War emplacements on Loch Ewe were adapted for mobile 3.7 inch guns, but not modernised to the new pattern, at Rubh' a' Choin and Tournaig.[66]

Collaboration between Anti-Aircraft Command and the Navy over the latter's plans for Loch Ewe seems to have broken down in 1953. In 1952 the Air Defence Committee recommended Loch Ewe for continued medium anti-aircraft artillery protection.[67] Under political pressure to downsize regiments, the COS instead opted to forsake the Loch Ewe GDA at the beginning of 1953. At a joint command meeting in Portsmouth in February, it was nevertheless reported that 'a large J.A.A.O.R was being built and was practically complete at Loch Gairloch, and that gun sites on Loch Ewe were being progressed.' The RAF observed the lack of airfields suitable for 'modern fighters' and radar coverage in the area, as well as an SOC for the Sector of the Isles. The Flag Officer Scotland countered that two naval airfields at Dounreay and Lossiemouth were available.[68] Commander-in-Chief, Portsmouth, Admiral John

---

[63]TNA ADM 1/25630, Letter from the Office of the Flag Officer Scotland to the Admiralty, 29 January 1952, p. 4.
[64]TNA ADM 1/25630, Letter from the Office of the Flag Officer Scotland to the Admiralty, 3 October 1951; ADM 1/25630, 29 January 1952, p. 2.
[65]TNA ADM 1/25630, Minutes of meeting at the Admiralty, 7 May 1952, p. 2.
[66]See Canmore IDs 98094 and 98096. I am indebted to Allan Kilpatrick at Historic Environment Scotland for additional information from recent surveying. The work done at Rubh' a' Choin may indicate a temporary solution for the ASBU battery. As the 501st was equipped with Mk 3A mobile guns, adapting the existing emplacement at Tournaig would have been logical.
[67]TNA AIR 8/2474, April 1952, p. 14.
[68]TNA ADM 1/24859, Minutes of meeting at Portsmouth, 5 February 1953, p. 2.

Edelsten, wrote to the Admiralty the following month, emphasising that any reduction in Loch Ewe's thin air defences would be 'unacceptable'. Commander-in-Chief Eastern Atlantic Area, Admiral George Creasy, intended Loch Ewe to be the emergency anchorage for the Fleet's northern bases. Edelsten reasonably argued that anti-aircraft defences would be essential, given the likelihood of the Clyde and Forth being primary targets in any Soviet attack.[69] No reply to Edelsten's appeal was forthcoming for nearly a year, at the point when Anti-Aircraft Command was being wound down, and the response was unsurprisingly negative.

There would appear to be no record of the JAAOR for the Loch Ewe GDA ever being made operational. The General Post Office may not have actually connected it to the SOC in Edinburgh, although a wireless mast was erected for communication.[70] Ironically, in 1954 the Admiralty's Gunnery and Anti-Aircraft Warfare Division briefly investigated the possibility of establishing 'a small naval A.A. operations room' for Loch Ewe while seemingly unaware of the JAAOR's existence at Gairloch.[71]

SAGWs & The Nuclear Deterrent

Following the Air Defence Committee's advice to the COS, the Air Ministry assumed control of Britain's guided weapons programme in 1953 in a move that would eventually spell the end for Anti-Aircraft Command.[72] Anticipating the introduction of guided weapons by 1958, the COS concluded that medium anti-aircraft regiments would become redundant and Anti-Aircraft Command would 'gradually dwindle' to light anti-aircraft defence in the intervening period.[73] Organisationally Anti-Aircraft Command had always been the RAF's junior partner. The Air Defence Commander of the United Kingdom was also commander-in-chief of Fighter Command and ADUK's sectoral control system relied on the RAF's control and reporting infrastructure. Under the Churchill government's 1953 Radical Review, the COS were forced to consider a drastic curtailment of ADUK to reduce defence spending. The government's June Directive effectively abandoned the concept of 'broken-backed war' in favour of planning for six weeks' intense nuclear conflict with Britain's 'survival

[69]TNA ADM 1/24859, Letter from Admiral John Edelsten to the Admiralty, 5 March 1953.
[70]TNA WO 106/5913, October 1953, Appendix H; Highland Archive Centre, CRC/3/1/80, Minutes of the Ross and Cromarty County Council Highways Committee, 14 January 1960, p. 49. The County Council purchased the wireless mast from Scottish Command for £2 in 1960.
[71]TNA ADM 1/24859, Note by the Admiralty Director of Gunnery and Anti-Aircraft Warfare Division, 8 March 1954.
[72]TNA AIR 8/2474, April 1952, p. 17.
[73]TNA DEFE 8/39, 'Air Defence of the United Kingdom', COS report, 2 March 1953, p. 7.

forces' relying on the United States Strategic Air Command 'to break the Russian will to fight' in that period.[74] The RAF had seized the initiative not just in the guided weapons programme, but in driving British strategic policy toward attack over defence.

Modernisation of the Royal Artillery's arsenal proceeded too slowly to have any real impact, and in 1953 the COS halted the programme of adapting the 3.7 Mk 2C gun.[75] The Royal Armament Research and Development Establishment's new automatic-loading medium and heavy anti-aircraft guns, codenamed 'Red Maid' and 'Green Mace', were both cancelled before entering production. Vickers' own medium anti-aircraft gun was also scrapped at the prototype stage.[76] Industrial inertia notwithstanding, the Army had not been blind to the inevitability of SAGWs replacing the heavy anti-aircraft gun. In 1951 the Royal Artillery confidently saw the new heavy anti-aircraft gun as a contingency against its English Electric-designed 'Red Shoes' missile not entering service by 1957. In the period 1950-1951, the Royal Artillery was also in negotiation to acquire the American Terrier missile system and enquiries were made about it being manufactured in Britain.[77] As the Igloo scheme was being implemented, the War Office ordered a small stock of Terrier missiles for training purposes at the Trials Establishment Royal Artillery in Anglesey.[78] Internal discussion within the Royal Artillery moreover reveals a keen awareness of the potential of nuclear-tipped projectiles for destroying faster aircraft at greater distance in the 'medium band'.[79]

The COS understood that SAGWs would be ineffective at heights of under 10,000 feet.[80] To compensate Anti-Aircraft Command's commander-in-chief, Lieutenant-General Sir Charles Loewen, advocated a 'three-decker defence' consisting of light and medium anti-aircraft guns at lower levels, and SAGWs at high altitude. This combination of anti-aircraft weapons would balance the effectiveness of medium guns and guided weapons, against enemy sorties at different altitudes with forces of varying

---

[74]Quoted in Clark and Wheeler, *The British Origins of Nuclear Strategy*, p. 184; see also Baylis, *Ambiguity and Deterrence*, pp. 166-167.

[75]Routledge, *History of the Royal Regiment of Artillery*, p. 437. The ADC proposed that the Mk IIC be converted to be transportable and fully automatic firing the 'Littlejohn' squeeze-bore shell (AIR 8/1786, 1949, p. 5).

[76]TNA WO 32/13049, 'New HAA Gun' meeting notes, 5 January 1951; see also Routledge, *History of the Royal Regiment of Artillery*, pp. 437-438.

[77]TNA WO 32/13049, 5 January 1951. Terrier was designed as a ship-to-air missile so presumably the intention was to modify the launcher for the Royal Artillery's use.

[78]TNA DEFE 8/19, 'Introduction of Terrier into U.K. Defences', War Office statement to the ADC, 28 May 1951, Appendix, p. 2.

[79]Major R. Elsmie, 'Future A.A. Thoughts', *The Royal Artillery Journal* LXXX, 4 (1953), p. 254.

[80]TNA DEFE 8/39, 2 March 1953, p. 5.

size.[81] British eyes were already fixed on the US Army's more advanced surface-to-air missile technology, however, as the Nike Ajax system was ready for deployment in 1953.[82] For its part, the RAF strengthened Anglo-American cooperation, liaising with the US Air Force's air defence study Project Charles, and hosting Conference Ally at RAF Old Sarum in February 1953. Crucially, one of the conference's major conclusions was that the 'successful emergence of the surface-to-air guided weapon, especially in the United States, has made it unnecessary to put any further effort on the medium AA gun'.[83]

The COS' mindset was shifting in an offensive direction, even before the Soviet Union's detonation of a thermonuclear weapon in August 1953 redefined the air defence problem. In February 1953, General Sir Nevil Brownjohn wrote to Winston Churchill, 'an air defence system designed to inflict an attrition loss rate on the enemy is no longer adequate; we must aim at annihilation of the atom bomb carriers.'[84] In addition to the hydrogen bomb, the Air Defence Committee had to face the prospect of nuclear ballistic missiles on top of the existing 'flying' threat they had hitherto considered. Chairman Sir Frederick Brundrett expressed a general concern about the inadequacy of the Rotor programme's second stage, scheduled to begin in 1954, which was designed to counter the 'flying' threat only.[85] The combination of governmental pressure to reduce defence expenditure, inter-service rivalry and rapid nuclear weapons evolution, forced the COS into a series of hasty, if pragmatic decisions.

In 1955 the Air Defence Committee noted that the COS now placed ADUK third in its order of priorities behind the nuclear deterrent and preparing for 'cold or limited war'.[86] The COS' deprioritisation of ADUK may have been influenced by the Committee's own scepticism over the effectiveness of the two principal SAGWs under development: 'Red Shoes' and 'Red Duster'. The Committee considered both to be of insufficient range and adherence to a point defence principle rendered obsolete by the hydrogen bomb.[87] The Bloodhound Mark I missile, developed for the RAF by the Bristol Aeroplane Company and Ferranti under the codename 'Red

---

[81]TNA DEFE 8/39, 'Note on the Problem of Producing a Balanced A.A. Force', paper for the ADC, 13 April 1953, pp. 2-3.

[82]See Hogg, *Anti-Aircraft*, p. 142.

[83]TNA DEFE 8/39, Joint report to the ADC on 'Conference Ally', 27 February 1953, p. 17.

[84]TNA CAB 21/3433, Letter from General Sir Nevil Brownjohn to Winston Churchill, 23 February 1953.

[85]TNA DEFE 8/38, ADC Minutes, 26 October 1953, p. 6.

[86]TNA DEFE 8/38, ADC Minutes, 27 July 1955, p. 2.

[87]TNA DEFE 8/70, 'Air Defence of the United Kingdom', ADC draft report to the COS, 25 June 1954, p. 10.

Duster', was originally intended to protect vulnerable areas, by mounting it on existing gun emplacements. When the COS opted not to manufacture Red Shoes and Red Duster for operational use, the Air Ministry lobbied them to reconsider, citing public cognisance of Nike missiles defending American cities, and the expectation that SAGWs would soon replace guns in Britain after Anti-Aircraft Command's disbandment.[88] The Ministry produced four schemes for the COS' consideration based on available budget, with two leaving Scotland and Northern Ireland entirely undefended. The schemes were informed by economic pragmatism and recognised the Ministry of Supply's interest in coordinating peacetime production for home defence with the lucrative export market for advanced British military technology.[89] Against Anti-Aircraft Command's balanced view of air defence, the RAF persisted in viewing SAGWs as a means of meeting what it perceived as the greater threat from high altitude bombing. The air defence problem at lower levels became more acute with evolving Soviet aircraft and missile technology. Consequently, at the close of the 1950s, under political pressure to cut costs, the Air Ministry deprioritised Bloodhound in favour of English Electric's supersonic Lightning interceptor. By 1959, the government would only countenance defending the nuclear deterrent itself, compelling the RAF to emplace Bloodhound missiles in a limited pattern protecting V-bombers and American Thor missiles based at English airfields.[90] As Scottish airfields were only to be used as dispersal bases for the V-Force, Bloodhound missiles were not deployed to Scotland after their introduction in 1958.

English Electric's Red Shoes (renamed Thunderbird) mobile anti-aircraft missile system was eventually deployed with the Royal Artillery's 36 Guided Weapons Regiment in the British Army of the Rhine after its introduction in 1959. The Royal Artillery also found a new role operating American-made Corporal missiles as NATO's first nuclear-capable battlefield weapon. Testing began on 23 June 1959 at a newly built guided weapons range on the Hebridean islands of South Uist and Benbecula.[91] Tactical nuclear weapons offered the possibility of preventing a Soviet invasion of Western Europe, fulfilling the Air Defence Committee's earlier recommendation to buttress

---

[88]TNA DEFE 8/70, 'Introduction of Surface to Air Guided Weapons into the Air Defence of the United Kingdom', Air Ministry note to the COS, 9 August 1955, Introduction, p. 2.

[89]Ibid., Appendix A, p. 12. Bloodhound Mark I was exported to Australia and Sweden. See Cocroft, Thomas and Barnwell (ed.), *Cold War*, p. 173.

[90]Richard Moore, *Nuclear Illusion, Nuclear Reality: Britain, the United States and Nuclear Weapons, 1958-64*, (Basingstoke: Palgrave Macmillan, 2010), pp. 126-128.

[91]See Fraser MacDonald, 'Perpendicular Subline: Regarding Rocketry and the Cold War', in Fraser Macdonald, Rachel Hughes and Klaus Dodds (eds), *Observant States: Geopolitics and Visual Culture*, (London: I. B. Tauris, 2010), pp. 267-289.

NATO's chances of 'holding the enemy on or east of the Rhine'.[92] By the 1960s, however, British anxiety over a Soviet invasion of Western Europe had given way to fears of bomber and ballistic missile strikes launched from new Arctic military complexes. This new reality brought Scotland's geostrategic importance into sharper focus for British, American and NATO war planning.

Conclusion

British attempts to resolve the air defence problem reveal a lack of strategic foresight on the part of military planners. Post-war austerity and political pressure to shrink defence budgets encouraged short-termism, and the irresistible gravitational pull of American technology that culminated in Britain signing the Mutual Defence Agreement with the United States in 1958. There were other economic factors at work, such as the need to balance production of advanced military technology for home defence with a profitable export market. From the mid-1950s two closely related nuclear missile projects were in development for the Air Ministry. Scientific research into nuclear SAGWs probed the possibility of an anti-ballistic missile (ABM) system for ADUK but was deemed too complex and costly to realise by 1961.[93] The previous year saw the cancellation of the Blue Streak intermediate range ballistic missile programme. The superpowers were able to continue developing ABM alongside ballistic missile systems partly on account of superior resources, but also through consistently prioritising air defence from the beginning of the Cold War as the corollary of their nuclear arms race. Although still beleaguered in the 1950s, Britain possessed the scientific and industrial capacity to produce high technology, as demonstrated by her rapid progress in the field of nuclear reactors. In contrast to the United States, which excluded military officers from its air defence studies viz. Projects Charles and Lincoln, Britain's efforts were hamstrung by inter-service competition that exacerbated political restrictions on strategic problem-solving. The aborted modernisation of the Royal Artillery's anti-aircraft guns augured bigger defence project cancellations such as Blue Streak and the British Aircraft Corporation's TSR-2 aircraft, which were terminated at the prototype stage and after massive investment.

In the early 1950s Scotland was in many ways England's poor relation in ADUK, excluded from the Main Defended Area and allocated insufficient firepower to defend vulnerable areas under the Igloo scheme. Scotland's centrality in subsequent British strategic thinking is nonetheless closely related to the air defence problem of this period which henceforth persisted and took new forms. Earlier predictions of the fighter's obsolescence were shown to be wholly premature. The absence of SAGWs made the fighter interceptor indispensable, along with maritime reconnaissance

---

[92]TNA AIR 8/2474, April 1952, p. 7.
[93]Concerning British research on nuclear SAGWs as a possible 'stepping stone' to an ABM system, see Moore, *Nuclear Illusion, Nuclear Reality*, pp. 126-129.

aircraft. American, and later British Polaris ballistic missile submarines were based on the Clyde owing to its strategic northerly position and because the same Atlantic security issues were paramount. No longer peripheral, Scotland became a key node in NATO's war plan, situated close to the Greenland-Iceland-UK Gap and NATO's Nordic flank. The RAF and Royal Navy were forced to galvanise their air and seaward defence infrastructure to extend fighter cover and maritime patrols from airfields at Leuchars, Kinloss and Lossiemouth. Vulnerable areas of the Clyde, Forth and Loch Ewe remained potential targets, but with new key points: inter alia the Navy's submarine base at Faslane and armaments depot at Coulport; the joint RAF-Navy maritime headquarters at Pitreavie and the NATO oil storage depot at Loch Ewe. The dilemma of Britain's 'national technological security' continued to bedevil higher political and military echelons when discussing the nuclear deterrent, but also the Quick Reaction Alert fighters for intercepting Soviet aircraft and ships. Just as the Heath government pursued 'Super Antelope' (subsequently codenamed Chevaline), a British re-engineering of Polaris to overcome the Soviet ABM system, American Phantom F4 aircraft were likewise technically indigenised as the FG1 and FGR2.

Britain's nuclear deterrent did not ultimately remedy her unique geographical vulnerability to aerial penetration during the Cold War. This was nowhere truer than from her northern approaches, which remained at risk of long-range attack by Soviet aircraft and submarines operating from Arctic bases. High-level military fears of a 'knock-out blow' being delivered by the Soviet Union from Western Europe in the early 1950s were equally justified from the Arctic thereafter.

Soviet nuclear munitions in Czechoslovakia: 1965-1991

STANISLAV POLNAR[*]
University of Defence, Brno, Czech Republic
Email: *stanislav.polnar@unob.cz*

ABSTRACT
Under a Czechoslovak-Soviet treaty signed in 1965, the rapidly developing missile forces and air force of the Czechoslovak People's Army (Czech acronym and hereinafter 'ČSLA') were to be strengthened with the addition of nuclear munitions. These were to be used to support planned operations on the so-called Czechoslovak Front. Operation JAVOR consisted of the construction of three nuclear depots, which were manned by special units of the Soviet Army. A new agreement between the CSSR and the USSR was entered into in 1986, extending the existing conditions of storage. Fundamental changes were brought about in 1989 by the Velvet Revolution and the end of the Cold War.

Introduction
The presence of nuclear weapons on the territory of the former Czechoslovakia is one of the most inconsistently interpreted and, at the same time, most interesting questions of recent Czechoslovak history. It is closely linked to the vicissitudes that the shared state of Czechs and Slovaks went through during the Cold War from the 1960s. After the events of November 1989, it became a newsworthy topic in the public domain, it being part and parcel of the uncovering of various state secrets. These revelations were linked to the presence of Soviet troops in Czechoslovakia after the violent suppression of the Prague Spring in August 1968. The overall transition and transformation that Czechoslovak society and the moribund Federation were undergoing included these issues, which fascinated the public. They were also inextricably linked to the search for a new security orientation for the Czech and Slovak Federative Republic (CSFR). This article focuses on the issues related in

---

particular to the storage of Soviet nuclear munitions on Czechoslovak territory. With regards to archival sources, it is necessary to point out that access to Russian archives and the few primary sources held by Czech institutions was either non-existent or extremely limited.

Political and Military Characteristics of the Issue

In November 1945, a few months after the defeat of Nazism, the Red Army left Czechoslovak territory. The communist political elites of Czechoslovakia and the Czechoslovak Socialist Republic had a negative attitude towards any new deployment of Soviet military forces, a stance which was not affected by the escalation of the Cold War or developments after the events of February 1948. In particular, the attitude of the communist presidents Klement Gottwald (1948–1953) and Antonín Novotný (1957–1968) was consistently resistant. In contrast, the position of Antonín Zápotocký (1953–1957) was not entirely clear on the matter. The first Czechoslovak 'workers' president, Gottwald, came under strong pressure from Stalin, but eventually declared that the presence of Soviet troops would represent a loss of Czechoslovak sovereignty and cause immense damage to the internal policy of the Communist Party of Czechoslovakia (KSČ).[1] However, within the context of the Warsaw Pact's (WP) shift from the late 1950s to more offensive planning for East-West conflict under the conditions of the use of nuclear weapons, pressure from Moscow, backed by militant sections of the Soviet corps of generals, intensified.[2] In January 1960, Nikita Khrushchev declared the Soviet Union's new strategic posture – the 'revolution' accentuated the brisance of possible nuclear war.[3] The real impact of this new strategy manifested itself in the form of the Second Berlin crisis and the Cuban Missile crisis.[4] Moreover, in 1960/1961, the independent Czechoslovak Front (CSF) was established as a strategic-operational unit.[5] Its main tasks were to include possible offensive operations into Western Europe. It goes without saying that in the given situation, the CSF could only be formed by the ČSLA, which increased the pressure placed on the

[1]J. Fučík, *Stín jaderné války nad Evropou: ke strategii vojenských bloků, operačním plánům a úloze Československé lidové armády na středoevropském válčišti v letech 1945–1968*, (Prague: Mladá fronta, 2010), pp. 198–199; *Vzpomínky Nikity Sergejeviče Chruščova: magnetofonové nahrávky z období glasnosti*, (Brno: Jota, 2000), pp. 147-148.

[2] J. Šach, *The Czechoslovak Army in the First Year of "Nuclear" Training*, Historie a vojenství (History and Military Science) 64 (2) (2015) p. 27; David M. Glantz, *The Military Strategy of the Soviet Union*, (Oxford: Frank Cass, 2004), p. 170.

[3]David M. Glantz, *The Military Strategy of the Soviet Union*, (Oxford: Frank Cass, 2004), p. 188.

[4]R. Powell, *Nuclear Deterrence Theory: The Search for Credibility*, (Cambridge: Cambridge University Press, 2008), p. 127.

[5]K. Štěpánek & P. Minařík, *Československá lidová armáda na Rýnu*, (Prague: Naše vojsko, 2007), p. 45.

latter's combat readiness and construction. Last but not least, this arms race put a disproportionate burden on the Czechoslovak economy.

In October 1960, the Soviet side communicated to the Czechoslovak leadership its intention to arm the ČSLA with new operational-tactical missiles (Czech acronym OTR). The plan was approved at a meeting of the Political Consultative Committee of the Warsaw Pact in March 1961, and on 30 August 1961 the two parties entered into the *Agreement on the Supply of Special Material from the USSR to the CSSR for the Years 1961–1965*. As a result, from September 1961 to early 1963, the 311, 321 and 331 Heavy Artillery Brigades were established in the garrison town of Hranice na Moravě with missile equipment supplied by the USSR. However, this did not involve any nuclear warheads, whose ownership and disposal were meticulously guarded by Moscow. There was therefore a fundamental contradiction in the combat readiness requirement of the Czechoslovak missile formations. This was reflected in particular in the wording of the 1964 *Plan for the Use of the ČSLA in the Case of War*. According to the operational paper, the 311 Heavy Artillery Brigade fell under the First Army and the 321 Brigade fell under the Fourth Army of the CSF, for which it was planned to use the entire nuclear inventory of 131(!) tactical missiles and gravity bombs.[6]

The use of Czechoslovak nuclear delivery systems to transport Soviet nuclear munitions to the target was automatically incorporated into other ČSLA operational plans (1977 and 1986). This also applied to the operational document from July of the watershed year 1989. It was originally intended that Czechoslovak missile and air units would receive nuclear munitions from the USSR in time for operation but no earlier than 18 hours, which meant a considerable delay in terms of achieving full combat readiness. To solve this problem, three mobile missile technical bases were established within the ČSLA in 1963, and a year later, helicopter swarms within the heavy artillery brigades for transporting nuclear munitions.[7] It should be noted that these munitions were tactical nuclear weapons of smaller calibres. For example, in the case of gravity bombs for the Czechoslovak Su-7s, the equivalent of eight to ten kilotons of TNT.[8]

Even this solution, however, did not satisfy the Soviet generals, with the then command of the ČSLA (General Bohumír Lomský, Minister of National Defence, and General

---

[6]P. Luňák, *We Are in Lyon in Nine Days: Plan for the Use of the Czechoslovak People's Army in the Case of War in 1964*, Soudobé dějiny (Contemporary History) 8 (7) (2000), p. 414.
[7]P. Tomek, *Missile Delivery Systems of Nuclear Weapons on the Territory of Czechoslovakia*, Historie a vojenství (History and Military Science) 61 (3) (2012), pp. 73–74.
[8]J. Hlaváček, *Vzestup a pád ČSLA?: vojenská profese v kolektivní paměti důstojnického sboru (1960–1970)*, (Prague: Ústav pro soudobé dějiny AV ČR 2019), p. 205.

Otakar Rytíř, Chief of the General Staff) developing its own initiative in this regard. The system in force from 1962, according to which the transport of nuclear warheads and gravity bombs to Czechoslovak troops from the USSR was to take 18 to 22 hours in the most favourable situation, appeared generally insufficient. The amount of time appeared too long to the officials of the USSR Ministry of Defence and the Warsaw Pact Supreme Command of Joint Forces (Czech acronym HV SOS). This predicament was compounded by the political thesis of the 22nd Congress of the Communist Party of the Soviet Union (CPSU) in October 1961, according to which the Western 'imperialist' countries were preparing a sudden nuclear attack against the countries of the socialist community. The new requirement favoured a much faster operational speed, according to which nuclear weapons would be delivered to the Czechoslovak missile troops within 3 hours![9] The opinion in Warsaw Pact command circles at that time was increasingly assuming that NATO could initiate a future conflict with a surprise nuclear strike. If this were to be the case, CSF troops would initiate combat operations without the use of their own nuclear weapons, relying on the effects of Soviet strategic strikes deep behind the defences of the Western countries.

The aforementioned considerations did not only remain at the level of discussions among military experts. The delivery of special nuclear munitions from the USSR to the CSSR was regulated by two conventions between the Czechoslovak and Soviet parties – one dating from 30 August 1961 and the other from 23 February 1962. Each convention was based on a somewhat divergent assumption (see above) that the next nuclear war would be preceded by a brief period of increased international tension. This would therefore allow the delivery of nuclear weapons to Czechoslovak formations before the start of combat operations. The text of the first convention of 30 August 1961 stipulated that nuclear warheads were to be stored in the USSR. Their delivery to the CSSR and the preparation of the missile sets for firing were assumed to occur only after a special meeting and in the event of an emergency.[10] Under the second convention of 23 February 1962, a procedure was proposed under which the handling of nuclear munitions was entrusted to special Soviet brigades. These were to be moved onto Czechoslovak territory as required.[11]

---

[9]The Prague Archives of the Chamber of Deputies ('Prague ACD'), Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No.: 08/242-46 of 14 November 1991.

[10]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Extract from the Archive of the General Staff of the Czechoslovak Army, Document as of 25 May 1965 for VKO (p. 435, p. 437).

[11]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Extract from the Archive of the General Staff of the Czechoslovak Army, p. 1.

In the end, however, the option that prevailed was based on the necessity to reconcile the delivery of nuclear munitions and achieving the combat readiness of ČSLA units within 3 hours. Marshal Andrei Antonovich Grechko, the First Deputy Soviet Minister of Defence, expressed the matter quite succinctly at a meeting in Legnica, Poland, held on 16 - 21 March 1965,

> It is possible to consider the deployment of special warheads on the territory of the CSSR with Soviet manning, provided the government of the CSSR so requests, and provided the government of the USSR gives its consent to this. In such a case, it would be possible to provide consultations for the particular settlement of all questions in terms of the military lines.[12]

This, of course, represented a break with the previous Czechoslovak position of refusing the deployment of Soviet troops in the CSSR. However, the pressure to locate Soviet nuclear munitions depots in Czechoslovakia must also be understood within the broader geopolitical and strategic context of the mid-1960s. The thoughts of the Soviet side were strongly influenced by new strategic concepts and the configuration of the armed forces of the NATO alliance, which significantly changed the balance of forces in the European theatre of war. According to official data from the US Pentagon and the US Secretary of Defense (Robert McNamara) in 1965, the USA outnumbered the Soviet Union 9:1 in the number of nuclear warheads and 4:1 in their delivery systems.[13] After the arrival of the new General Secretary of the Central Committee of the CPSU (Leonid Brezhnev) in October 1964, the Soviets dramatically stepped up their efforts to match and then overcome American nuclear superiority.

The ČSLA command eventually succumbed to intense Soviet pressure and, in May 1965, submitted a proposal for negotiations between the Czechoslovak Ministry of National Defence and the Supreme Command of the Allied Armed Forces to the Military Committee of Defence (Czech acronym VKO) of the Central Committee of

---

[12]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Extract from the Archive of the General Staff of the Czechoslovak Army, p. 2; Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Interpellation by Marián Čalfa, Prime Minister of the Czechoslovak Federal Republic, Jiří Dienstbier, Minister of Foreign Affairs of the CSFR and Deputy Prime Minister of the CSFR, and Luboš Dobrovský, Minister of Defence of the CSFR, Pavel Jégl, Ladislav Lis and Jiří Soukup, Members of the Federal Assembly, Prague, 16 April 1991, p. 1.

[13]J. Madry, *Soviet Interests in the Concept of the Defence of Czechoslovakia (1965-1970)*, Historie a vojenství (History and Military Science) 41 (5) (1992), p. 126.

the KSČ. Under the 25 May 1965 proposal, the VKO of the KSČ Central Committee instructed President Antonín Novotný to discuss the issue with the Presidium of the CPSU Central Committee, as well as instructing General Lomský to discuss it with the Soviet military command. Meetings of the Soviet Central Committee took place in October and in November 1965, for which the main officials of the ČSLA were invited to Moscow. In addition to the aforementioned generals, Lomský and Rytíř, the invited officials included the Chief of Operations of the General Staff of the ČSLA, General Vitanovský, the Chief of Missile Troops and Artillery of the ČSLA, General Blatenský, and the Chief of the Accommodation and Production Section, Colonel Roháč. In Moscow, a new treaty was drawn up, which, upon their return to Prague, was submitted for approval to Antonín Novotný, who, on 17 November, authorised General Lomský to sign the treaty on behalf of the CSSR government.[14] The actual *Treaty between the Government of the Union of Soviet Socialist Republics and the Government of the Czechoslovak Socialist Republic on Measures to Increase the Combat Readiness of Missile Troops* was then entered into in Prague on 15 December 1965. The document was signed by Marshal Grechko for the Soviet side, and was based on it being in force for a period of at least 10 years, with the possibility of automatic extension in the event that the parties did not raise any objections in the year prior to its expiry.

Under the Treaty, the parties agreed to deploy nuclear munitions on the territory of the CSSR. For this purpose, three depot facilities were to be built by the end of the first half of 1967 (Article 1 of the Treaty).[15] The Soviet party undertook to carry out the design of the facilities, the technical management of their construction, and the supply and installation of the special depot facilities' internal equipment. The CSSR undertook to pay the expenses for the construction of the structures, to carry out their construction, to construct access roads to the facilities, and to provide energy supplies (Article 2 of the Treaty). The Soviet party undertook to protect, maintain, service and provide timely preparations for the release of nuclear munitions. Meanwhile, a missile-technical base consisting exclusively of Soviet soldiers without uniforms, i.e. in civilian clothes, was to be formed in each facility. The representatives of both parties stipulated that the units of the USSR Armed Forces would be fully under the command of the Soviet government, which would decide on the manner of their use. The Czechoslovak party assumed the obligation to accept and move the

---

[14]Prague ACD, Federal Assembly Collection period VI, file no. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, ref. no.: 08/242-46 of 14 November 1991, p. 3.
[15] V. Mastny and M. Byrne, *A Cardboard Castle?: An Inside History of the Warsaw Pact 1955-1991*, (Budapest New York: Central European University Press, 2005), pp. 30-31.

prepared nuclear munitions to its own missile-technical bases. To this end, it was necessary to maintain the necessary number of special transporters in the missile-transport units (Article 5 of the Treaty). The parties agreed that the entry of people into any of the three premises after their takeover would be possible only with the written permission of the Minister of Defence and the Chief of the General Staff of the USSR Armed Forces. Control over the organisation and the performance of duties at the facilities was vested in the senior Soviet representative of the HV SOS in the CSSR (Article 6 of the Treaty). The provision of the members of the Soviet armed forces and their families with all kinds of supplies was the responsibility of the Soviet party (Article 7 of the Treaty). The last major issue was the question of connection. The Czechoslovak party undertook to secure the facilities by means of line communications and by connecting them to the national communications network of the Czechoslovak Socialist Republic. It was also planned to connect the facilities to the General Staff of the USSR Armed Forces using their own radio equipment.

Operation JAVOR formed only a small part of the Soviet nuclear munitions depot system. In the USSR alone, there were about two hundred such special military facilities. Similar projects were established and built in other Eastern Bloc countries, such as East Germany, Poland, Hungary and Bulgaria. For example, in the neighbouring People's Republic of Poland, similar depots were codenamed VISTULA.[16] In the 1980s, this nuclear empire was placed directly under the 12 Administration of the Soviet Ministry of Defence.[17]

The locations of the future depots were not determined, as might expected, by the Soviet side, but by the ČSLA command.[18] These were at the locations of the military training areas of Jince (Míšov-Borovno), Mimoň (Bělá pod Bezdězem) and Bílina (Červený Újezd near Lovosice). Owing to suspicion and distrust on the Soviet side, Czechoslovak design engineers received only rough specifications. The delivery of technology was vested solely in the hands of the Soviets. Even the location of the depots while under construction was strictly subject to rules of secrecy, to protect

---

[16]The programme in Poland was an analogy of Operation JAVOR in Czechoslovakia. It was based on the top secret agreement concluded between Poland and the Soviet Union on 25 February 1967. The nuclear weapons were finally removed from Poland during 1990. In: J. Pałka, *The Vistula Programme. Nuclear Weapons for The Polish People's Army in Case of War*, Kwartalnik Historyczny CXXV (2) (2018), p. 84.

[17]V. Mohyla, et al., *Už nemusíme mlčet: operačně-taktické rakety ČSLA v období studené války*, (Brno: Tribun EU, 2013), p. 386.

[18]Briefing Note for 1st Secretary of the Central Committee of the Communist Party of Czechoslovakia, c. A. Dubček, Prague, May 1968. In: P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950–1990*, (Prague: Dokořán, 2019), p. 241.

information on them from the intelligence activities of NATO countries. As early as the 1960s, detecting the handling of radioactive material was possible thanks to advanced satellite reconnaissance methods. However, all Soviet nuclear weapons depots were erected close to Czechoslovak uranium deposits, especially in the Ore Mountains and Jáchymov. Natural ionising radiation could therefore satisfactorily cover radiation emitted during the handling of nuclear warheads.[19]

The operation was given the codename JAVOR (Maple) and the nuclear depot sites under construction were given the numerical identifiers 50, 51 and 52 (No. 50 Javor Bílina, No. 51 Javor Borovno-VVP Jince and No. 52 Javor Bělá pod Bezdězem). However, their implementation in the field soon lagged behind the ambitious plan. Work on Javor 52 did not commence until 8 April 1966. On 30 September 1966, a contract for the supply of equipment for the JAVOR facilities was signed. Afterwards, the technical equipment was delivered by special Soviet military transports, with the shipments packed in crates, each of which was marked with a special code.

The 'revival process' of 1968, better known in the West as the 'Prague Spring', brought secret negotiations between the highest political and military officials about the purpose and pace of construction.[20] Already before the August invasion it was concluded that the facilities in Mimoň and Jince could only be completed in the fourth quarter of 1968, and the facility near Lovosice theoretically not until the first half of 1969. The Ministry of National Defence stated that this would mean a fundamental change in the status of Czechoslovakia as a country without the presence of foreign troops and without the deployment of nuclear weapons. This was despite the fact that the presence was to involve 'only' some 750 to 800 Soviet citizens, including family members. Minister Lomský and Chief of the General Staff Rytíř, however, even in the atmosphere of reform, stressed that the defence of the countries of the socialist community required and fully justified such measures. Rather than complicating matters, the events of 21 August 1968 accelerated them. On 13–14 November of the same year, the two 'partner' General Staffs drew up a protocol. It specified the arrangements for handing over the facilities to the designated Soviet special forces.

Some provisions of the *Czechoslovak-Soviet Treaty on the Stationing of Soviet Troops in Czechoslovakia* of 16 October 1968, i.e. the law underpinning the legality of the occupation, refer to Operation JAVOR.[21] For example, the fact that the special units

---

[19]M. Kruml, *Utajená smrt*, Mladý svět 33 (12) (1991), p. 14.
[20]First Secretary of the Communist Party, Alexander Dubček, was continuously informed about Operation JAVOR. In: P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950–1990*, (Prague: Dokořán, 2019), pp. 241-243.
[21]Decree of the Ministry of Foreign Affairs of 20 December 1968 on the Treaty between the Government of the Czechoslovak Socialist Republic and the Government

in the JAVOR facilities were to be subject to the commander of the Soviet troops in Czechoslovakia in matters of garrison duty, discipline, etc., can be considered important. Professionally, however, they fell under the direct subordination of the General Staff of the USSR Armed Forces.[22] The construction carried out by the Czechoslovak side was successfully completed during 1969, with the total cost of implementation amounted to the then astronomical sum of CZK 173.91 million. After the takeover by the Joint Technical Committee, the facilities in Borovno and Bělá were occupied by special Soviet troops in April 1969 and the facility in Bílina in February 1970.[23] There were considerable delays between the takeover of the facilities and their actual occupation by Soviet troops. For example, the latter site – Javor 50 in Bílina – had already been taken over by the Soviet side from General Picek in December 1969.[24] Another change to the planned operation was the 1974 abolition of the transport helicopter swarms of each Czechoslovak artillery brigade. Instead, groups were formed within the missile brigades to collect live warheads from JAVOR facilities using trucks with isothermal superstructures and truck cranes.

A so-called missile crisis erupted between the Warsaw Pact and NATO in 1983, during which US cruise missiles and Pershing-2 nuclear delivery vehicles were deployed in various Western European NATO alliance countries.[25] Both parties contributed to the escalation of tensions, which was reflected in the signing of a new treaty – the *Czechoslovak-Soviet Treaty on the Construction of Special Facilities on the Territory of the Czechoslovak Socialist Republic and on the Provision of Housing Facilities and Barracks of the Czechoslovak-Soviet Armed Forces for Temporary Use by the Central Group of Soviet Troops* (Czech SkSV) – on 2 November 1983.[26] The Soviet 122 Missile Brigade, armed with

---

of the Union of Soviet Socialist Republics on the Conditions of the Temporary Stationing of Soviet Troops on the Territory of the Czechoslovak Socialist Republic No. 11/1969 Coll.

[22]Briefing Note for the President of the CSSR, c. L. Svoboda, approved by him on 22 November 1968, in: P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950–1990*, (Prague: Dokořán, 2019), p. 245.

[23]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No.: 08/242-46 of 14 November 1991, p. 4.

[24]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Extract from the Archive of the General Staff of the Czechoslovak Army, p. 3.

[25] B. Litera, *Od Stalina ke Gorbačovovi: mezinárodní postavení a politika komunistické supervelmoci 1945–1991*, (Prague: Dokořán, 2019), p. 276.

[26]The large scale NATO Exercise Able Archer held in November 1983 was so realistic it almost caused a pre-emptive Soviet nuclear strike. In: N. Jones, *Able Archer 83: The Secret History of the NATO Exercise that almost Triggered Nuclear War*, (New York: The

39 OTR-22 Temp S, moved to the Hranice na Moravě garrison for the Christmas holidays. It had at its disposal three firing positions, namely WEST (Přáslavice), NORTH (Stará Voda) and SOUTH (Zelený Kříž) in the Libavá Military Training Area. The Soviet missile brigade was not part of the SSkSV, and if it had nuclear warheads for its own OTRs, they would have likely been stored at the individual firing positions. The SSkSV itself had two other Soviet missile formations: these were the OTR R-300 missile brigade with 12 launchers (stationed near Turnov); and the 442 Tactical Missile Brigade (TR) Točka in the Mimoň-Hvězdov Military Area.[27] The command of the ČSLA had no access to the premises of these or other Soviet military formations and was not informed about their activities in any way. The possible presence there of nuclear warheads can only be speculation.[28]

Under the treaty of 15 December 1965, the facilities were run within the context of Operation JAVOR until February 1986, when the USSR MoD sent a courier with an official letter to the Czechoslovak Federal Ministry of National Defence announcing the Soviet side's termination of the original treaty. At the same time, the draft of a new treaty was enclosed. The Minister of National Defence of the CSSR, Army General Milan Václavík, and Chief of the General Staff of the ČSLA, Colonel General Miloslav Blahník, discussed the matter with the Secretary General of the Central Committee of the KSČ and the President of the Republic, Gustáv Husák, who authorised Minister Václavík to sign the new treaty. On 21 February 1986, the *Treaty between the Government of the USSR and the Government of the CSSR on the Deployment of Nuclear-Armed Bases on the Territory of the CSSR* was signed in Moscow. It was signed under the aforementioned presidential authorisation of 17 February of the same year by the Minister of National Defence for Czechoslovakia for an indefinite period of

New Press), p. 57; Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Reply to the Interpellation of the Members of the Federal Assembly, p. 2.

[27] Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Request of the Defence and Security Committees of the House of the People and the House of Nations of the Federal Assembly of 23 April 1991 addressed to the President of the Federal Assembly, Alexander Dubček.

[28] Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Reply to the Interpellation of the Members of the Federal Assembly, p. 3.

time.[29] In terms of content, it was a substantive amendment to the original treaty of 1965.[30] In practice the terms of both were followed until the beginning of 1990.

From 1986, however, in connection with reforms in the USSR, there were shifts in East–West relations, which, to some extent, affected the presence of nuclear weapons and their delivery systems in Czechoslovakia. On 15 January 1986, Mikhail Gorbachev, General Secretary of the CPSU Central Committee, declared that the Soviet Union was willing to negotiate with the USA for the global elimination of nuclear weapons within 15 years. To that effect, global denuclearisation was to take place in three stages by 2000, so that mankind would enter the third millennium free from the threat of nuclear war on land, in the air, at sea, or in outer space.[31] Within the context of the 27 Congress of the CPSU (25 February to 6 March 1986), efforts were made to design a comprehensive international security system acceptable to Moscow, and one that could eliminate the Soviet technical and economic lag behind the countries of the North Atlantic Alliance. On 8 December 1987, Ronald Reagan, the US President, and Mikhail Gorbachev signed the *Intermediate-Range Nuclear Forces (INF) Treaty*. Under this treaty the Soviet 122 Missile Brigade began to be withdrawn back to the USSR on 25 February 1988.[32] The Stará Voda and Zelený Kříž launch sites were subsequently handed over to the ČSLA. The Přáslavice facility was not taken over by Czechoslovakia until 28 April 1990.

The facilities built under Operation JAVOR were fully responsive to the Soviet strategic interests during the Cold War. Nuclear weapons held there were intended for both the Soviet Army and the ČSLA. In total, their number was not insignificant. The figure is derived from the number of nuclear weapon delivery systems in any given planned operation. This information, in turn, is based on the operational directives of the HV SOS. However, neither the Rocket Army (from 1962) nor the ČSLA Air Force, nor the leadership of the Ministry of National Defence, ever had these assets at their

---

[29]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Construction and Use of Special Facilities on the Territory of the CSFR, p. 1.
[30]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Interpellation by Marián Čalfa, Prime Minister of the CSFR, Jiří Dienstbier, Minister of Foreign Affairs of the CSFR and Deputy Prime Minister of the CSFR, and Luboš Dobrovský, Minister of Defence of the CSFR, Prague, 16 April 1991, p. 2.
[31]M. S. Gorbačov, *Vybrané projevy a stati*, (Prague: Svoboda 1986), pp. 466–469.
[32]M. S. Gorbačov, *Přestavba a nové myšlení pro naši zemi a pro celý svět*, (Prague: Svoboda 1987), pp. 208–209; P. Tomek, *Security Aspects of Nuclear Missile Deployment in Czechoslovakia in Autumn 1983 and Public Reaction*, Historie a vojenství (History and Military Science) 68 (2) (2019), p. 19.

direct disposal, which was in line with Soviet nuclear doctrine at the time[33]. The Soviet side alone determined where weapons were to be stored, and their collection by the ČSLA would only take place during the preparation for operations.[34] According to the war plan of 1989, the CSF would use a total of 546(!) nuclear weapons in defensive operations.[35] From these numbers we can partially infer the total storage capacity of all three JAVOR facilities.

Secrecy and Activities of the Security Forces

Article 3 of the *Treaty on the Deployment of Soviet Nuclear Weapons on Czechoslovak Territory* of December 1965 defined the basic principles of information protection. Under this article, Operation JAVOR was to be a state secret for its entire duration. The Czechoslovak party undertook to operationally conceal the facilities throughout their construction and operation. In this respect, the ČSLA was given the task of ensuring their security and cover by the ground forces and air defence.[36]

Shortly before 20 February 1969, an undated meeting on Operation JAVOR took place in the presence of the leading Soviet operational officers and commanders of the Soviet missile forces, Generals Zuvaliev, Kozlov, Gaivoronsky, Medvedev and Gumenyuk. On the Czechoslovak side, the new Chief of the General Staff of the ČSLA, General Karel Rusov, along with Generals Kučera and Vostera, attended. The meeting accepted Czechoslovakia's proposal to explain the presence of the special Soviet units in the depots as cable communication units under the direct subordination of the General Staff of the USSR Armed Forces.[37] As already stated, the Soviet soldiers involved in Operation JAVOR were required to wear civilian clothes while on duty in order to make it difficult to identify them. The written guidelines governing the issue were kept by the Ministry of National Defence (Czech MNO) and the ČSLA under

---

[33]V. Mohyla, et al., *Už nemusíme mlčet: operačně-taktické rakety ČSLA v období studené války*, (Brno: Tribun EU, 2013), p. 61; David M. Glantz, *The Military Strategy of the Soviet Union*, (Oxon: Frank Cass, 2004), pp. 206–208.

[34]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Information on Soviet Facilities Located on the Territory of the CSFR, pp. 2–3.

[35]P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950-1990*, (Prague: Dokořán, 2019), p. 341.

[36]P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950-1990*, (Prague: Dokořán, 2019), p. 236.

[37]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Extract from the Archive of the General Staff of the Czechoslovak Army – Notes on Operation Javor.

the strictest regime classification – Top Secret Special Importance.[38] Nuclear munitions were referred to as 'special' and their delivery systems as 'means'.

The construction of the Javor 50, 51 and 52 facilities was known only to a very small circle of Czechoslovak officials under the code name K-22.[39] The First Secretary of the Central Committee of the KSČ and the President of the CSSR, Antonín Novotný, personally approved the so-called *List of People Familiar with the Facts Connected with the Storage of Nuclear Weapons on the Territory of the CSSR*. This document listed the names of only eleven people who knew the crucial circumstances of the storage in every detail. Apart from Novotný himself, these included the then Prime Minister of the CSSR, Jozef Lenárt, and, of course, nine senior officials of the MNO, headed by Minister Lomský.

The personnel in charge of the construction and use of the facilities first underwent a thorough security clearance check by the 'relevant authorities'. After the Soviet takeover of the facilities, unauthorised people could enter the technical parts of the facilities only with the permission of the Soviet Minister of Defence and the Chief of the General Staff of the USSR Armed Forces. This practice was confirmed by Army General Miroslav Vacek, Chief of the General Staff of the ČSLA from 1987 to 1989. According to his recollections, the Czechoslovak People's Army did not own or manage the nuclear munitions. Vacek admitted that, by virtue of his position, he had had the opportunity to ask the Soviet command to visit any of the three depots, but because he had been overwhelmed by his duties he never had the time to do so during his two year tenure as head of the army.[40] According to him, the command of the ČSLA should have got this information from the Soviet side only at a time of international tension preceding the outbreak of a possible war between the East and the West. The two treaties of 1965 and 1986 are rare documents, as each was produced only in duplicate (Russian and Czech). One copy was retained by the Soviet command, while the other was kept in a special vault in the Operational Administration Unit of the ČSLA General Staff, with the right to handle it limited to

---

[38]See, for example, the Act on the Protection of State Secrets No. 102/1971 Coll. and the Decree of the Government of the CSSR on the Protection of Economic and Official Secrets No. 148/1971 Coll.

[39]I. Pejčoch, *Nosiče jaderné výzbroje v Československé lidové armádě*, and in: I. Pejčoch & P. Tomek, *ČSLA a NLA v rámci Varšavské smlouvy*, (Prague: Ministerstvo obrany České republiky, 2014), p. 36.

[40]M. Vacek, *Generál studené války*, (Prague: Nakladatelství Erika 2004), p. 134.

the Minister of Defence, the Chief of the General Staff, and the Chief of the Operations Administration.[41]

It was strictly forbidden to engage in any written correspondence (including encrypted messages) or telephone conversations about any facts concerning Operation JAVOR. Any discussions on the issue could only take place in person between officials with security clearance and the necessary authorisation. Members of the Soviet special forces were allowed to interact with local people only in the most extreme cases. However, there had to be a certain brief associated with ensuring the operation of the 'Javors' by the Czechoslovak side, which was explained as the 'construction and operation of facilities for the Soviet Army's special cable communication unit'. Under this cover, several other MNO personnel became aware of the existence of these facilities.[42]

The protection and physical security of Javor 50, 51 and 52 was supported by their location. The Borovno and Bělá pod Bezdězem depots were located on the very edge of military training areas. This did not apply, however, to the Bílina facility. Nonetheless, all the depots were located close to the edge of a forest. The site of each Javor was surrounded by a wire fence and a wall with sensors to detect intruders, and there were no visible defensive elements, such as military structures, on the outside.[43] Inside the fencing was the 'S' area which was secured by guards and a surveillance service. The outer perimeter was always guarded by a platoon from the motorised artillery units of the Soviet army. This unit had no information about the real significance of the facility they guarded and its members could not enter it. Other areas outside the 'S' zone were guarded in the same way as standard Soviet and Czechoslovak units. The credibility of the Javor facilities as special cable communication units was aided by the fact that it was very difficult to visually distinguish missile technical security vehicles from ordinary radio vehicles.[44] This is one of the reasons why representatives of the Czechoslovak civilian administration visited the JAVOR facilities several times as part of 'friendship' work without learning anything about the real mission of the special Soviet units.

---

[41]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No.: 08/242-46 of 14 November 1991, p. 6.

[42]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, ref. no.: 08/242-46 of 14 November 1991, pp. 3 - 4.

[43]V. Mohyla & V. Šufajzl, *Taktické jaderné prostředky ČSLA*, (Prague: Československý spisovatel, 2012), p. 59.

[44]V. Mohyla, et al., *Už nemusíme mlčet: operačně-taktické rakety ČSLA v období studené války*, (Brno: Tribun EU, 2013), p. 392.

Paradoxically, the greatest security risk to Operation JAVOR arose before the completion of all three facilities in 1968. It was associated with the defection of Major General Jan Šejna to the United States on 25 February 1968 and his subsequent collaboration with US intelligence services. Šejna had long enjoyed the trust of Antonín Novotný, had served as the head of the secretariat of Minister Lomský, and in 1964 took the important position of Secretary of the Main Committee of the KSČ at the Ministry of National Defence.[45] By virtue of his position, he also came into indirect contact with Operation JAVOR. His defection to the West triggered speculation about possible leaks of this top-secret military programme. Before his defection Šejna had often been in the vicinity of the construction of Javor 50 in Bílina. The reason for this being that he personally knew the former site manager of Military Construction in Litoměřice. It was this firm that participated in the construction work of the Bílina 'atomic' facility. However, an investigation conducted after Šejna's defection revealed that he had never set foot in the premises of Javor 50.[46]

The State Security Service (Czech StB) and the Military Counterintelligence Service (Czech VKR) played a key role in the Czechoslovak system of secrecy. Since the Javor 50, 51 and 52 facilities were formally presented as cable communication units, the Czechoslovak security forces viewed them as units of the Central Group of Soviet Forces stationed in Czechoslovakia after 21 August 1968. It is understandable that the StB would have cooperated with the Soviet KGB on the issue from the early 1970s. Both services focused their attention on visual espionage by NATO intelligence services. In addition, Czechoslovak State Security monitored very closely any hostile action by the population of the Czechoslovak Socialist Republic towards the Soviet troops on Czechoslovak territory,[47]

The decisive role was played by the Second Administration of the National Security Force (Czech SNB), the Counterintelligence Administration for the Fight against External Enemies. According to its 1975 organisational regulations, it was involved in the protection of those facilities and places where Soviet troops were stationed on the territory of the Czechoslovak Socialist Republic, in cooperation with the Third Administration (VKR) and the State Security Corps Committee of the USSR Council

---

[45]D. Povolný, *Vojenské řešení Pražského jara. I. Invaze armád Varšavské smlouvy*, (Prague: MO ČR – AVIS, 2008), p. 16; A. Benčík, *Operace "Dunaj": vojáci a Pražské jaro 1968. Studie a dokumenty,* (Prague: Ústav pro soudobé dějiny AV ČR, 1994), p. 12.

[46]P. Luňák, *Plánování nemyslitelného: československé válečné plány 1950-1990*, (Prague: Dokořán, 2019), p. 243.

[47]P. Tomek & I. Pejčoch, *Černá kniha sovětské okupace: Sovětská armáda v Československu a její oběti 1968–1991*, (Cheb: Svět křídel, 2018), p. 45.

of Ministers (KGB) at the Central Group of Troops.[48] In the same year, the tasks of the VKR were specified, and included providing, to a specified extent, external 'state security' protection for Soviet troops temporarily stationed on Czechoslovak territory as well as the troops and staffs of Warsaw Pact armies during their stay in Czechoslovakia. In 1980, the responsibility of the Second SNB Administration were expanded to include detecting attempts by enemy intelligence agencies to infiltrate the Soviet army units stationed in Czechoslovakia.[49] The Javor 50, 51 and 52 facilities were logistically supplied directly from the USSR so the VKR also responsibility from 1972 of cooperation with territorial StB units and ensuring the security of the transport of military cargo to the Soviet troops.[50]

The Velvet Revolution (1989) and Media Coverage of the Issue

The events of November 1989 in Czechoslovakia impacted Operation JAVOR. The Cold War ended and the two formerly hostile blocs searched hard for a new balance of power in Europe. As a result of a long-standing regime of absolute secrecy, various assumptions, conjecture or outright false information proliferated in Czechoslovakia on the presence of nuclear weapons in Czechoslovak territory. Articles on this subject appeared in the pages of the daily press during March and April 1990. The United States asked both Czechoslovakia and the Soviet Union to clarify, in relation to the previously mentioned *Intermediate-Range Nuclear Forces Treaty* of December 1987, whether any Soviet SS-23 missile systems had been stationed on Czechoslovak territory.[51] The issue of the 'twenty-three-warheads' in the possession of Czechoslovakia, the GDR, and Bulgaria was explained by the fact that they were not equipped with nuclear warheads, and that their delivery to the armies concerned had taken place before 8 December 1987.[52] The Minister of Defence, General Miroslav Vacek, declared in early April 1990 that the ČSLA had never possessed any nuclear munitions on Czechoslovak territory.[53] However, in his 1999 memoirs, he admitted to their possible storage in Czechoslovak territory by Soviet forces.[54]

---

[48]Article 4(e) of the Annex to Order of CSSR Minister of the Interior No. 9/1975 of 24 February 1975.

[49]Article 3(c) of the Annex to Order of CSSR Minister of the Interior No. 39/1980 of 14 November 1980.

[50]P. Žáček, *The Army under Scrutiny. Military Counterintelligence in Documents 1974–1989*, Historie a vojenství (History and Military Science) 52 (3–4) (2003), p. 803.

[51]*About Missiles in Czechoslovakia*, Lidová demokracie (People's Democracy) 46, (71) (24 March 1990), p. 2.

[52]*Obrana lidu* (Defence of the People) 49 (65) (3 April 1990), p. 6.

[53](sl), *Without Nuclear Munitions*, Rudé právo (Red Justice) 70 (87) (12 April 1990), pp. 1–2.

[54]M. Vacek, *Rozsoudí nás čas aneb Život není na povel*, (Prague: Erika 1999), p. 89.

At that time, discussions about the storage of nuclear munitions in Czechoslovak territory became public. Due to the continuing culture of secrecy, it was only revealed later that there had been a treaty between the government of the CSFR and the government of the USSR covering the withdrawal of Soviet troops from the CSSR, and the withdrawal of the special forces from the Javor 50, 51 and 52 facilities had taken place on 26 February 1990. The three facilities were then taken over by the CSA between 2 and 30 June 1990. This was, in fact, part of a broader Soviet diplomatic effort, with Eduard Shevardnadze, the USSR Foreign Minister, using the occasion of the second CSCE Human Dimension Conference, held on 5-29 June 1990 in Copenhagen, to announce that the Soviet Union had unilaterally withdrawn its nuclear weapons from Central Europe.[55] On 30 October 1990, the Chiefs of the General Staffs of the USSR and CSA armed forces signed a protocol on returning the special facilities into the hands of the Czechoslovak Army. The document also contained an addendum stating that the 1986 treaty would be terminated.[56] As a result the facilities in Bělá pod Bezdězem and Bílina were handed over to the Federal Interior Ministry, and later on refugee camps were established there. The plan was for the FMO to take over the Míšov-Borovno facility for the provision of social and medical care for military personnel retiring from active duty, as well as for Second World War veterans.[57]

In July 1991, the Minister of Defence of the CSFR, Luboš Dobrovský, sent a letter to the USSR Ministry of Defence requesting permission to declassify the texts of the two now-defunct treaties of 1965 and 1986. The Soviet party replied that the documents were still state secrets and that was not changed by the durations within the treaties having already expired. Moscow saw no reason to declassify them and make them available to the public. However, the Ministry of Defence of the CSFR persisted. On 5 September 1991, in the changed atmosphere following the attempted coup by conservative forces in the USSR (19–21 August), it again asked its Soviet partners for permission to declassify the two documents. This time the USSR Ministry of Defence partially conceded, stating that it was possible to make the contents of both treaties known to the leaders of the Defence and Security Committees of the CSFR FA.

---

[55]F. Mezihorák, *Průvodce evropanstvím*, (Olomouc: Alda 1997), p. 80.

[56]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No.: 08/242-46 of 14 November 1991, p. 5.

[57]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Reply of Luboš Dobrovský, Minister of Defence of the CSFR, Reply to the Interpellation submitted by the Members of the Federal Assembly, Jégl, Lis & Soukup (Print 645), p. 2.

However, the contents were to remain classified as state secrets. Nobody on the Czechoslovak side was permitted to disseminate the two texts in any way.[58]

Other expert state bodies also commented on the matter. On 28 April 1991, the chairman of the Defence and Security Committee of the FA, Ladislav Lis, asked the CSFR Government Committee for the Analysis of the Events of 1967–1970 for assistance in clarifying the issue of the storage of atomic warheads on Czechoslovak territory. On 8 May 1991, the scientific secretary of the Committee, Miloš Bárta, replied to the effect that no material had been found in the archive collections of the Presidium of the Central Committee of the KSČ indicating whether or not the Presidium had dealt with Operation JAVOR at all, or even if it had been informed of it.[59] That was true for both 1965 and 1986. It also confirmed the hypothetical considerations of that time that the storage of atomic warheads on Czechoslovak territory was decided by the Presidents of the Republic, Antonín Novotný, and after him, Gustáv Husák, as the highest military leaders of the country.[60]

Nonetheless, a criminal liability might be triggered if the procedure for entering into the treaties of 1965 and 1986 had been in breach of constitutional principles, a decision of the President of the Republic, or rules laid down by the federal government for the negotiation of international treaties. The call for declaring criminal liability was most frequently made at the Meeting of the Defence and Security Committees on 16 April 1991. Members of Parliament in particular pointed to the fact that the Javor 50, 51 and 52 facilities had been de facto and de jure removed from Czechoslovak sovereignty and were subject to the power of a foreign country.[61] Moreover, this was a matter with potentially profound implications for the lives and health of Czechoslovak citizens. However, in this respect, the contracting process in the case of the second treaty of 1986 was in accordance with the laws of that time. According to the decision of President Ludvík Svoboda of 24 March 1969, the question of the storage of nuclear munitions in the CSSR was considered to be a matter of a narrowly departmental nature under the responsibility of the Federal Minister of Defence.

---

[58]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No.: 08/242-46 of 14 November 1991, p. 5.

[59] J. Belda, *Committee of the Government of the Czechoslovak Federal Republic for the Analysis of the Events of 1967–1970*, Soudobé dějiny (Contemporary History) 1 (1) (1993), pp. 129–130.

[60]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Ref. No. 281/91 of 8 May 1991, signed by the Scientific Secretary of the Committee, Miloš Bárta.

[61]*The Javor Facilities Were Hiding Death*, Lidové noviny (People's Newspaper) 4 (90) (17 April 1991), p. 2.

Conclusion

Piecing together the facts, and given the fact that Czechoslovaks could not enter the heart of the Soviet controlled JAVOR facilities, can it be stated with absolute certainty that Soviet nuclear munitions were ever physically present on Czechoslovak territory?

The arguments can be summarised as follows.

Firstly, after the JAVOR facilities were taken over in 1990, CSA chemical warfare specialists carried out measurements using dosimetry instruments. The results of the measurements showed that no radioactive substances were present – the radiation situation was normal. This means that if nuclear munitions were ever stored at the JAVOR sites it can only be inferred indirectly.

Secondly, the JAVOR sites' special security classification, and the intense secrecy measures taken during their construction and use shows them to have been of 'special importance'.[62]

Thirdly, the very good physical condition of the abandoned depots when first visited by Czechoslovak politicians, expert commissions, and journalists. This suggests that the facilities had been used for something of extreme importance to the Soviet party.

Fourthly, if no nuclear weapons were ever stored at the JAVOR sites it seems implausible that so much effort would have been put into negotiating treaties, imposing strict security arrangements, and operating the sites with Russian forces in civilian clothes. Even the knowledge of the treaty arrangements made between the USSR and Czechoslovakia was very restricted – and excluded senior members of the Czechoslovak administration of that time.

Fifthly, Warsaw Pact war plans assumed that Czechoslovak forces would deploy a large number of Soviet tactical nuclear weapons which would be supplied at relatively short notice. This implies that the weapons were stored at the JAVOR facilities under Soviet control.

The balance of probabilities is that a very large number of Soviet tactical nuclear weapons were stored in Czechoslovakia between 1965 and early 1990.

---

[62]Prague ACD, Federal Assembly Collection, Period VI, File No. 17 of the Defence Security Committee, entry: Nuclear Weapons in the CSSR, Reply to the Interpellation of the Members of the Federal Assembly, p. 1.

Defending the Sky: A Historical Analysis of Israeli Drone Use, 1971-2014

TAL TOVY[*]
Bar-Ilan University, Israel
Email: tal.tovy@biu.ac.il

ABSTRACT
This article analyses the history of Unmanned Aerial Vehicle (UAV) operations by the Israel Defense Forces (IDF), illustrating the pivotal role of drones from their initial deployment in the 1970s to their sophisticated employment in irregular warfare by 2014. Such an examination allows evaluation of the effectiveness of UAV missions in a variety of scenarios and the extent to which they provide a solution to the strategic threats that Israel faces.

Introduction
Since the first decade of the twenty first century, numerous reports detail the offensive use of Unmanned Aerial Vehicles (UAVs), including, since October 2023, such use by the Israeli Air Force (IAF) in fighting against Hezbollah and Hamas. The use of UAVs has also occurred in other conflicts around the world, such as the war between Azerbaijan and Armenia and in the Russia-Ukraine war. However, uniqueness lies in Israel's use of UAVs for various offensive missions: support for ground forces; targeted killing operations; and striking various military targets. Before 2022, Israeli military censors prevented the Israeli media from publishing the IAF operation of UAVs in offensive missions or disclosing the type of aircraft, despite reports in various media channels around the world that attributed Israeli attacks to UAVs.[1]

---

[*]Dr Tal Tovy is a Senior Lecturer in the History Department, Bar-Ilan University, Israel. His book, *Tomcats and Eagles* (Naval Institute Press, 2022), deals with the development of American air superiority fighters during the Cold War.
[1]Uzi Mahnaimi, 'Israeli drones destroy rocket-smuggling convoys in Sudan', *The Sunday Times*, March 29, 2009, https://www.thetimes.co.uk/article/israeli-drones-destroy-rocket-smuggling-convoys-in-sudan-rp5sgvbp5jt. Accessed 10 March 2024; The Economist, 'Dome Warfare', *The Economist,* November 24, 2012, https://www.economist.com/middle-east-and-africa/2012/11/24/dome-warfare. Accessed 10 March 2024..

AN HISTORICAL ANALYSIS OF ISRAELI DRONE USE, 1971-2014

Israel's use of UAVs in offensive missions represents a continuation and development of the missions assigned to these platforms since its inception. The first documented use of unmanned aircraft by Israel was in 1971 following the lessons learned from the 1969-1970 war with Egypt.[2] At the end of that war, the Egyptian air defence was shooting down Israeli fighter jets and the Israeli air force sought new ways to perform intelligence, surveillance, and reconnaissance (ISR) missions without risking its pilots. Initially, Israel based the UAV array on acquisition from the United States but during the second half of the 1970s Israeli defence industries began to develop UAVs both for local military use and for export.[3] Over the years the Israel Defence Forces (IDF) increased the use UAVs both at the tactical and strategic levels. As mentioned, the apex of this process is the operation of UAVs in strikes.[4]

This article analyses the operational history and use of UAVs in the IDF, demonstrating the growing importance and operational contribution of UAVs. The chronological scope of the article is the period from the early 1970s until the operation against irregular forces in the early years of the twenty first century. This development raises a historical issue that is central to the article. Until the beginning of the second decade of the twenty first century Israel was still preparing for the scenario of another large-scale conventional war against Arab countries. However, since 1973, apart from a few days in the summer of 1982, the IDF has only fought irregular forces (Fatah, Hezbollah, Hamas, Islamic Jihad, and others).[5] Therefore, alongside the preparation for a conventional war, daily fighting has continued, requiring operational adjustments and especially the integration of conventional warfare weapons, including UAVs, in the fight against irregular forces. This conflict took place in a wide range of terrain and topographical conditions: from the dense urban space of the Gaza Strip and city centres in Judea and Samaria, to the complex mountainous areas of southern Lebanon. Most of the literature on the IAF focuses on the operations of its fighter jets during the wars and the inter-war years. Indeed, the main strength of the IAF lies in its fighter jet squadrons. However, like any modern air force, the IAF also employs a wide variety

---

[2]In Israel the war is known as The War of Attrition. In Egypt the name of the war is *Ḥarb al-Istinzāf* (also meaning as war of attrition).

[3]John F. Kreis, 'Unmanned Aircraft in Israeli Air Operations', *Air Power History* 37 (4) 1990: 46.

[4]In this context, Israel operates UAVs armed with various types of air-to-ground missiles (probably the Rafael Advanced Defense Systems Spike variants), such as the Hermes 450/900, as well as Loitering Munitions like the Harop and Harpy: Drone Wars UK, *Israel and the Drone Wars: Examining Israel's Production: Use and Proliferation of UAVs,* (Oxford: Oxford University Press, 2014), p. 4, p. 8. Loitering Munitions represent an intermediate category between cruise missiles and attack UAVs.

[5]This includes fighting with the Syrian army during the 1982 Lebanon War: Operation Peace for Galilee.

of planes and helicopters for other missions, including air defence. The purpose of this article is to describe a less well known part of IAF history through the analysis of the development and integration of the UAV array and the operations in which it participated.

The article consists of two parts. The first part examines the years in which the operational focus of the IDF was war against regular Arab armies (1971-1982) and the operational contribution of the UAV array during this period. The second part examines the operational use of UAVs during the period of Israel's fighting against irregular forces. Thus, the article provides an historical analysis and a discussion on the development of the UAV array in Israel, while examining the various missions performed by this weapon system, along with the operational change following the transition from fighting against regular armies to fighting against irregular forces.

This is an historical article and does not claim or try to dispel the secrecy surrounding Israel's military use of UAVs. Based on a variety of open sources, the main intention of the article is to examine the dynamics and mutual relations between the accumulated operational experience, military needs, technology, and innovation deployed against a complex threat system in a changing strategic reality. Furthermore, the article does not address issues of morality, ethics, and international law arising from the use of UAVs.

UAVs in the Period of Conventional Wars: 1971-1982

During a visit to a model airplane store in the United States, Shabtai Brill, an officer in the Intelligence Directorate of the IDF (IDF-J2), proposed the use of UAVs. Brill believed that model airplanes could be equipped with cameras for military purposes, and he managed to convince senior Israeli intelligence officials to fund such an experiment. The initial experiments started in 1969 by IDF-J2 and involved flights to photograph Egyptian and Jordanian outposts. Following the success of these experiments, the IAF established a permanent unit, Squadron 200, and acquired advanced Firebee drones from Ryan Aeronautical which were equipped with various types of cameras. This placed Israel alongside the United States, which had operated a massive UAV array during the Vietnam War, primarily for collecting intelligence on North Vietnamese air defences.[6] The establishment of Squadron 200 was part of the IAF's attempt to find safe ways to gather intelligence on the Egyptian military, especially

---

[6]Regarding the operation of drones during the Vietnam War, see: John D. Blom, *Unmanned Aerial Systems: A Historical Perspective,* (US Army Combined Arms Center, Fort Leavenworth, KS: Combat Studies Press, 2009), pp. 58-64; Paul. J Springer, *Military Robots and Drones,* (Santa Barbara: ABC-Clio, 2013), pp. 15-16.

after the Egyptian air defences had managed to shoot down several Israeli fighter jets towards the end of the 1969-1970 war.[7]

During the 1973 Yom-Kippur war the IAF used Northrop Chukar (QBM-74) drones, mainly as decoys against the Syrian air defence.[8] The goal was twofold: firstly, to make the Syrian radar operators of missile batteries and anti-aircraft artillery (AAA) believe that they were under aerial attack, thus turning off their radar systems to prevent anti-radiation missiles (ARM) from homing on their radars. The second goal, in the event the Syrians fired missiles, was to deplete the Syrian missile stockpile. The IAF integrated these goals into Israel's use of air power, primarily in close air support (CAS) and air interdiction missions. Additionally, the IAF continued to operate Firebee drones in intelligence collection missions. On the Sinai front, the IAF primarily used drones as decoys, which led to a decrease in the number of manned planes shot down by anti-aircraft missiles. IAF pilots developed a wide range of flight and attack tactics that helped reduce the probability of the enemy hitting the Israeli planes. However, the missile threat was only eliminated after Israeli ground forces crossed the Suez Canal and began destroying Egyptian missile sites located on the western bank of the canal.[9]

In the early days of the war, when the Syrian and Egyptian armies had the offensive initiative, numerous operational shortcomings and defects made it difficult for the IAF to fully exert its combat power. The main problem was the dense, multi-dimensional air defence system employed by the Syrian and Egyptian armies. These were integrated air defence systems (IADS) that combined stationary (SA-2/3) and mobile (SA-6) missile batteries, along with shoulder-launched missiles (SA-7) and radar-guided anti-aircraft artillery (AAA).[10] The Arab IADS covered a large volume of space in altitude and distance, causing AAA fire to hit aircraft that attempted to fly at low altitudes in order to avoid missiles. Both the Egyptian and the Syrian IADS exacted a heavy toll

---

[7]Blom, *Unmanned Aerial Systems*, p. 72. See also: Kreis, 'Unmanned Aircraft in Israeli Air Operations', pp. 46-47; Kenneth P. Werrell, *Archie to SAM: A Short Operational History of Ground-Based Air Defense,* (Maxwell AFB, AL: Air University Press, 2005), pp. 148-149.

[8]Blom, *Unmanned Aerial Systems*, p. 72.

[9]For a discussion of the learning process and close cooperation with ground forces, see: Lon Nordeen, *Fighters over Israel,* (New York: Orion Books, 1990), pp. 141-142. Also see: Werrell, *Archie to SAM*, pp. 153-154.

[10]For a review of the Syrian and Egyptian air defence arrays, see: Edward Luttwak and Dan Horwitz, *The Israeli Army,* (London: Penguin Books, 1975), pp. 347-350; Antony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War (Vol. 1): The Arab-Israeli Conflicts, 1973-1989,* (Boulder: Westview, 1990), pp. 73-82; Nordeen, *Fighters over Israel*, pp. 123-124; Werrell, *Archie to SAM*, pp. 149-153.

from the IAF, with about a hundred aircraft lost. Attempts to drive the IADS from the air failed, and the IAF continued to provide CAS to ground forces and carried out hundreds of air interdiction sorties, albeit with less than full effectiveness.

On 7 October 1973, the second day of the 1973 Yom-Kippur war, the IAF launched Operation Doogman-5, with the goal of destroying the Syrian missile batteries so that the IAF could operate freely over the Golan Heights, especially in the southern sector.[11] Due to intelligence and operational failures, the IAF only hit two stationary batteries, while the mobile SA-6 batteries were not damaged at all. The IAF's planes failed to locate them due to out-of-date target intelligence. The IAF lost six F-4 Phantom aircraft, and ten more were damaged.[12] Two crews were killed, and nine more were captured by the Syrians. An additional contribution to the failure was the absence of an airborne electronic warfare (AEW) system, which would have disrupted and misled the Syrian radar systems.[13] Squadron 200 was too early in the launching of the decoy Chukar drones, consequently, although the Syrians launched anti-aircraft missiles against the drones, the IAF attacks did not follow immediately and take advantage of the reload cycle. This left Squadron 200 without any operational decoy UAVs.

The failure of Operation Doogman-5 highlighted the difficulty in dealing with multi-layered IADS and drove the IAF to find operational solutions to the problem. The solution comprised a mix of standoff weapons, AEW and accurate combat intelligence, which created a synergistic attack system. Therefore, the IAF invested considerable resources in the intelligence field, including the establishment of ground observation systems that could transmit the locations of the mobile missile batteries to the attack planes in real-time.[14] The IDF complemented this system by upgrading the UAV array, both in ISR missions and in designating targets for attack. As we will later see, this

---

[11]Regarding the fighting in the Golan Heights theatre, see: Trevor N. Dupuy, *Elusive Victory: The Arab-Israeli Wars, 1947-1974,* (New York: Harper & Row, 1978), pp. 445-461. For the actions of the IAF in the Golan Heights theatre during the first two days of the war, see: Nordeen, *Fighters over Israel*, pp. 124-125.

[12]Tal Tovy, *Tomcats and Eagles: The Development of the F-14 and F-15 in the Cold War,* (Annapolis: Naval Institute Press, 2022), pp. 154-155.

[13]The airborne electronic warfare units were in the Sinai front, in preparation for a similar operation (Tagar-4) against the Egyptian air defence; Itai Brum, 'Israeli Air Power', John A. Olson, ed., *Global Air Power,* (Washington, D.C.: Potomac Books, 2011), p. 154; Shmuel L. Gordon, 'Air Superiority in the Israel-Arab Wars, 1967-1982', Olson, *A History of Air Warfare*, pp. 144-145; Tovy, *Tomcats and Eagles*, p. 155.

[14]David Rodman, *Sword Shield of Zion: The Israeli Air Force in the Arab-Israeli Conflict, 1948-2012,* (Brighton: Sussex Academic Press, 2013), pp. 60-61.

operational mix was successfully applied against the Syrian IADS during the 1982 Lebanon War.

After 1973, Israel turned to two directions for UAV acquisition. The first direction was the use of American military aid to acquire UAVs from American manufacturers.[15] The second direction was local production in Israel with three goals in mind.[16] The first goal stemmed from the persistent fear that United States would stop military aid or that an embargo could be imposed on certain weapon systems. The second goal was to save on procurement costs, and the third was the desire to gain a foothold in the global arms market, thus helping to strengthen the Israeli economy. In 1974, Israel Aerospace Industries (IAI) began to develop drones, and in 1979 its first UAV, the Scout, entered operational service for ISR missions. At the same time, another Israeli company, Tadiran, began developing the Mastiff, a competitor for the Scout.[17]

Two military trends characterised IDF operations during the second half of the 1970s. The first trend was a learning process, in understanding the lessons of the 1973 war, which influenced the IDF's procurement and armament plans.[18] In parallel, preparations for a possible renewal of the war went on. Simultaneously, as a second trend, the day-to-day war against Palestinian organisations, which had strengthened their grip on southern Lebanon, continued. Within this dual strategic framework, the IAF had a central role, with the developing UAV array integrated into both preparations for another regular war and the ongoing fight against the Palestine Liberation Organisation and other organisations.

The IAF drew several lessons from the 1973 Yom Kippur war. The main lesson was the difficulty in achieving air superiority against an integrated dense, multi-dimensional air defence.[19] After the war, the IAF acted in three directions to improve its ability to efficiently cope with such a system and the operational challenges it presented. The focus was on creating a doctrine that would lead to the suppression of enemy air defence (SEAD). The first direction was to acquire attack helicopters that would provide CAS and also repel and defeat attacking armoured columns, thus allowing the fighter planes to focus on missions beyond the immediate frontline.[20] The second

---

[15]Andrew Feinstein, *The Shadow World: Inside the Global Arms Trade,* (New York: Farrar, Straus and Giroux, 2011), pp. 373-394.

[16]Blom, *Unmanned Aerial Systems*, p. 72. See also: Hoyt, *Military Industry and Regional Defense Policy*, pp. 90-98.

[17]Hoyt, *Military Industry and Regional Defense Policy*, p. 102.

[18]Cordesman and Wagner, *The Lessons of Modern War (vol. 1)*, pp. 110-114.

[19]Nordeen, *Fighters over Israel*, pp. 179-180.

[20]During that period, there was also a lot of thinking in the US military about ways to stop the Soviet armoured mass in the event of an attack in Central Europe. This

direction taken by the IAF was the development of offensive tactics to destroy an IADS. The third direction was the development of improved ISR capabilities, which would provide accurate real-time intelligence on the locations of the mobile missile batteries. This was a direct lesson from the Yom Kippur War, which also caused IDF-J2 to establish, in 1976, a unit that operated various UAV models already used by the IDF.[21]

Against the backdrop of studying and implementing the lessons of the 1973 war, there were also preparations for the possibility of another conventional ground war against Palestinian organisations entrenched in southern Lebanon near Israel's border. The Palestinian operations from this area combined rocket fire against towns and agricultural settlements in the Galilee and infiltrations into Israeli territory. The IDF mostly engaged in ground operations employing various force sizes, but the intensification of the attacks on Israel from 1974 to 1982 led the IAF to become more dominant. This was mainly due to the desire to avoid casualties to the ground forces in the challenging topography of southern Lebanon.

The IAF operations focused on bombing the Palestinian organisations' facilities using fighter aircraft and attack helicopters. Within this operational framework, the UAVs served in ISR missions for ground forces, and in damage assessment after the air strikes. However, the drones operated in ISR missions just as they would have operated in a conflict against conventional Arab armies. It is important to note that during this period, the technological capabilities of the UAV as a system continuously improved, and there was also the introduction of Israeli-made UAVs into service.[22]

The operation of drones in ISR missions continued throughout the second half of the 1970s and the early 1980s, and they played a vital role in monitoring the Syrian missile batteries in the Beqaa Valley during the summer of 1981.[23] By the summer of 1982, the Syrians added SAM batteries to the defence of the Beqaa Valley, eventually their

---

thinking led to the development of the AirLand Battle doctrine, which integrated new weapons systems, one of the most prominent being the advanced AH-64 Apache attack helicopter. The USAF also equipped itself with tougher aircraft for CAS (Close Air Support) missions, notably the A-10 Thunderbolt II. Tal Tovy, *The Changing Nature of Geostrategy: The Evolution of a New Paradigm,* (Maxwell Air Force Base: Air University Press, 2015), pp. 66-71.

[21]During its years of operation, the unit operated the Mastiff (Tadiran), Scout (IAI), and the Searcher (IAI). Yuval Shoam and May Effrati '40 Years without a Pilot', *IAF Journal* 200 (September, 2011),

[22]*Ibid*. The IDF integrated the Mastiff during 1978, and the Scout a year later.

[23]The Syrian Air Force also used jet fighters in an attempt to shoot down the UAVs patrolling over its forces or territory.

number reached 19, and included mobile SA-6 batteries. That year, the drones played a decisive role as the Mastiffs and Scouts routinely monitored the Syrian IADS. Israel also operated drones as decoys to draw off anti-aircraft missile fire, and some may have even been shot down. However, the payoff, besides the important fact that no pilots were lost or injured, was accurately locating the missile batteries, as well as the detecting the frequencies and electronic signatures of the Syrian radar systems. In this way, the UAVs assisted in developing EW devices that would ultimately be used to neutralise the Syrian radars. All the collected information was integrated into the IDF's attack plan, while the forces awaited the command to strike which arrived in early June 1982 with Operation Mole Cricket 19. As part of the opening moves in the Lebanon War, Operation Peace in Galilee, over three days (June 9-11) the IAF destroyed the Syrian missile array in the Beqaa Valley and shot down more than eighty Syrian aircraft which had been launched to defend the missile batteries.[24]

As mentioned, the Syrian IADS consisted of several operational components, integrated with each other. Therefore, the solution was a combination of several ground and aerial weapon systems that attacked the missile batteries from outside their effective range, along with the integration of EW, real-time intelligence, and deception measures. Within this operational mix, the UAVs played an important role in collecting accurate imagery intelligence (IMINT) on the locations of the missile batteries and radar wagons, as well as exposing the electronic profile of the radar systems.[25] The information arrived in real-time, allowing for the targeting and disruption of radar systems during the attack by EW and ARM. The IAF also operated drones as decoys which simulated the radar profile of a fighter jet, causing the Syrian operators to launch missiles at them. This exposed the precise locations and electronic profiles of the batteries in real-time, allowing the pilots to launch ARMs against them. Simultaneously, ground-based and airborne electronic systems located the batteries and directed both ground fire and air attacks by F-4 Phantoms against the missile sites. After the radar systems had been destroyed, the missile launchers were attacked from both the ground and from the air by general purpose and cluster munitions targeting the battery crews.[26] The drones provided the air and ground fire-control system with real-time updates on the damages incurred, so that batteries that had not been neutralised could be attacked again. Operational efficiency improved, and repeat attacks were only performed where necessary.

---

[24]Cordesman and Wagner, *The Lessons of Modern War (vol. 1)*, pp. 110-119.
[25]IMINT is the technical, geographic, and intelligence information derived through the interpretation or analysis of imagery and collateral materials. See: Chairman of the Joint Chiefs of Staff: Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms,* (Washington, 2016), p. 107.
[26]Benjamin S. Lambeth, *Moscow's Lessons from the 1982 Lebanon Air War,* (Santa Monica: RAND, 1984), pp. 5-8; Kreis, 'Unmanned Aircraft in Israeli Air Operations', p. 48.

During the attacks on the missile batteries, there was an operational paradox. After about half an hour from the start of the Israeli air offensive, the Syrian command realised that its missile array was being destroyed. To protect it, the Syrian command launched its fighters to intercept the Israeli attacking aircraft. The UAVs provided VISINIT of the Syrian aircraft taking off from their airfields in Syria. This information was immediately relayed to the IAF's ground-based and airborne control units (Northrop Grumman E-2C Hawkeye), assisting the controllers in vectoring IAF aircraft to intercept the Syrian MIGs. The F-4 aircraft stopped the attacks and made way for the IAF's F-15 and F-16 fighters, which shot down twenty-three Syrian aircraft without the IAF losing a single aircraft.[27]

At the end of the first day, the Syrians moved additional missile batteries to the front, including, for the first time, advanced SA-8 batteries. On 10 and 11 June 10, the IAF resumed its campaign, destroying both the batteries that survived the first day's attacks and the new batteries that had arrived in the Beqaa Valley during the night. The Syrian Air Force continued to launch its aircraft against the attacking aircraft, but the Israeli escort fighters shot down their MIGs. In total, 30 SAM batteries, and some 85 Syrian aircraft were shot down. The IAF lost two aircraft to ground fire. No single component had a decisive influence on the air campaign's results. The attack plan integrated most of the components of the IAF's capabilities, thus creating a lethal operational synergy, in which the UAV array fulfilled several roles.

The air supremacy that the IAF achieved over Lebanon affected the ground operations by allowing the IAF to conduct highly effective CAS missions.[28] Later in the war and in support of ground forces, the UAVs, especially the Mastiff – which had been designed as a tactical drone for collecting real-time combat intelligence – provided 'beyond the hill' capabilities for ground force commanders. The UAVs transmitted real-time information on the locations and movements of Syrian and PLO units, and this data helped to plan and carry out operations that are more effective. To some extent, the UAVs helped reduce the friction of war.[29] The operation of the UAV array as part of the ground campaign marked a new chapter in air-land joint operations.

The successful participation of the drones in the Lebanon War led the Israeli defence industries to develop more sophisticated models. In 1986, the RQ-2 Pioneer, a joint

---

[27]Nordeen, *Fighters over Israel*, pp. 170-176.
[28]Brereton Greenhous, 'The Israeli Experience', Benjamin F. Cooling (ed.), *Case Studies in the Achievement of Air Superiority,* (Washington D.C.: Center for Air Force History, 1991), pp. 599-600; Cordesman and Wagner, *The Lessons of Modern War (vol. 1)*, p. 203.
[29]Rodman, *Sword Shield of Zion*, pp. 85-86.

development of the IAI and an American company, based on the Mastiff and the Scout, entered operational service in the United States. Its main missions were patrolling, collecting intelligence, locating targets, and assessing damage from attacks. The operational need for such a platform became apparent to the US Navy after the bombing of Hezbollah targets in the Beqaa Valley by US Navy aircraft in 1983, and the Pioneer carried out similar missions during the Gulf War.[30] Paul Springer notes, 'The Pioneer represents a rare case of the United States purchasing and adopting an advanced military system from a foreign developer.'[31] This is indeed clear proof of the operational effectiveness of Israeli-made drone systems.

After 1982, the IAF continued to acquire improved drone systems. In 1992, the Searcher I (IAI) became operational, and in 1998 the Searcher II, which was larger than the Mastiff and the Scout and was equipped with advanced optical systems. These drones marked another operational milestone during the IDF's prolonged stay in the security zone in southern Lebanon (June 1985 – May 2000), where the main combat during this period was against the Hezbollah organisation, which continuously improved its combat capabilities. The second part of the article will focus on the fighting against Hezbollah.

From the Security Strip to the Gaza Strip: 1982-2014
The IDF's stay in southern Lebanon was characterised by three modes of action. The first was the ongoing security activity, which was mainly defensive in nature.[32] The second, concurrent with the first, involved initiating small-scale operations such as raids and ambushes with varying force sizes in Hezbollah-controlled territory. The third was initiating large-scale offensive operations following a military escalation that Israel was not prepared to tolerate.[33] On 16 February 1992, a Scout drone participated in the targeted attack on the convoy of Hezbollah Secretary-General Sheikh Abbas al-Musawi. The drone provided real-time IMINIT and once the drone had identified the convoy, AH-64 Apache helicopters armed with AGM-114 Hellfire missiles attacked his car.

---

[30]Blom, *Unmanned Aerial Systems*, pp. 72, 88.

[31]Springer, *Military Robots and Drones*, p. 189.

[32]Within the security zone, the IDF established a chain of outposts manned by infantry, combat engineering, and armoured troops. The outposts received artillery support and, if necessary, air support. For a comprehensive review of the IAF activity during this period, see: Raphael Rudnik and Ephraim Segoli, 'The Israeli Air Force and Asymmetric Conflicts, 1982-2014', John A. Olsen (ed.), *Airpower Applied: U.S., NATO, and Israeli Combat Experience,* (Annapolis: Naval Institute Press, 2017), pp. 285-336.

[33]Rodman, *Sword Shield of Zion*, pp. 54-57.

During Operation Accountability (25-31 July 1993) and Operation Grapes of Wrath (11-27 April 1996) the UAV array conducted dozens of ISR sorties over southern Lebanon in an attempt to locate Hezbollah's short-range rocket launchers.[34] The information was rapidly transferred to air and ground forces, mainly artillery, in order to strike the launchers and their operators. Some of the IDF's attacks, mainly against stationary targets such as training camps, weapons depots, and command posts, relied on intelligence gathered before the operations had started. Other attacks, mainly against mobile targets such as vehicles transporting troops and rocket launcher sites, were based on intelligence gathered during the operation itself. As yet it has not been made public whether the UAVs also activated laser designators for guiding precision-guided munitions (PGM) launched from attack aircraft and helicopters, but drones in the IDF's use are known to have such capabilities.

The drones continued operational success led to increased use of these platforms, and the IAF acknowledged that '...new weapons systems were absorbed into the UAV squadron.'[35] At the beginning of the twenty first century, additional operational drones were introduced which upgraded the IDF's operational capabilities, notably, the Hermes 450 and Hermes 900, both are manufactured by Elbit System, as well as the Heron 1 and Heron 2, manufactured by IAI. The integration of these drones enhanced the IDF's strategic capabilities in the ISR domains, especially because of their ability to carry multiple technological payloads, fly long distances, and remain in the air for a long time, sometimes up to forty hours or more. The Hermes 450, Hermes 900, and Heron 2 also have air-to-ground missile launch capabilities. In parallel with the integration and operation of these strategic UAVs, tactical UAVs were also developed to support ground forces, particularly the Skylark-1 mini-UAV, made by Elbit System for short-range ISR missions and artillery targeting. The introduction of these additional models for various and diverse missions led to an expansion of the UAV array. In 1999, Squadron 166 was established, which operated the Hermes 450 and currently operates the Hermes 900. In 2010, Squadron 210 (Heron 2) was established, and in 2012, a fourth squadron, Squadron 161, was established, taking over the operation of the Hermes 450. In the late 1980s, Israeli defence industries began developing various models of loitering munitions, such as the Green Dragon, Harpy, and Harop.[36] However, no information is available on their operational use by the IAF during the period covered by this article.[37]

---

[34]Rudnik and Segoli, 'The IAF and Asymmetric Conflicts' pp. 290-291, pp. 294-296.

[35]Drone Wars UK, *Israel and the Drone Wars*, p. 10.

[36]Bill Yenne, *Drone Strike!: UCAVs and Aerial Warfare in the 21st Century* (Manchester: Specialty, Press, 2017), pp. 106-107.

[37]However, there is information on the use of Israeli-made loitering munitions (Harop) in the ongoing conflict between Azerbaijan and Armenia over control of the Nagorno-Karabakh region. In 2016, Azerbaijan attacked an Armenian military bus and made

In the first decade of the 21 Century, the UAV array underwent a reorganisation. In 2000, the IDF-J2 UAV unit merged into IAF Squadron 200. In the same year, Unit 5252 was established under the Artillery Corps, which operated the Hermes 450. The unit's role is to provide intelligence, target designation for IAF, and precise fire support for manoeuvring forces. In 2010, Unit 5353 was established in the Artillery Corps. Its main mission is to provide VISINIT to tactical manoeuvring forces, and it operates the Skylark 1 LE 10 UAV made by Elbit. All these units, along with the platforms at their disposal, have operated extensively in the following years.

In September 2000, the *Al-Aqsa Intifada* broke out in Judea, Samaria, and the Gaza Strip. The uprising quickly spilled over into Israeli territory with a murderous dynamic of suicide bombings in city centres. Over the next 15 years, the IDF launched several large-scale operations, in addition to the war against Hezbollah in the summer of 2006. The intensive fighting led to increased use of UAVs, gradually acquiring new missions on top of the continued operation of the drones in ISR and target designation missions.[38]

On 29 March 2002, the IDF launched Operation Defensive Shield. It was a large-scale operation in Judea and Samaria following a terror attack in the city of Netanya, where thirty civilians were killed (The Passover massacre 27 March 2002). This was the climax of a month in which more than 130 Israeli civilians were killed in a series of terror attacks. The main goal of the operation was to strike the Palestinian terrorist infrastructure in Judea and Samaria and to stop the attacks. The operation was seen as a success and marked a turning point in the Second Intifada, after which terrorist attacks and Israeli casualties significantly decreased. During the operation, it was reported that attack helicopters, hidden by the mountainous topography of Judea and Samaria, would suddenly emerge and launch missiles, precisely striking Palestinian targets. These reports claim that this tactic was made possible by efficient collaboration between the attack helicopters and the drones.[39] However, it is not known if the drones also performed independent attack missions.

---

extensive use of this weapon during the Second Nagorno-Karabakh War (27 September - 10 November 2020): Raf Sanchez, '"Suicide drone" used for first time in fighting between Azerbaijan and Armenia', *The Telegraph,* 8 April 2016, https://www.telegraph.co.uk/news/2016/04/08/suicide-drone-used-for-first-time-in-fighting-between-azerbaijan/. Accessed 10 March 2024.

[38]Benjamin S. Lambeth, *Air Operations in Israel's War against Hezbollah,* (Santa Monica: RAND, 2006), pp. 111-112; Ralph Sanders, 'An Israeli Innovation', *Joint Forces Quarterly* (JFQ) 33 (Winter 2002-2003): p. 117.

[39]Drone Wars UK, *Israel and the Drone Wars*, p. 10.

In November 2001 it was reported in the United States that a drone had conducted an attack in Afghanistan.[40] This was the first documented instance of a drone carrying out an attack mission and going beyond the traditional ISR and target designation missions. Although many foreign sources identified Israel as the first to use UAVs in attack missions, the first credible report of a drone being used for a strike appeared in the press during 2004, following eyewitness testimonies of attacks against Hamas and Islamic Jihad activists in the Gaza Strip.[41] Reports of attacks by an 'IAF aircraft' continued to appear in the press in the following years. However, much secrecy, stemming from military censorship orders, surrounds the tactics that Israel employs in combat against irregular forces and its use of targeted killing. After such attacks, official reports still used the terminology 'IAF aircraft'. Since Israel has never officially admitted the use of drones for attacking targets in Gaza, southern Lebanon, or other areas, the credit for the first use must go to the United States. Nonetheless, Israel has confirmed the close cooperation of drones, attack helicopters, and the security services in targeted killing operations.

In the summer of 2006, and in response to the kidnapping of two soldiers, Israel launched a military operation against Hezbollah. This later turned into a war – the Second Lebanon War (12 July – 14 August 2006). In the Second Lebanon War, the IAF focused on bombing Hezbollah's strategic targets throughout Lebanon and attempting to destroy the organisation's short-range rocket-launching capability. The drones' mission was to obtain real-time intelligence on short-range rocket launch sites, so they were virtually always present over southern Lebanon, from where the rockets were launched. In this war, the Heron 1 logged many thousands of flight hours, and the Hermes 450 about 15,000 hours. Lebanese sources reported that drones of these two types had both launched missiles, but Israel neither confirmed nor denied such operational use.[42]

On the first night of the war (13 July), the IAF launched Operation Specific Gravity, popularly known as 'the night of the *Fajrs*'. During the operation, which lasted about half an hour, a large part of Hezbollah's long-range rocket array was destroyed. The success of the operation was partly due to the acquisition of quality and accurate intelligence regarding the deployment and location of the rockets throughout southern

---

[40]Notably, the first American drone attacks were carried out by the CIA rather than by the military. See: Thomas G. Mahnken, *Technology and the American Way of War since 1945* (New York: Columbia University Press, 2008), pp. 201-202.

[41]Drone Wars UK, *Israel and the Drone Wars*, p. 10, p. 25.

[42]See: Anthony H. Cordesman, *Lessons of the 2006 Israeli–Hezbollah War,* (Washington D.C.: CSIS Press, 2007), p. 107; Lambeth, *Air Operations in Israel's War against Hezbollah*, pp. 121-122. For more on the IAF's operations in the Second Lebanon War, see: Rodman, *Sword Shield of Zion*, pp. 44-46.

Lebanon. It seems that the UAVs not only marked the targets for the attack aircraft but also patrolled the attack areas to provide battle-damage assessment. The around-the-clock ISR capabilities of the various drone platforms reinforce the notion that they were a critical component in the early collection of precise intelligence, enabling the operation's success and effectively neutralizing Hezbollah's strategic arm, preventing it from striking deep into Israeli territory during the war.[43]

The IDF also heavily used drones in three operations against Hamas in the Gaza Strip: Operation Cast Lead (27 December 2008 - 18 January 2009), Operation Pillar of Defense (14-21 November 2012), and Operation Protective Edge (8 July - 26 August 26, 2014). The second operation is particularly noteworthy because IDF ground forces did not enter the Gaza Strip. In this operation, standoff weapons, mainly various types of missiles, carried out a substantial part of the attacks. For instance, the targeted killing of Ahmed Jabari, which essentially started Operation Pillar of Defense, was performed, by the Hermes 450.[44] The long loitering capability of the drones greatly assisted in strikes on the Hamas rocket launchers aimed at the Israeli population and strikes on the Hamas and Islamic Jihad troops moving throughout the Gaza Strip.[45]

As mentioned, the Hermes and Heron drones provide Israel with strategic capabilities, stemming from their long flight range and their loitering capability. In early 2009, Sudan reported that unidentified aircraft had attacked convoys moving within its territory on three different occasions. According to Israeli and other Western intelligence assessments, Iran was sending weapons to Hamas to help rebuild the organisation after the severe blow it had suffered during Operation Cast Lead. The weapons arrived by ships from Iran, which unloaded their cargo at Port Sudan, and from there went by truck through Egypt and the Sinai Peninsula to the border of the Gaza Strip.

The attack was made public on the American CBS network at the end of March 2009, but the exact dates of the attacks are not known, although the Sudan government

---

[43]Stephen Biddle and Jeffrey A. Friedman, *The 2006 Lebanon Campaign and the Future of Warfare: Implications for Army and Defense Policy,* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2008), pp. 29-30; Cordesman, *Lessons of the 2006 Israeli – Hezbollah War*, pp. 10-11; Rudnik and Segoli, 'The IAF and Asymmetric Conflicts', pp. 308-312.

[44]Jabari served as the acting commander of the Hamas military forces; Drone Wars UK, *Israel and the Drone Wars*, pp. 14-15. See also: Rodman, *Sword Shield of Zion*, pp. 47-48.

[45]World Tribune, "Israel sets combat drones against missile launchers in Gaza," *World Tribune*, May 8, 2007, https://web.archive.org/web/20070513201916/http://www.worldtribune.com/worldtribune/07/front2454229.238888889.html. Accessed 10 March 2024.

mentioned 17 January and 11 February as the dates on which two of the three attacks took place. The United States, aware of the weapon convoys, warned Sudan against further cooperation with Iran, but denied having had anything to do with the attacks. Israel officially denied any involvement, but various statements made by the Israeli Prime Minister at the time, Ehud Olmert, hinted that Israel would strike terrorist infrastructure anywhere it could be reached and that there was essentially no place, where the State of Israel could or would not operate. The flight range of the Hermes and Heron corroborates Olmert's statement.[46]

Information about the operation of drones as combat platforms capable of launching various types of missiles is shrouded in secrecy.[47] However, the testimonies of those exposed to Israeli air attacks, along with the analyses of military analysts and commentators and the examination of drone characteristics, as they appear on various internet sites, reinforce the assessment that Israel operates drones for attack missions, in addition to the 'traditional' ISR missions. In addition, since it is known that there is an ongoing exchange of operational information and mutual learning between the United States and Israel, and that the United States has operated drones in attack operations in southwest Asia, it can be inferred that Israel, too, had similar capabilities during this period.

Conclusions

This article examines, with information taken from open sources, Israel's operational experience in the field of UAV deployment. UAV operation began as an operational need in the early 1970s, and in the five decades since, the Israeli UAV array has developed in several directions. The main area was ISR, including a real-time combat intelligence picture, and helping, to some extent, decrease the phenomenon of battlefield friction and uncertainty.

Historical analysis of the doctrine and technology highlights the dynamic reciprocal relationships and the military tension between the two concepts. Sometimes operational needs, stemming from doctrine, lead to the development of new technologies. At other times, new technologies create new possibilities, thus necessitating the development of new doctrines or at least the adaptation of existing ones. If this is not done, the gap between technology and doctrine would widen, potentially disrupting, perhaps severely, the military's operation during conflict. The information revolution, as a dominant factor on the battlefield in recent decades, is becoming one of the critical foundational elements of modern warfare. However, the advantages of this revolution can be nullified if information technology is not integrated into a doctrine that harnesses relevant technological developments. It can be asserted

---

[46]Springer, *Military Robots and Drones*, p. 100.
[47]Drone Wars UK, *Israel and the Drone Wars*, p. 14.

that the side that better understands the implications of new weapon systems and integrates them into appropriate doctrines will gain a tremendous military advantage over an opponent with similar weapon systems but without a relevant doctrine.

Israel began operating drones in response to an urgent operational need and quickly understood their inherent operational advantages. A clear expression of this was the integration of drones as an important component in the SEAD doctrine developed by the IAF to eliminate Syrian SAM batteries in June 1982 as well as drone use as a critical component in the concept of targeted killings. In fact, the different UAV models, both in the strategic dimension (supporting IAF operations) and in the tactical dimension (supporting ground forces), constitute an integral platform in IDF operations, thus successfully maximizing the advantages of the technology.

One of the most important quality factors in achieving military power is the technological component or dimension. This can also be considered as one of the critical foundational elements of warfare. Historically, Israel has always, and still does, put a heavy emphasis on quality in a wide range of fields, including the fighting capabilities of its soldiers and commanders, but also the acquisition and deployment of advanced weapons systems. These areas constitute force multipliers that amplify the IDF's strength against the quantitative and qualitative armament of its regular and irregular adversaries.[48] Israel deals with operational challenges posed by irregular forces on a daily basis while preparing for a possible escalation on various fronts, including a strategic threat to Israel from the launching of long-range surface-to-surface missiles. Yet, in each of these modes of conflict, the IDF has found ways to integrate various types of drones into the endless task of maintaining the security of the State of Israel.

---

[48]Rodman, *Sword Shield of Zion*, pp. 7-9.

Robert W Jones, *A Cultural History of the Medieval Sword: Power, Piety and Play*. Woodbridge: The Boydell Press, 2023. xii + 221 pp, 25 illustrations. ISBN: 978-1837650361 (hardback). Price £30.00.

In *A Cultural History of the Medieval Sword*, Robert W Jones has produced a compelling analysis of sword culture between 1100 and 1500, unpicking many of the myths and assumptions current in popular understandings of the subject. Disentangling the contradictory and misleading ideas about swords and sword use is a significant challenge, but the work is both persuasive and readable, as well as benefitting from high-quality images accompanying the text, many of them in colour.

Jones begins with an analysis of the mystical qualities held (or supposedly held) by swords. Here, he deconstructs the idea of a magical medieval sword as it frequently appears in modern fantasy fiction, arguing that genuine medieval swords rarely held significance as mystical objects in their own right. In medieval romances, named swords, such as King Arthur's *Excalibur* or Roland's *Durendel*, were rare, and did not typically hold magical properties. Meanwhile, while real swords were typically crafted according to sacred geometric principles, inscribed with protective and healing mottos, and received holy blessings from priests before battle, they acted as conduits for God's grace.

The following chapter looks at the sword as an object seen to wield and transfer power, examining casual exchanges and losses of swords reputedly belonging to King Arthur while posing the question: 'Why were … monarchs so casual with their handling of such an important and iconic sword?' (p. 37). From here, Jones examines the connection between coronation swords and the historic past, as well as the role that swords played in inauguration rituals and the making of a knight, before discussing ceremonial swords and their function as displays of monarchical, noble, or mayoral authority, rather than use in combat. This category of sword use is strikingly impersonal – as Jones puts it, the sword is 'tied to the title and not to the individual' (p. 58) – and indeed this is borne out in the development of the executioner's sword, which had emerged as both a tool *and* a badge of office by the sixteenth century.

The third chapter is a case-study of the falchion, a curved sword that medieval sources typically used to establish an ancient or heroic genealogy for their bearer, particularly as falchions were commonly shown being wielded by the ancients in medieval iconography. Yet this connection to an ancient past could bleed into 'otherness'; as Jones notes, falchions were often depicted in the hands of Islamic forces or even weapons of Hell. This is underscored in Jones's analysis of the medieval texts *Robert le Diable* and *Sir Gowther*, the heroes of which are born from a pact with the devil and,

wielding a falchion, embark on a path of murderous destruction until repenting and receiving papal absolution.

Chapter Four, 'The Civilian Sword', is perhaps the strongest in the entire work. Jones attempts to uncover the extent to which ordinary civilians owned and regularly wore swords, using sources ranging from muster rolls, inventories, wills, and weapons bans, to visual and poetic sources such as *The Canterbury Tales*. Particularly compelling is his analysis of violent deaths in the fourteenth century, looking closely at spontaneous acts of violence and concluding that because deaths caused by swords were relatively low (only as high as eleven percent in London, while knife attacks accounted for forty-two percent), 'this would suggest that whilst medieval men and women might readily have a knife or dagger on their belt, a sword was far less likely to be to hand in the heat of the moment.' (p. 102).

Beyond violent weapons, Jones also uses this chapter to examine 'buckler-play', a medieval craft popular from the late fourteenth century, akin to juggling and acrobatics. Regarded as, at best, a signal of middle-class boorishness, the use of sword and buckler was especially attractive to students and apprentices as the progenitor of fencing, although it was not until the fifteenth century that fencing schools or guilds gained formal recognition.

The fifth and sixth chapters complement one another, focusing on both training in the sword and its literal use in combat. In both cases, unfortunately, Jones concludes that the source evidence is too slim to draw any definite conclusions. Although he examines a large variety of sources – romances, hunting treatises, tournament descriptions, fight manuals, biographies, coroner's rolls, forensic archaeology, and marks on surviving weapons – modern knowledge of the reality of medieval sword training and use is limited. Perhaps his most compelling conclusions in these chapters emerge from his analysis of late medieval fight manuals, arguing that the language used in them suggest an emergent sword use among the middle classes which eventually achieved wider legitimacy over following centuries.

The final chapter, "Recreating 'Medieval' Swordsmanship", focuses on how modern fighters pursue and achieve an 'authentic' medieval swordplay in their craft. Although somewhat at odds with the other chapters, focusing on Victorian and later recreations of a medieval cultural form, it is nevertheless a useful reminder of how modern understandings of this form have been shaped by our own assumptions and biases. Films, theatre, re-enactment swordplay, and Historical European Martial Arts all attempt reproductions of medieval swordsmanship; their disparate results and successes highlight the difficulties inherent in doing so.

As with many works that attempt a cross-century, pan-European cultural analysis, *A Cultural History* does occasionally risk working in too broad strokes. The bulk of Jones's

analysis comes from English records, while (with some exceptions) German, French, Italian, Polish, and other European sources appear more often as supportive evidence; likewise, the sources he uses apparently incline to the latter end of the period. Nevertheless, this is a forceful work of scholarship and an important addition to the growing body of work on historic swords and sword-use.

MÁIRE MACNEILL
Goldsmiths, University of London, UK
DOI: 10.25602/GOLD.bjmh.v10i1.1784

Steve Tibble, *Templars: The Knights Who Made Britain*. London: Yale University Press, 2023. xviii + 334 pp. 31 illustrations, 5 maps. ISBN: 978-0300264456 (hardback). Price £25.00.

Following on from his *Crusader Armies* in 2018 to *The Crusader Strategy* in 2020, Steve Tibble has turned his attention to the most famous Crusaders of all: the Knights Templar. *Templars* also takes Tibble outside of the Latin East as he focuses on the Templar's activities in both Britain and the Holy Land, creating a dual history of the order. In some ways the book succeeds at this goal, and it certainly brings Tibble's considerable expertise on the subject matter to bear, but in other places its overall structure and focus becomes jumbled and results in a book that does not entirely live up to its potential.

Tibble has made a considerable study of the Crusades and his breadth of knowledge of the subject matter is on display in *Templars*. Readers will find an abridged history of the Crusading movement, largely focusing on the period after the formation of the Templars in the early twelfth century and continuing through the loss of the last vestiges of the Latin East to the Mamluks, with an emphasis on matters with a strong Templar presence. In addition, the book includes a history of Britain at the same time, breaking up the Crusade narrative by describing what was happening back in Europe and the impact that this could have on efforts to sustain Crusading in the east. This structural choice is a helpful reminder that Crusades did not happen in a vacuum. The emphasis Tibble places on the diplomatic role that Templars often fulfilled in Europe and how that desire for European peace fit in with their overall mission of directing European violence towards enemies in the Holy Land is particularly noteworthy.

The book's strongest part is its final third, which covers the suppression of the Templars. This event has long been dominated by a focus on King Philip IV's raids on

Templar houses and the burning of the grand master of the order at the stake. In contrast, *Templars* focuses on how the suppression took place in Britain and Ireland, where the persecution was altogether lacklustre and lethargic. A process marked more by dragging of feet and lack of enthusiasm, in marked contrast with the salacious events occurring in France. Tibble's account shows how spurious the accusations levelled against the Templars were, including a very thorough analysis of one popular accusation and how a simple mistranslation by interrogators working in Yorkshire exposes the sham. Tibble emphasises how few actual Templars were left in Britain in 1307, most having died during the disastrous final years of the Crusader States, and how many of those that were left were too old or too sick, or both, to fight.

Templars also includes a section on the medieval myths about the Templars and how stories of heresy and satanism reflected wider conceptions of medieval sin and deviancy. This helps to fit the crimes the Templars were charged with into a much wider context and shows that while what happened to them was something of an abnormality, the accusations were taken from a script. Perhaps most interesting in this section is the discussion of how the Templars were far from a secretive organisation and in fact often played a central role in their community – making the likelihood that they hid vile Satanic practices functionally impossible.

Templars is not a book without flaws, however, and what problems it has are largely derived from its scope and its structure. The book's subtitle, *The Knights Who Made Britain,* and the opening sections declare that this is to be a history of the Templar order within Britain. It does not quite live up to this promise. In practice, the definition of Britain is quite vague. Excluding the section on the suppression of the Templars, the focus is almost entirely upon the Templars in England. To some degree this is reflective of how the Templars were organised, with the master in England having oversight of Ireland, Scotland, and Wales as well. However, the narrative of the book also takes a strongly English view – with chapters divided by the reigns of English monarchs, not Templar masters. Given the focus on England and English politics, it is a little disappointing that the relationship between the Templars in England and those in other lands ruled by English monarchs, such as Normandy or Gascony, are not brought up at all. The emphasis on English politics sometimes overshadows the history of the Templars. The chapter on the reign of King John, for example, includes several pages on John's personal failings with little to no reference to the Templars.

In general, the choice to pursue a chronological structure makes some of *Templars* arguments harder to follow. For example, discussion of the Templars role in negotiating peace on behalf of the English kings are split into short sections across several chapters for each English king. A better picture of the Templars' role could be shone by a thematic grouping that links each of these sections into one single argument.

Overall, *Templars* is a book that is strongest in its opening and closing chapters with a slightly too nebulous and messy middle that could have benefited from a thematic rather than chronological structure and a more coherent conception of what exactly its scope is. Still, there is something on offer here and the section on the trial of the Templars and its aftermath is a fascinating read. *Templars* is not a book that everyone needs to read, but it will offer a different perspective to anyone already interested in the subject.

STUART ELLIS-GORMAN
Trinity College, Dublin, Ireland

John Sadler, *Crucible of Conflict: Three Centuries of Border War*. Dunbeath: Whittles Publishing Ltd, 2023. xi + 227 pp. 7 maps, 25 photographs. ISBN 978-1849955423 (paperback). Price £18.99.

The history of Anglo-Scottish conflict has been partly brought to the attention of the masses by Hollywood, in particular the stories of William Wallace in the largely historically inaccurate *Braveheart* (dir. by Mel Gibson, 1995) and Robert Bruce in Netflix's *Outlaw King* (dir. by David Mackenzie, 2018). This decade of battles from c. 1296-1307, however, is merely a small over-romanticised part of a longer, bloodier conflict spanning multiple centuries. John Sadler, in *Crucible of Conflict: Three Centuries of Border Warfare*, aims to explore this wider history – with a focus on the conflict that occurred in the areas surrounding the border of Scotland and England. Within this, Sadler argues that Walter Scott's version of border history is 'pure fiction'; and questions whether borderers are 'a harder, more contentious breed'. The blurb of *Crucible of Conflict* boldly claims that the book will offer: 'a full interrogation of primary and secondary sources' and 'an in-depth look at how this history has shaped and affected the [Scottish] independence debate'. Whether Sadler achieves these two aims will form the basis for this review, along with a more general view of its contents and tone.

Crucible of Conflict is a very readable account of Anglo-Scottish border warfare, aided by Sadler's vivid and evocative descriptions of battlefield encounters. Moreover, Sadler's personal connection to the area increases the appeal of his account in comparison to a generic historical re-telling. This personal aspect is prevalent in the

introduction and first chapter, and is then applied to descriptions of battlegrounds throughout the book – adding an extra layer that engages the reader. For instance, when discussing the battle of Homildon Hill (1402) Sadler uses his experience to guide the reader using modern directions to where he believes the battle took place. Furthermore, he argues that 'even some modern writers' who have never seen the ground 'fall into the old trap' of placing the Scottish and English armies on opposing hills – which would be 'a virtual impossibility'. This is argumentatively interesting, and shows signs of engagement with modern historiography; although, rather disappointingly, Sadler does not name or cite the historians he is disagreeing with here. This is symptomatic of Sadler's wider engagement with the historiography, with a few exceptions, and thus limits *Crucible of Conflict*'s contribution and value to military history academically. Similarly, while there is definitely some analytical engagement with primary sources, the majority of excerpts from these sources are used as statements of truth and not questioned. Therefore, while there is no denying Sadler has researched thoroughly and made use of various primary sources, *Crucible of Conflict* does not live up to its aim of featuring a 'full interrogation of primary and secondary sources'.

The tone of *Crucible of Conflict* is somewhat difficult to place, as it swings quite drastically from informal – seeming to appeal to a casual readership – to more formal and academic. The former can be seen more so at the beginning and end of the book, with the latter taking up the majority of the main body. For example, in the introduction, Sadler compares his childhood horse to being 'about as friendly as [Kinmont] Will with a hangover'. Similarly, in chapter one, Sadler states: 'I do sincerely hope the old rogue would be flattered by these portrayals' – referring to a border warden whom the author has re-enacted on numerous occasions. The tone of comments such as these are clearly entertaining and at times comedic, appealing to a non-academic audience with a casual interest in history. Such a reader, however, may quickly get lost in the fast-paced re-telling of Anglo-Scottish border conflict that follows. *Crucible of Conflict* rapidly moves through three centuries of history, often moving between periods and people without stating so or giving context. For instance, Sadler moves from the reign of Mary, Queen of Scots to that of King James VI – without mentioning Mary's infamous execution in 1587. Of course, it would be impossible to comprehensibly cover all Anglo-Scottish history over three centuries in one 200-page book – especially when Sadler's focus is on the borderers. However, a casual reader enticed by the entertaining language used in the early sections of the book may quickly feel overwhelmed by the more academic discussion that follows. Thus, *Crucible of Conflict* does not seem to fit a particular audience – as those interested in academic history will tend towards works such as Alastair J. Macdonald's *Border Bloodshed* (2000).

There are a few further issues which must be pointed out. Firstly, *Crucible of Conflict*'s promised discussion of the Scottish independence debate again fails to deliver. The

topic is alluded to in the introduction, however, disappointingly does not feature significantly throughout the rest of the book. Furthermore, specific discussion of the reivers – Sadler's 'main theme' – does not feature as much as would be expected for the majority of the middle chapters. Additionally, though admittedly a more minor issue, Sadler incorrectly states that Robert Bruce's 'wife and sister [were] held, like captive birds, in iron cages hung suspended over the battlements of Berwick and Roxburgh'. In fact, it was Bruce's sister and Isabella MacDuff, Countess of Buchan who were imprisoned in these cages – not his wife. Perhaps Sadler had recently watched *Outlaw King* when writing this, as this wrongly depicts Bruce's wife as the victim of the cage punishment. Finally, even more minor but worth mentioning, Sadler repeatedly states throughout *Crucible of Conflict* that Berwick swapped hands between the Scottish and English fourteen time – to the point of being overly-repetitive and unnecessary.

In conclusion, *Crucible of Conflict* offers an overall compelling history of Anglo-Scottish border conflict. John Sadler's personal experiences and knowledge adds a significant level of uniqueness and interest to this topic. However, it must be said that the book does not live up to the expectations set by the bold claims made on its blurb. Moreover, its varying tone suggests that it may not perfectly fit either those with a casual interest in history or academics; but rather those that lie somewhere in-between – perhaps not a particularly large audience. Lastly, minor incorrections such as mistaking Robert Bruce's wife to have been imprisoned in a cage detract from the book's accuracy. Despite this review focusing on critiquing *Crucible of Conflict*, as there is perhaps often more to say about negatives than positives, it must be noted that Sadler excels in achieving its main aim of providing a detailed and personal account of Anglo-Scottish conflict – though it is unfortunate that its other promises were not fulfilled.

KIERAN HUTCHINSON
Independent Scholar, UK

James Davey, *Tempest: The Royal Navy and the Age of Revolutions*. New Haven and London: Yale University Press, 2023. 426 pp. ISBN 978-0300238273 (hardback). Price £25.00.

Tempest opens in 1797, *in medias res*, with a declaration issued by the leaders of the Channel Fleet mutiny at the Nore: 'The Age of Reason is at Length arrived. We had long been Endeavouring to find ourselves Men, We now find ourselves so. We will be Treated as such' (p. 1). This quotation sets the tone for the book, which provides a

welcome corrective to the usual 'triumphalist lens' (p. 22) viewing the Royal Navy's experience of the period between 1793 and 1815 as a series of grand victories and strategic triumphs. Instead, Davey portrays 'a Navy in crisis' (p. 23) – an institution for which final victory was far from guaranteed, and which reflected the turmoil involved in fighting an ideological war on a global scale.

Davey focuses on the experience of the British tar during a period of political and social upheaval. He denies that the Royal Navy was simply a prop to the status quo and depicts its sailors as a mirror of society on shore: 'no ship was an island' (p. 96). Whigs, radicals, Tories, monarchists, and republicans rubbed shoulders on deck as they did on land, with sometimes explosive results. But this was also a period of strong state repression and paranoia, and sailors were strongly aware of the irony of defending their fellow countrymen's freedoms while themselves being subject to impressment and martial law. This dichotomy lies at the heart of the book, which tackles complex questions such as the role of the press gang, the abuse of discipline, and the Navy's counter-revolutionary duties – including in protecting slavery, an uncomfortable reminder of the Navy's complicated role prior to the abolition of the slave trade in 1807.

The centrepiece of the book is of course the infamous mutinies of 1797 at Spithead and the Nore. Davey reminds us these had a global dimension, as well as ramifications for the way the Navy was portrayed that lasted all the way to the mid-nineteenth century. Davey sees the mutinies of 1797 as the most visible crisis of an institution that had come unmoored in the face of European and domestic political developments: far from being an unquestioned plank of British national identity, 'the revolutionary period eroded public faith in the Royal Navy' (p. 25). That the Navy's reputation as Britain's senior service survived at all, Davey argues, is partly due to the government's alarmed attempt to seize back control of the patriotic narrative by reframing the Navy as a tool of propaganda and control, largely by encouraging the cult of Nelson following the battle of the Nile in 1798.

Tempest succeeds in filling a sizeable gap in the literature on the Royal Navy between 1700 and 1850: the period of the French Revolutionary Wars (1793–1802). Other books on this period do exist – Roger Knight's *Convoys* (New Haven and London: Yale University Press, 2023), Evan Wilson's *A Social History of British Naval Officers, 1775–1815* (London: Boydell and Brewer, 2017), and Sara Caputo's *Foreign Jack Tars: The British Navy and Transnational Seafarers during the Revolutionary and Napoleonic Wars* (Cambridge: Cambridge University Press, 2023) being some of the most recent examples – but these often focus on a specific subtheme. Davey's general approach allows him to paint a much darker, more nuanced, picture that engages closely with current transnational and transcultural historiography, creating a much more complicated – and convincing – context for the Navy's victories at the Nile,

Copenhagen, and even Trafalgar, in which 'the sailor remained a contested figure associated with rebellion as much as valour' (p. 313).

Davey closes by arguing that, although the British remained ambivalent towards their Navy by the time of the peace of Amiens in 1802, the association of the Navy with rebellion and mutiny ebbed in the 1800s, which Davey portrays as more politically uniform, both on land and on ship. This seems to ignore the rise of political radicalism and growing unrest in Ireland and Britain, where the dangers of Luddism led to 12,000 British troops being stationed in the Midlands in 1812. Davey nevertheless has to draw such a conclusion to allow *Tempest* to accord with its sequel, *In Nelson's Wake: The Navy and the Napoleonic Wars* (New Haven and London: Yale University Press, 2015), which depicted the post-1803 Royal Navy as 'Britain's most important martial institution' (p. 316). But this is only a minor criticism of a splendid book that tackles some important, sometimes difficult questions about Britain's role in the wars against Revolutionary France. Davey's depiction of a divided society becoming increasingly aware of its political power invites deeper investigations of British identity and engagement with issues of republicanism, imperialism, and patriotism. *Tempest* will be essential reading for anyone interested in eighteenth century military and naval history, particularly readers interested in the impact of militarism on national identity and political development.

JACQUELINE REITER
Independent Scholar, UK

Evan Wilson, *The Horrible Peace: British Veterans and the End of the Napoleonic Wars*. Amherst and Boston: University of Massachusetts Press, 2023. xvii + 334 pp. ISBN 978-1625347336 (paperback). Price: £29.95.

In this very thorough study, Evan Wilson examines the experiences of soldiers and sailors during the final and subsequent years of the Napoleonic Wars, as the fates of these servicemen were determined not only by the wars themselves but also by government policies, social processes, and international relations.

Wilson believes that the challenges faced by the British government and how they were met were fateful for these servicemen. The foremost challenge was the massive state debt. The increase in military spending during the wars – spending that

represented no less than 85% of the state budget – was financed mainly by borrowing. The resulting debt created tremendous pressure to reduce spending, which encouraged the rapid demobilisation of the armed forces and undermined the state's ability to fund continuing military needs. Finances also limited what the state could do to assist returning sailors and soldiers, to deal with post-war economic difficulties and to cope with the social unrest that erupted during this period. The government did well in meeting its fiscal objectives, but at the expense of negative military and social consequences.

To make matters worse, the Napoleonic Wars did not end swiftly or smoothly. In the autumn of 1812 the prospect of victory improved with the failure of Napoleon's invasion of Russia. At the same time, however, the British were facing increasing military demands as a result of the war with the United States that had begun in June. Napoleon's defeat in 1814 created a welcome, but then interrupted, progress toward peace. Even after the Congress of Vienna and the Treaty of Ghent, peace in Europe was by no means assured and global conflicts persisted. As a consequence, demobilisation was a halting process. Servicemen 'did not come home the day after Waterloo in one undifferentiated mass' (p. 11). And many expecting to come home could find themselves redeployed.

Even those who left the services did not usually slip into a contented life. They typically met a 'horrible peace'. Most bore the pain of separation from their former companions; they often suffered mentally from the trauma of war; many had trouble integrating into social networks from which they had long been detached; and the majority found it difficult to get employment owing to the military demobilisation and the oversupply of workers. Experiences varied, of course. Qualified sailors had marketable skills, but they faced a significant decline in demand for these skills. And fewer sailors had pensions than did soldiers. Some sailors took up piracy and smuggling. A relatively small number of veterans engaged in domestic crime. Others ended up on the streets.

Previous socio-economic status made a difference. The British army, and to a lesser extent the navy, had filled higher officer ranks disproportionately (though not exclusively) from the more elevated levels of society. On leaving the service those officers with less social capital and wealth struggled to maintain a standard of living appropriate to their military rank. They were typically unable to access the London social scene and its posh clubs, or to enter politics, as some of the higher status (mainly army) officers did. A good number of servicemen acquired employment in the colonies. A select few became governors.

Many received honours, but here too there was enormous inequality. Awards ranged from peerages and the Order of the Bath, which were bestowed on the few, to the

medals that were distributed to those who fought in a particular battle. And a great number were not honoured at all. As Wilson points out, the post-war period was one of intense status competition. State honours left many with hard feelings that they did not receive what they thought they deserved.

Wilson is especially interested in the role of servicemen and ex-servicemen in domestic social unrest. On the one hand, discontented veterans were among those who participated in strikes or rebellious crowds, while on the other hand soldiers still in service were used to control crowds and participated in some of the very repressive actions taken against these crowds, most famously at Peterloo. Reliance on local militia and yeomanry was generally found to be problematic, but soldiers were also regarded as poor policemen and were eventually replaced by trained police forces.

The author also likes to debunk myths of British superiority during the period following the Napoleonic Wars – myths about the accomplishments of the British army, the British Empire, the role of the British navy in combatting the slave trade, the status of Britain as the global superpower, and the so-called Pax Britannica. In the Americas, the British managed to save Canada from annexation to the United States. Otherwise, the government and its armed forces were highly constrained. The navy was largely ineffective at combatting piracy. And the global expansion of the British Empire at this time was not, the author argues, the result of a colonial project, but because 'agents at the periphery drew on local resources to address local concerns' (p. 109).

Wilson's book contributes significantly to our understanding of the impact of the Napoleonic Wars and the experiences of those who served in it. It also makes a contribution to our understanding of larger processes, most notably the long-term transition over the past several centuries in the role and status of those who have served in armed forces. European armies expanded numerically from the late seventeenth century reaching an unprecedented size during the French Revolutionary and Napoleonic Wars. To a greater extent than before armies were now composed of the husbands, sons, brothers, nephews, and neighbours of most members of the population, leading to a decline in negative public attitudes toward servicemen. In addition, since the British army did not have the benefit of conscription, incentives were required to recruit men and to prevent desertions, resulting in more concern in the government and among officers about conditions. The French Revolutionary and Napoleonic Wars constituted no more than a step in a long process, but they nevertheless represented a significant period in the changing status of members of the armed forces. Although Wilson emphasises the hardships of service for both sailors and soldiers and notes the persistence of harsh punishments, he also discusses public opposition in some circles to the harsh treatment of servicemen, and the efforts of political and military leaders to make the army a more hospitable home and discourage

extreme punishments. One of the major arguments of the book is that the British state failed to meet the needs of veterans, thus bearing some of the responsibility for the 'horrible peace', but Wilson does call attention to the benefits and allowances available to families of many servicemen, the pensions that were provided for many (if not all) veterans, and the general attitude in Britain that veterans merited special assistance. The consequences of these developments were not limited to the military. In Britain, as in other countries, improved benefits for veterans caused by wars have been harbingers of measures to assist larger populations. As Wilson puts it, pension schemes developed during the Napoleonic Wars 'suggested that the state had the capacity and perhaps even the responsibility to fund welfare as well as warfare' (p. 274).

A major strength of this book is that it places the experiences of sailors and soldiers in the social and political history of the period. I must admit that I was a little frustrated that it was not until page 147 that he turns his attention directly to these experiences. Still, this is an outstanding book that offers much to a wide audience.

SAMUEL CLARK
University of Western Ontario, Canada

Michelle Tusan, *The Last Treaty: Lausanne and the End of the First World War in the Middle East*. Cambridge: Cambridge University Press, 2023. Notes, Index, 323 pp. 20 figures, 3 maps, ISBN: 978-1009371063 (hardback). Price £30.00.

The past 10 years have seen an abundance of public attention, commemoration, and discussion of the First World War, marking centennial dates and anniversaries of events throughout the conflict. 2023 brought perhaps the final centenary, with the signing of the concluding treaty that settled the war with the former Ottoman Empire. Michelle Tusan's *The Last Treaty* certainly argues that case, challenging narratives that see the First World War as having concluded in 1918, and of the Middle Eastern Front being merely an appendage to a more significant European War. Its release comes alongside other monographs and scholarly works that demonstrate a growing appreciation given to the Treaty of Lausanne as an overlooked event in both the history of the First World War and the history of the Middle East, as well as work by organisations such as the Lausanne Project (of which the author of this book is a member). A few notable examples would be: Johnathan Conlin and Ozin Ozavci (eds.),

They All Made Peace – What is Peace? The 1923 Treaty of Lausanne and the New Imperial Order (Chicago: Chicago University Press, 2023), Gürol Baba and Jay Winter, 'The Wilsonian Moment at Lausanne, 1922-1923', *Journal of Modern European History*, 20, 4, (2022), pp. 536-553 and Ilia Xypolia, 'Imperial Bending of Rules: The British Empire, the Treaty of Lausanne, and Cypriot Immigration to Turkey', *Diplomacy & Statecraft*, 32, 4, (2021), pp. 674-691.

The work makes several main arguments. Firstly, it refocuses and reorients the events in the Middle East as an integral part of the First World War, challenging our understanding of both the traditional narrative of the War and periodisation of the 'interwar years'. Rather than seeing the Middle Eastern fronts as a peripheral sideshow, Tusan situates them within nineteenth century British involvement in the Ottoman Empire as well as the growing role small nations and minority populations played in British international and imperial policy. This is a valid argument in its own right – ample (and in many cases justified) historical attention is given to the interwar Mandates of the Middle East, but comparatively little is given to the First World War, especially of the humanitarian crisis within the Ottoman Empire. This reassertion of the independence of the Middle Eastern theatre of the First World War is the backbone of the remaining parts of the book.

Alongside this, *The Last Treaty* makes a compelling argument that it is impossible to separate the birth of the humanitarian system from the military exigencies of the First World War. Utilising a thematic structure, the piece breaks down the period in a way that still conveys narrative and continuity, but without becoming bound by a linear chronology. Tusan's exploration of the network of refugee centres and their relationship to Ottoman death camps of the Armenian Genocide connects this with Allied desire to control civilian population movement in a theatre of operations. Utilising extensive archival research, she examines how the camps existed in an unusual limbo between Allied civilian and military administrations and how this affected both the experiences of refugees and the long term plans for displaced civilian populations. Bridging the gap between military operations and the movement of civilians in wartime goes hand in hand with the book's stated goal of examining the murky ends and beginnings of the war and interwar period. The reductive narrative assuming that the war ended neatly upon the signing of treaties is convincingly dismissed simultaneously with the idea that civilian and military experiences of the First World War were independent of one and other. By doing this, *The Last Treaty* makes the case that the process of signing a final peace treaty, and the Turkish War of Independence, should be seen as part of the First World War. In many fields of historical study historians make effort to distend and re-arrange the time frame of conflicts and events to suit the idea of a supposedly new or innovative thesis, often in ways that are not convincing. In this case however, Tusan makes a strong argument for considering the events in Turkey (both military and humanitarian) as a key part of

the First World War, once we divorce ourselves from Eurocentric narratives that revolve around German defeat and the subsequent rise of Nazism. Drawing on ideas developed in the field of global histories, *The Last Treaty* places Lausanne at the centre of a re-imagined idea of nationalism, empire and ethnicity, as well as the form of emergent post-war internationalism. The Ottoman Empire and Turkish Nationalist movement during this period are skilfully repositioned in the analysis in such a way that challenges older, Eurocentric perspectives that treated them as an appendage of the German Empire.

This book is an excellent choice for any person, academic or not, interested in any aspect of the end of the First World War in the Middle East. I would also make the case that it is an strong starting point for the study of modern humanitarian institutions and how we in the twenty first century make assumptions about refugee crises and their solutions. Particularly interesting is the exploration of film and its role in the early humanitarian movement. The current situation in Gaza and the mass displacement of Palestinians creates deeply unsettling comparisons to the displacement of Armenians in the aftermath of the First World War. It is broken down thematically in a way that creates an engaging narrative but eschews the drawbacks of an exact chronology, allowing aspects of the themes to dictate the flow of writing. It is particularly of relevance to those studying the political formation of the modern Middle East, providing excellent insight into what Tusan describes as 'the blurry edges' of the First World War and the interwar period.

ALEX WORSFOLD
University of Leeds, UK

Doris L Bergen, *Between God and Hitler: Military Chaplains in Nazi Germany*. Cambridge: Cambridge University Press, 2023. xix + 322 pp. 2 maps. ISBN 978-1108487702 (hardback). Price £30.00.

The title above reflects the post-1945 view that German military chaplains had of themselves: men trying to carry out a difficult duty, caught between remaining true to their Christian faith on one hand and the Nazi regime on the other, thereby casting themselves in as positive a light as possible. In in this well-researched and extremely readable book, Doris L Bergen deconstructs this self-created myth and lays out a

compelling narrative of German military chaplains serving as facilitators and legitimisers of genocide during the Second World War.

Chaplains play a contradictory role in military forces in any era, balancing the obligations of their religion and the requirements of the military. This was especially the case in Nazi Germany, where the regime and the military were responsible for genocide, mass death and unprecedented violence. How chaplains carried out their role in the midst of this, and what their relationship was with the Nazi state, lies at the core of this book.

Discussions of religion in Nazi Germany generally centre around the relationship between the main Christian churches and the state. In this context, the approximately 1000 army and naval chaplains (the Luftwaffe did not employ any) make an interesting case study, particularly as they were equally divided between Catholics and Protestants. As Bergen points out in the conclusion, it may come as a surprise that the German forces employed chaplains at all. She firmly anchors the military chaplaincy in its historical context, convincingly arguing that the mainstream Christian Churches were sensitive to any accusations that they played a role in German defeat in 1918. The coming to power of the Nazis in 1933 offered the chaplaincy the opportunity to demonstrate its utility to the state, and it forged a close relationship with the authorities. Bergen explains that cooperation between the military, the Churches and the state in the selection process meant that any potential 'troublemakers' were weeded out, with both the Church and the Gestapo vetting all nominees before appointment. She highlights the importance of gender and the widespread evocation of a culture of 'manliness' which chaplains used to assimilate with their units. She also notes a type of 'war Christianity' in which both Protestants and Catholics extolled the virtues of conflict and sacrifice as redemptive and playing an important role in the wartime attitudes of chaplains.

There are interesting chapters on the early German campaigns in Poland, Scandinavia and the West, in which chaplains saw – but did not stop – deadly military violence against civilians, which are well constructed and argued. However, the real power of the book is the core segment which deals with the 1941-1944 period on the Eastern Front, where chaplains witnessed, and sometimes recorded, genocide carried out by members of their flock. While individuals reacted to this differently, Bergen discerns a distinct pattern within the chaplaincy as a whole: rather than oppose or object to the crimes being perpetrated in front of them, chaplains turned inwards and focused on the daily personal and pastoral needs of their men. This led to some jarring incongruities in which they sought to combat immorality in the forces (usually sexual activity, consumption of alcohol or stealing) while doing nothing to stop the slaughter of Jewish men, women and children around them. There was no protest, either from the institution or individual chaplains. It was only in 1944-45 that the chaplaincy began

to tentatively push back against the regime, but on trivial matters such as the awarding of military decorations. To the last, the Nazi regime remained hostile to the Churches and the Party-controlled *Volkssturm* did not have any chaplains attached to it.

One of the great strengths of Bergen's work is her multi-layered approach to analysing chaplains. She identifies their multiple reporting structures – the religious hierarchy, the military, the state, their own units – while also clearly and lucidly explaining how historical experiences of the German military chaplaincy as a whole and the brutality of the war itself further informed their attitudes and actions. The chaplains themselves are examined from multiple vectors too – as witnesses, perpetrators or facilitators – and the result is a coherent and compelling narrative. Her writing style is easy and authoritative, and she is willing to acknowledge when sources are lacking, as she admits for the 1944-45 period. The amount of detail provided on the selection, administration and deployment of chaplains means that scholars of the military are likely to find much that is of use, while her ability to connect the content to current affairs shows that it is relevant to a general audience as well.

Above all, Bergen deftly unpicks the various post-war memoirs written by chaplains, which – as discussed above – tended to depict them as decent men caught in a difficult situation. By contrast, she clearly shows that some had been selectively rewritten or edited to create a more acceptable or even rehabilitative narrative. Chaplains were as alert as any other group to their public image and many grasped the opportunities offered to them by the Cold War to refashion their wartime service as a positive. By contrast, what Bergen has shown in this work is that while chaplains may not have participated directly in genocide, their inaction meant that they – and the religious authorities that worked so closely with the state to select, train and support them – were complicit in the monumental crimes carried out by the Nazi regime.

BERNARD KELLY
Research Historian, Fingal County Council, Ireland
DOI: 10.25602/GOLD.bjmh.v10i1.1790

Prit Buttar, *To Besiege a City: Leningrad 1941-42*. Oxford: Osprey, 2023. 429 pp, 11 maps, 28 photographs. ISBN 978-1472856555 (hardback) Price £21.90.

On 1 May 1945, just a few days before the end of the Second World War in Europe, Joseph Stalin issued a directive to his commanders that a twenty-salvo artillery salute

should be fired in the capitals of the Soviet Union Republics and in four 'hero-cities' - Leningrad (now St Petersburg), Stalingrad (now Volgograd), Sevastopol and Odessa. The epithet 'hero-city' was not applied lightly, and in the case of Leningrad it could not have been more appropriate. Faced with an existential threat, the population of the city endured a siege lasting almost nine hundred days – a siege which claimed the lives of over six hundred thousand inhabitants through starvation, exposure, disease and enemy action. The privations suffered by the people of Leningrad from September 1941 to January 1944 are almost beyond comprehension and it is entirely appropriate that the survivors, albeit diminishing in numbers with the passage of time, are still venerated in the city today.

The background to *Barbarossa* (the German attack on the Soviet Union in 1941) is relatively well know, indeed Hitler's ambition to expropriate land in Eastern Europe and his contempt for the mainly Slavic population was writ large in Nazi ideology. The storm broke on 22 June when, eschewing the cynically derived peace agreement documented in the Molotov-Ribbentrop Pact, the German *Wehrmacht* attacked the Soviet Union along three axes - *Heeresgruppe Süd* targeted at the rich agricultural lands of Ukraine, *Heeresgruppe Mitte* tasked with destroying Red Army formations in the Smolensk region before moving on to Moscow and *Heeresgruppe Nord* which would sweep through the Baltic states (Lithuania, Latvia and Estonia) before capturing Leningrad (which was destined for obliteration!). It is the latter stages of Wilhelm Ritter von Leeb's *Heeresgruppe Nord* campaign which forms the subject matter for this new book by Prit Buttar, an author who has established himself as an acknowledged expert on the Eastern Front having received critical acclaim for his books 'The Assault on the Germany's Eastern Front 1944-45' (Bloomsbury, 2012), 'Between Giants: The Battle for the Baltics in World War II (Bloomsbury, 2015)' and 'Meat Grinder: The Battles for the Rzhev Salient, 1942-43 (Osprey, 2002)'.

The Siege of Leningrad is a familiar subject to many, and much has been written about it. The New York Times journalist Harrison E. Salisbury's account '900 Days: The Siege of Leningrad' was a well-rounded narrative (Macmillan, 1971). More recently David M. Glantz's 'The Battle of Leningrad 1941-44' drew heavily on Russian and German sources to provide a comprehensive operational analysis of the military aspects (University Press of Kansas, 2002). Perhaps the most heart rendering account of the siege is Anna Reid's 'Leningrad: The Epic Siege of World War II, 1941-44' which focuses on the impact of the siege on non-combatants (Bloomsbury, 2011). Additionally, there are a number of first-hand accounts – for example 'At Leningrad's Gates' by William Lubbeck, a veteran of the German 58 Infantry Division (Pen and Sword, 2007) and 'Tigers in the Mud' by German *Panzer* commander Otto Carius (Catchpole, 2003).

Whilst the painful experience of civilians in the city is far from overlooked in this important new history of the siege, the author devotes much of his attention to the strategic, operational and tactical decisions which shaped the military campaign and underpinned the huge losses experienced by both sides. The book covers the period up until the end of the 1942/43 winter, at which point the author concludes that a 'bitter stalemate' has been reached. Sources are carefully referenced throughout, there is an extensive bibliography, and the text is accompanied by a series of carefully chosen contemporary photographs.

The first few chapters cover the drive through the Baltic states to the shores of Lake Lagoda to the south-east of Leningrad. It is to the authors credit that he takes time to reference the German Army's complicity in the atrocities committed against non-combatants, including Lithuanian Jews. The myth of the 'clean *Wehrmacht*' was propagated assiduously by some German authors and military personnel in the 1950s and 60s and still has some currency, albeit not amongst serious historians. Later chapters cover the key development – inside and outside of the siege lines, including the attempts by the Red Army to break the siege and the German attempts to consolidate it. In respect of the latter, the overly ambitious plan to bolster the encirclement of the city by linking up with the Finns (who were in an informal alliance with the Axis forces) at Tikhvin is thoroughly explored as is the German *Nordlicht* (Northern Lights) plan to capture the city in 1942, following the failure to do so in the preceding year. The latter was thwarted by the Red Army's repeated attempts to break the encirclement in the exposed Sinyavino sector and – towards the end of the year – the burgeoning crisis at Stalingrad, which forced a major change in operational priorities.

The author is adept at drawing in Soviet and German sources in order to build a composite picture. Memoirs, when quoted, are appropriately caveated and the implications of particular decisions are uncovered. For example, the detrimental knock-on impact on *Heeresgruppe Süd* when Erich von Manstein and elements of the 11th Army were transferred to the Leningrad sector following the successful completion of the Crimean campaign. The contrast in military doctrine between the two sides serves to illustrate some of the difficulties which were encountered. The legacy of Stalin's purges was an encumbrance for the Red Army where there was little room for discretion at any level of command thus creating a reluctance on the part of junior leaders to respond quickly and decisively to changing conditions on the ground. For the Axis forces, the lack of mobility and the activities of partisans in rear areas brought new problems to the battlefield. On the latter point, the authors observations about the senior German Command realising that the brutal treatment of rural communities was proving to be counter-productive, does bring nuance to a topic that is often over-simplified.

Aside from exploring military actions at an operational level, the author picks out important detail which serves to enliven the text. This reviewer was particularly pleased to read about the fight for Sukho Island and the importance of the Oreshek Fortress on Lake Ladoga. Similarly, how changing conditions impacted the amount of supplies being transported by the Leningrad authorities through the siege lines via the critically important 'Road of Life' over which convoys of trucks traversed across the ice during the winter months. The spirit of Leningrad's stoic population is exemplified in the performance of Shostakovich's newly written 7th Symphony during the siege. The first three movements were written by the composer before he was evacuated from the city and the piece was performed under dire circumstances in Leningrad on 9 August 1942. The performance was broadcast on loudspeakers throughout the city and the authors description of the sheer will-power and effort expended by the players in order to make this iconic event happen makes for compelling reading.

It is not easy to blend genuine academic insight with popular history but in this instance, the author has done just that. A scan through the extensive bibliography and appropriately referenced notes reveals phenomenal width and depth to the range of Russian, German and Anglo-American sources used. This comprehensive body of research has enabled the author to produce a holistic account of the siege which brings together elements that have often been treated separately in the historiography. The scale of the subject matter is such that the end of the story requires a second volume, hence the much anticipated publication of 'Hero City: Leningrad 1943-44' later this year. For the same reason it is perhaps not surprising that the role of the Finns, and in particular their hugely impressive leader Carl Gustaf Emil Mannerheim, is not covered in more detail. Mannerheim's passive approach did not align with German assumptions – something which the author obliquely references but which would benefit from further elucidation. In summary, this is an important work which brings together key elements of the story in a way which illuminates understanding. In this reviewers' opinion it does much to amplify the authors growing reputation as an authority on the monumental clash of arms which Russian commentators like to refer to as the 'Great Patriotic War'.

PHIL CURME
Independent Scholar, UK

SUBMISSION GUIDELINES (July 2021)

General

The British Journal of Military History (the BJMH or Journal) welcomes the submission of articles and research notes on military history in the broadest sense, and without restriction as to period or region. The BJMH particularly welcomes papers on subjects that might not ordinarily receive much attention but which clearly show the topic has been properly researched.

The editors are keen to encourage submissions from a variety of scholars and authors, regardless of their academic background. For those papers that demonstrate great promise and significant research but are offered by authors who have yet to publish, or who need further editorial support, the editors may be able to offer mentoring to ensure an article is successfully published within the Journal.

Papers submitted to the BJMH must not have been published elsewhere. The editors are happy to consider papers that are under consideration elsewhere on the condition that the author indicates to which other journals the article has been submitted.

Authors must provide appropriate contact details including your full mailing address.

Authors should submit their article or research note manuscript, including an abstract of no more than 100 words, as an MS Word file (.docx) attached to an e-mail addressed to the BJMH Co-editors at editor@bcmh.org.uk. All submissions should be in one file only, and include the author's name, email address, and academic affiliation (if relevant), with the abstract, followed by the main text, and with any illustrations, tables or figures included within the body of the text. Authors should keep in mind that the Journal is published in A5 portrait format and any illustrations, tables or figures must be legible on this size of page.

The BJMH is a 'double blind' peer-reviewed journal, that is, communication between reviewers and authors is anonymised and is managed by the Editorial Team. All papers that the editors consider appropriate for publication will be submitted to at least two suitably qualified reviewers, chosen by the editorial team, for comment. Subsequent publication is dependent on receiving satisfactory comments from reviewers. Authors will be sent copies of the peer reviewers' comments.

Following peer review and any necessary revision by the author, papers will be edited for publication in the Journal. The editors may propose further changes in the interest of clarity and economy of expression, although such changes will not be made without

consultation with the author. The editors are the final arbiters of usage, grammar, and length.

Authors should note that articles may be rejected if they do not conform to the Journal's Style Guide and/or they exceed the word count.

Also note that the Journal editors endorse the importance of thorough referencing in scholarly works. In cases where citations are incomplete or do not follow the format specified in the Style Guide throughout the submitted article, the paper **will** be returned to the author for correction before it is accepted for peer review. Note that if citation management software is used the footnotes in the submitted file must stand alone and be editable by the Journal editorial team.

Authors are encouraged to supply relevant artwork (maps, charts, line drawings, and photographs) with their essays. The author is responsible for citing the sources and obtaining permission to publish any copyrighted material.

The submission of an article, book review, or other communication is taken by the editors to indicate that the author willingly transfers the copyright to the BJMH and to the British Commission for Military History. However, the BJMH and the British Commission for Military History freely grant the author the right to reprint his or her piece, if published, in the author's own works. Upon the Journal's acceptance of an article the author will be sent a contract and an assignment of copyright.

There is no fee payable by authors to publish in the journal, and we do not pay authors a fee for publishing in the journal.

The British Journal of Military History, acting on behalf of the British Commission for Military History, does not accept responsibility for statements, either of fact or opinion, made by contributors.

Articles
The journal welcomes the submission of scholarly articles related to military history in the broadest sense. Articles should be a minimum of 6000 words and no more than 8000 words in length (including footnotes) and be set out according to the BJMH Style Guide.

Research Notes

The BJMH also welcomes the submission of shorter 'Research Notes'. These are pieces of research-based writing of between 1,000 and 3,000 words. These could be, for example: analysis of the significance a newly accessible document or documents; a reinterpretation of a document; or a discussion of an historical controversy drawing on new research. Note that all such pieces of work should follow the style guidelines for articles and will be peer reviewed. Note also that such pieces should not be letters, nor should they be opinion pieces which are not based on new research.

Book Reviews

The BJMH seeks to publish concise, accessible and well-informed reviews of books relevant to the topics covered by the Journal. Reviews are published as a service to the readership of the BJMH and should be of use to a potential reader in deciding whether or not to buy or read that book. The range of books reviewed by the BJMH reflects the field of military history, taken in the widest sense. Books published by academic publishers, general commercial publishers, and specialist military history imprints may all be considered for review in the Journal.

Reviews of other types of publication such as web resources may also be commissioned.

The Journal's Editorial Team is responsible for commissioning book reviews and for approaching reviewers. From time to time a list of available books for review may be issued, together with an open call for potential reviewers to contact the Journal Editors. The policy of the BJMH is for reviews always to be solicited by the editors rather than for book authors to propose reviewers themselves. In all cases, once a reviewer has been matched with a book, the Editorial Team will arrange for them to be sent a review copy.

Book reviews should generally be of about 700 words and must not exceed 1000 words in length.

A review should summarise the main aims and arguments of the work, should evaluate its contribution and value to military history as broadly defined, and should identify to which readership(s) the work is most likely to appeal. The Journal does not encourage personal comment or attacks in the reviews it publishes, and the Editorial Team reserves the right to ask reviewers for revisions to their reviews. The final decision whether or not to publish a review remains with the Editorial Team.

The Editorial Team may seek the views of an author of a book that has been reviewed in the Journal. Any comment from the author may be published.

All submitted reviews should begin with the bibliographic information of the work under review, including the author(s) or editor(s), the title, the place and year of publication, the publisher, the number of pages, the ISBN for the format of the work that has been reviewed, and the price for this format if available. Prices should be given in the original currency, but if the book has been published in several territories including the UK then the price in pounds sterling should be supplied. The number of illustrations and maps should also be noted if present. An example of the heading of a review is as follows:

Ian F W Beckett, ***A British Profession of Arms: The Politics of Command in the Late Victorian Army*****. Norman, OK: Oklahoma University Press, 2018. Xviii + 350pp. 3 maps. ISBN 978-0806161716 (hardback). Price £32.95.**

The reviewer's name, and an institutional affiliation if relevant, should be appended at the bottom of the review, name in Capitals and Institution in lower case with both to be right aligned.

Reviews of a single work should not contain any footnotes, but if the text refers to any other works then their author, title and year should be apparent in order for readers to be able to identify them. The Editorial Team and Editorial Board may on occasion seek to commission longer Review Articles of a group of works, and these may contain footnotes with the same formatting and standards used for articles in the Journal.

BJMH STYLE GUIDE (July 2021)

The BJMH Style Guide has been designed to encourage you to submit your work. It is based on, but is not identical to, the Chicago Manual of Style and more about this style can be found at:

http://www.chicagomanualofstyle.org/home.html

Specific Points to Note

Use Gill Sans MT 10 Point for all article and book review submissions, including footnotes.

Text should be justified.

Paragraphs do not require indenting.

Line spacing should be single and a single carriage return applied between paragraphs.

Spellings should be anglicised: i.e. –ise endings where appropriate, colour etc., 'got' not 'gotten'.

Verb past participles: -ed endings rather than –t endings are preferred for past participles of verbs i.e. learned, spoiled, burned. While is preferred to whilst.

Contractions should not be used i.e. 'did not' rather than 'didn't'.

Upon first reference the full name and title of an individual should be used as it was as the time of reference i.e. On 31 July 1917 Field Marshal Sir Douglas Haig, Commander-in-Chief of the British Expeditionary Force (BEF), launched the Third Battle of Ypres.

All acronyms should be spelled out in full upon first reference with the acronym in brackets, as shown in the example above.

Dates should be written in the form 20 June 2019.

When referring to an historical figure, e.g. King Charles, use that form, when referring to the king later in the text, use king in lower case.

Foreign words or phrases such as *weltanschauung* or *levée en masse* should be italicised.

Illustrations, Figures and Tables:
- Must be suitable for inclusion on an A5 portrait page.
- Text should not be smaller than 8 pt Gill Sans MT font.
- Should be numbered sequentially with the title below the illustration, figure or table.
- Included within the body of the text.

Footnoting:
- All references should be footnotes not endnotes.
- Footnote numeral should come at the end of the sentence and after the full stop.
- Multiple references in a single sentence or paragraph should be covered by a single footnote with the citations divided by semi-colons.
- If citation management software is used the footnotes in the submitted file must stand alone and be editable by the editorial team.

Quotations:
- Short (less than three lines of continuous quotation): placed in single quotation marks unless referring to direct speech and contained within that paragraph. Standard footnote at end of sentence.
- Long (more than three lines of continuous quotation): No quotation marks of any kind. One carriage space top and bottom, indented, no change in font size, standard footnote at end of passage.
- Punctuation leading into quotations is only necessary if the punctuation itself would have been required were the quotation not there. i.e. : ; and , should only be present if they were required to begin with.
- Full stops are acceptable inside or outside of quotation marks depending upon whether the quoted sentence ended in a full stop in the original work.

Citations:
- For books: Author, *Title in Italics*, (place of publication: publisher, year of publication), p. # or pp. #-#.
- For journals: Author, 'Title in quotation marks', *Journal Title in Italics*, Vol. #, Iss. # (or No.#), (Season/Month, Year) pp. #-# (p. #).
- For edited volumes: Chapter Author, 'Chapter title' in Volume Author/s (ed. or eds), *Volume title in italics*, (place of publication: publisher, year), p. # or pp. #-#.
- Primary sources: Archive name (Archive acronym), Catalogue number of equivalent, *'source name or description' in italics* if publicly published, p. #/date or equivalent. Subsequent references to the same archive do not require the Archive name.

STYLE GUIDE

- Internet sources: Author, 'title', URL Accessed date. The time accessed may also be included, but is not generally required, but, if used, then usage must be consistent throughout.
- *Op cit.* should be shunned in favour of shortened citations.
- Shortened citations should include Author surname, shortened title, p.# for books. As long as a similar practice is used for journals etc., and is done consistently, it will be acceptable.
- Ibid., with a full stop before the comma, should be used for consecutive citations.

Examples of Citations:
- Michael Howard, *War in European History* (Oxford: Oxford University Press, 2001), p. 21.
- Michael Collins, 'A fear of flying: diagnosing traumatic neurosis among British aviators of the Great War', *First World War Studies*, 6, 2 (2015), pp. 187-202 (p. 190).
- Michael Howard, 'Men against Fire: The Doctrine of the Offensive in 1914', in Peter Paret (ed.), *Makers of Modern Strategy*, (Oxford: Clarendon, 1994), pp. 510-526.
- The UK National Archives (TNA), CAB 19/33, Lieutenant-General Sir Henry Sclater, evidence to Dardanelles Commission, 1917.
- Shilpa Ganatra, 'How Derry Girls Became an Instant Sitcom Classic', *The Guardian*, 13 February 2018, https://www.theguardian.com/tv-and-radio/2018/feb/13/derry-girls-instant-sitcom-classic-schoolgirls-northern-ireland Accessed 20 April 2019.

Note: Articles not using the citation style shown above will be returned to the author for correction prior to peer review.