



Kent Academic Repository

Puncher, Sebastian Alexander George (2019) *The Victorian Army and the Cadet Colleges, Woolwich and Sandhurst, c.1840-1902*. Doctor of Philosophy (PhD) thesis, University of Kent,.

Downloaded from

<https://kar.kent.ac.uk/76773/> The University of Kent's Academic Repository KAR

The version of record is available from

This document version

UNSPECIFIED

DOI for this version

Licence for this version

UNSPECIFIED

Additional information

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title of Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our [Take Down policy](https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies) (available from <https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies>).

The Victorian Army and the Cadet Colleges, Woolwich and Sandhurst, c.1840 – 1902

Sebastian Alexander George Puncher

Abstract

The British army's officer cadet colleges of the Royal Military Academy (RMA), Woolwich, and the Royal Military College (RMC), Sandhurst, have hitherto been poorly understood and often frequently criticised institutions. This thesis redresses this 'blind spot' in the history of the Victorian army, by – and critically for the first time – using the archives of the institutions themselves. Through a detailed analysis of course textbooks, cadets' work and relevant correspondence, it shows that instead of being moribund and irrelevant, the colleges were in fact giving up to date instruction. It also shows how, in the main, staff were motivated and well qualified, and particularly in the late Victorian era played a significant role in the army's doctrinal development. Similarly, cadets' letters and biographies reveal that rather than a caricatured idleness, a picture emerges of individuals anxious about their studies but often enjoying them. Apart from the regular course of studies, the inculcation of values and behavioural standards as a part of 'officership' are examined, most notably through the influence of military culture, Christianity and sport. In this way a deeper understanding of the army is obtained which departs from the all too typical narrative of a rather unprofessional and amateurish officer corps.

98,828 words, 346 pages

2019

**School of History
University of Kent**

Submitted for the degree of PhD

Abstract

The British army's officer cadet colleges of the Royal Military Academy (RMA), Woolwich, and the Royal Military College (RMC), Sandhurst, have hitherto been poorly understood and often frequently criticised institutions. This thesis redresses this 'blind spot' in the history of the Victorian army, by - and critically for the first time - using the archives of the institutions themselves. Through a detailed analysis of course textbooks, cadets' work and relevant correspondence, it shows that instead of being moribund and irrelevant, the colleges were in fact giving up to date instruction. It also shows how, in the main, staff were motivated and well qualified, and particularly in the late Victorian era played a significant role in the army's doctrinal development. Similarly, cadets' letters and biographies reveal that rather than a caricatured idleness, a picture emerges of individuals anxious about their studies but often enjoying them. Apart from the regular course of studies, the inculcation of values and behavioural standards as a part of 'officership' are examined, most notably through the influence of military culture, Christianity and sport. In this way a deeper understanding of the army is obtained which departs from the all too typical narrative of a rather unprofessional and amateurish officer corps.

Acknowledgements

It is with pleasure that I acknowledge the constructive criticism and guidance provided to me by my supervisory team, Professor Mark Connelly and Dr Timothy Bowman. This work would not have been possible without the generous support of the academic faculty at the Royal Military Academy Sandhurst. In particular, I am grateful to Dr Anthony Morton, Sandhurst Collection Curator, for allowing me the time to research and write, and with whom I have shared the fruits of research resulting in many stimulating discussions. Other colleagues in the faculty that have shared my interest in Sandhurst history and the Victorian army have included Mr Andrew Orgill, Dr Edmund Yorke, Dr Ed Hampshire and Dr Edward Flint. Further afield, researchers and enthusiasts; Errol Hutchins, Lady Rosslyn Macphail, Dr Yolande Hodson, Dr Nicola McLelland, Dr Holly Furneux, Dr Jenny Bulstrode, Dr Andrew Duncan, Dr Adam Dighton, Will Fletcher and Dr Olivier Bruneau also gave me valuable insights.

Particular thanks are due to Andrew Orgill and Ken Franklyn at the RMAS Library for their support in finding and obtaining books and material for this project. An unsung Sandhurst stalwart, Paul Sewrey, deserves many thanks for all the printing. I acknowledge with gratitude the staff of the Prince Consort's Library, Tim Ward, Dianne Payne, Frances, Geoff, Robert and Truffles for supporting and tolerating me for so long. The help of Miss Allison Derrett at the Royal Archives, Dr Alastair Massie at the National Army Museum, Dr George Hay at the National Archives, Aaron Cripps and Bethan Goole at the JSCSC Library, and the staffs of the Wiltshire and Swindon Archive, West Sussex Record Office, Berkshire Record Office and Hampshire Record Office, are all gratefully acknowledged.

A great debt is owed to Miss Angela Lucas and Mrs Monica O'Donoghue for typing material and cheerfully helping with my day job whilst I worked on this. But, most of all, thanks go to my parents who supported a struggling household in many ways and to my wife Kati and daughter Eleanor who have been sadly neglected but bore this burden with me.

This work is dedicated to my late brother, Dr Matthew Puncher, who planted the seed and helped it to grow, "... to help you in your quest brother."

Contents

Acknowledgements	
List of Tables	
Abbreviations	
Glossary of Terms	
Introduction	9
1 Royal Military Academy Woolwich Course of Studies, 1840-1870	22
i. Antecedent and Technical Education in Britain	
ii. Regulation of the course of studies	
iii. Subjects of Instruction	
iv. Post-Crimean Change and the Council of Military Education	
2 Royal Military Academy Woolwich Course of Studies, 1870-1902	61
i. Antecedent and Technical Education in Britain	
ii. The Royal Commission of 1869 & the Origins of the Late Victorian Course	
iii. Subjects of Instruction	
iv. Cadet Course Changes 1870-1899: Problems, Bifurcation & the Boer War	
3 Royal Military College Sandhurst Course of Studies, 1840-1870	103
i. Origin and Regulation of the RMC Course of Studies, 1818-1856	
ii. Subjects of Instruction	
iii. Post-Crimean Change and the Council of Military Education	
4 Royal Military College Sandhurst Course of Studies, 1870-1902	154
i. Origin of the Cadet Course, 1870-1877	
ii. Development of the Cadet Course 1877-1899	
iii. Subjects of Instruction: Tactics & Military History, Fortification and Military Topography	
iv. RMC Instructional Staff	
5 The Development of Leadership and 'Officership' at the Cadet Colleges, 1840-1902	215
Conclusion	263
Appendix 1: RMA, 1840-1870. Misc. Course Data & Tables	
Appendix 2: RMA, 1870-1902, Military History Exam Papers	
Appendix 3: RMC, 1870-1902, Misc. Course Data & Tables	
Appendix 4: RMC, 1870-1902, RMC Staff Select Bibliography	
Appendix 5: RMC, 1870-1902, RMC Staff Records of Service	
Bibliography	

List of Tables

	Title	Page No.
1	Allocation of Mathematical Subjects to RMC Classes, 1805	120
2	Allocation of Mathematical Subjects to RMC Classes, 1838	120
3	Progression of Cadets Through Mathematics Classes, 1840-1850	123
4	No. of Cadets Qualified Before Board in Branches of Mathematics	124
5	Allocation of Fortification Competence to RMC Classes, 1805	127
6	Allocation of French Competence to RMC Classes, 1805	137
7	Progression of Cadets Through French Classes, 1840-1850	138
8	Allocation of German Competence to RMC Classes, 1805	139

Abbreviations

AAG	Assistant Adjutant General
ADC	Aide-de-Camp
AG	Adjutant General
AQMG	Assistant Quartermaster General
Cmdt	Commandant
CME	Council of Military Education
CO	Commanding Officer
DAAG	Deputy Assistant Adjutant General
DGME	Director General of Military Education
EIC	East India Company
GC	Gentleman Cadet
HG	Horse Guards
MGO	Master General of Ordnance
NCO	Non-Commissioned Officer
QMG	Quartermaster General
RA	Royal Artillery
RE	Royal Engineers
RIEC	Royal Indian Engineering College
RIMC	Royal Indian Military College
RMA	Royal Military Academy
RMC	Royal Military College
RNC	Royal Naval College
SCA	Sandhurst Collection Archives
WO	War Office

Glossary of Terms

In a thesis largely concerning the internal workings of educational institutions, certain terms have been capitalised in order to give them due emphasis.

All subjects of study within the context of the cadet colleges, and where they might be referred to at other places of instruction, are capitalised. Thus, the term 'Military Topography' represents the course of instruction and the syllabus of the subject within the RMA or RMC. On the other hand, 'military topography' is the practice out in the field army. Entrance exam syllabus subjects are not capitalised.

Similarly, subject components within large subjects are also capitalised; for example, 'Practical Geometry', 'Permanent Fortification' of 'Field Fortification' are within 'Fortification', or 'Conic Sections' within 'Mathematics'.

Key stages of the overall college courses are also capitalised. For example, at the RMC, 'Upper School' and 'Lower School' and, at the RMA, 'Theoretical Class' (the four-year course at the main academy) and 'Practical Class' (one-year course in the Royal Arsenal). However, 'first class' and 'lower remove' are in lower case.

Lastly, all staff appointments within the colleges are capitalised, but not professor, master, instructor or cadet, if unconnected with titles of individuals.

Key college appointments as follows:

Governor	Head of the RMC until early 1890s when known as 'Governor and Commandant'.
Lieutenant Governor	a) Deputy to RMC Governor; b) Head of RMA until early 1870s, then known as 'Governor'
Commandant	RMC staff officer to Governor and CO cadet battalion.
Assistant Commandant	RMC second-in-command to 'Governor and Commandant' in the 1890s.
Adjutant	The most junior staff officer appointment in a regiment, responsible for drill and handling correspondence. Its function at the RMC was similar.
Superintendent of Studies	RMC academic co-ordinator.

Secretary and Treasurer	RMA second-in-command to Governor.
Inspector of Studies	RMA academic co-ordinator.
Chaplain	A minister of the Anglican church, which up to the mid-Victorian era was a directly employed civilian of unspecified tenure, but in the late Victorian period was a commissioned officer of fixed tenure.
Captain of Cadet Company	Head of a cadet company and could also, therefore, be held by a major.
Divisional Officer	Head of a cadet company in the late Victorian RMC.
Lieutenant of a Cadet Company	Junior officer which supported the Captain of the Cadet Company.
Under Officer	A senior cadet rank.
Corporal	A junior cadet rank.
Gentleman Cadet	Standard cadet appointment, sometimes just referred to as 'Cadet'
Professor of [academic subject]	This was the most senior military instructor or civilian within that branch of instruction. At certain times it had co-ordinating, assurance and management functions over its branch. Examples: <ul style="list-style-type: none"> - Professor of Military Topography; - Professor of Plan Drawing; - Professor of Fortification; - Professor of Tactics, Military Administration and Law (referred to just as 'Professor of Tactics');

Introduction

This thesis seeks to substantially improve our understanding of two institutions which were important establishments within the British army: the Royal Military Academy, Woolwich (RMA), and the Royal Military College, Sandhurst (RMC) – places where army officers were trained and educated. It will seek to review and question long-held views about them and it will do this by utilising hitherto unused sources, situating the institutions properly in the context of arguably the most important phase of their history.

Officers were not only the key decision makers within the army but also were intimately connected with the ruling class of the country, and indeed were frequently of it. The behaviours and mores of the ruling class and their attitude to professional occupations and professionalism, particularly with reference to the army officer, is something that has occupied many historians. Naturally, there is debate over how seriously such men took their profession. In the nineteenth century particularly, professionalism as a concept within all occupations was growing stronger. For the army the preliminary training institutions of Sandhurst and Woolwich played a role in the professionalization of the officer corps. The degree to which they did this is possibly open to interpretation, but unless a detailed rigorous study of the colleges' activities is undertaken, using the records of the institutions themselves, a balanced picture cannot be obtained.

Broadly speaking, the cadet colleges provided a preparatory education for officers – although, not necessarily all. The RMC educated an increasing proportion of infantry officers, while the RMA supplied the Royal Engineers and the Royal Artillery.¹ However, it will need to be considered to what extent this purpose was consistent. For example, was the intention to focus on preparing a cadet for the first appointment of second lieutenant or was the education conceived to have a broader longer-term benefit? Similarly, in the opposite direction, how did the colleges' course of instruction relate to antecedent education? These questions are likely to depend on the context of the institutions which changed over the course of the Victorian period. It is necessary, therefore, to examine how certain changes in the army, education and society would affect Woolwich and Sandhurst, and their methods of preparing officer cadets. How would these changes, for example, affect examinations for admission, regulation and commissioning? What subjects were taught and why did they change? Also, what was the nature of the staff at these institutions and did they fulfil their functions adequately? The answers to these

¹ For example, between 1834 and 1838 only 22% of commissions were to RMC cadets, see Hew Strachan, *Wellington's Legacy: The Reform of the British Army 1830-54* (Manchester: Manchester University Press, 1984), p.126. By 1882 this had risen to around 74%, see C3818, *Third Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1883) [hereafter *Third DGME Report 1883*], pp.14-16.

questions are inter-related with areas such as examinations or subjects changing at similar times.

To what degree have previous historians answered such questions and why is this study necessary? There is now considerable scholarship dealing with the nineteenth-century British army, particularly from the 1970s onwards, as historians have sought to link it with wider society.² A fair proportion of this includes coverage of the officer corps. Aspects of the officer corps such as recruitment and selection, promotion and the purchase system, and ongoing training have been covered by various academics. In terms of multi-topic, but era specific studies, notable writers have included Richard Glover on the Peninsular War, Hew Strachan on the post-Waterloo/pre-Crimean War period; Edward Spiers and Corrine Mahaffey on the late Victorian era, and on the turn of the nineteenth century there is Martin Samuels, Andrew Duncan, and Tim Bowman and Mark Connelly.³ Multi-topic overviews that deal with the entire nineteenth century have included works by Edward Spiers and Gwyn Harries-Jenkins.⁴ Jay Luvaas and Anthony Clayton are even broader in time-scale but are more restricted in topic, focusing on military education and officer history and culture more generally.⁵ In a similar vein are two books which have set a standard for the officer role in civil-military relations, with particular reference to the United States, by Samuel Huntington and Morris Janowitz.⁶

There are also subject specific studies which have a particular bearing on some aspect of officer training, recruitment or thought. Examples of these include; Robert Scales's thesis on late Victorian artillery, Spencer Jones's study of late Victorian/Edwardian tactics, Martin Welch's work on the Royal United Service Institution and professionalism, the abolition of the officers' purchase system by Anthony Bruce, and

² Albert Tucker, 'The Army in the Nineteenth Century', in *A Guide to the Sources of British Military History*, ed. by Robin Higham (Berkeley and Los Angeles, California, USA: University of California Press, 1971), pp.208-229 (pp.208-9); Albert Tucker, 'The Army in the Nineteenth Century', in *British Military History: A Supplement to Robin Higham's Guide to the Sources*, ed. by Gerald Jordan (New York & London: Garland Publishing Inc., 1988), pp.231-241 (pp.231-234).

³ Richard Glover, *Peninsular Preparation: The Reform of the British Army 1795-1809* (Cambridge: Cambridge University Press, 1963); Strachan, *Wellington's Legacy*; Edward M Spiers, *The Late Victorian Army 1868-1902* (Manchester: Manchester University Press, 1992); Corinne Mahaffey, 'The Fighting Profession: the Professionalization of the British Line Infantry Officer Corps, 1870-1902' (unpublished PhD thesis, University of Glasgow, 2004); Martin Samuels, *Command or Control? Command, Training and Tactics in the British and German Armies, 1888-1918* (London: Frank Cass, 1995); Andrew George Duncan, 'The Military Education of Junior Officers in the Edwardian Army', (unpublished PhD thesis, University of Birmingham, 2016); Timothy Bowman and Mark Connelly, *The Edwardian Army: Recruiting, Training and Deploying the British Army 1902-1914* (Oxford: Oxford University Press, 2012).

⁴ Edward M Spiers, *The Army and Society 1815-1914* (London: Longman, 1980); Gwyn Harries-Jenkins, *The Army in Victorian Society* (London: Routledge & Kegan Paul, 1977).

⁵ Jay Luvaas, *The Education of an Army: British Military Thought, 1815-1940* (London: Cassell, 1964); Anthony Clayton, *The British Officer: Leading the Army from 1660 to the Present* (London: Pearson Longman, 2006).

⁶ Samuel P Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, Massachusetts: Harvard University Press, 1957); Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, 1960).

by Brian Bond, the Victorian army and the Staff College.⁷ Benchmark studies of officers' origins include Charles Otley and Ian Worthington.⁸ There are also innumerable academic biographies of individuals that attended one of the cadet colleges. Notable individuals include Winston Churchill, Archibald Wavell, Herbert Kitchener, Lord Roberts and so on. These normally contain a section on their time at either of the cadet colleges. However, in all such studies the authors had to rely on a very limited number of sources about pre-commission training.

Before 1961, biographers and historians only had Victorian-era works of the type written by former staff who were not historians.⁹ These formed the basis for unreferenced popular history books by retired officers: John Smyth, Alan Shepperd and Michael Yardley.¹⁰ Other books also written for a broader civilian market included those by Hugh Thomas, and Christopher Pugsley and Angela Holdsworth.¹¹ The only academic study specifically about the cadet colleges was by Bridget Malcolm, but this MPhil dissertation, while it is very useful for understanding the political debate surrounding the cadet colleges in the mid-Victorian era, opted for freely available Parliamentary Papers which go unchallenged because she used the limited sources already mentioned and little of the colleges' archives.¹²

Following this brief overview of the previous literature, it will be useful to focus on the works dealing more specifically with the cadet colleges to understand more fully the need for this study. Dealing first with the Royal Military Academy, when historians of nineteenth-century officer education have considered the RMA it has generally been as a

⁷ Spencer Jones, *From Boer War to Cold War Tactical Reform of the British Army 1902-1914* (Norman: University of Oklahoma Press, 2012); Robert Hinds Scales, 'Artillery in Small Wars: The Evolution of British Artillery Doctrine, 1860-1914' (unpublished PhD thesis, Duke University, 1976); Michael Welch, 'Military Science and Military History: Bloch, Fuller, Henderson and the Royal United Service Institution (1830-1901)' (unpublished PhD thesis, University of Lancaster, 1997); Anthony Bruce, *The Purchase System in the British Army 1660-1871* (London: Royal Historical Society, 1980); Brian Bond, *The Victorian Army and the Staff College, 1854-1914* (London: Eyre Methuen, 1972).

⁸ Christopher Blackwood Otley, 'The Origins and Recruitment of the British Army Elite, 1870-1959' (unpublished PhD thesis, University of Hull, 1965); Ian Worthington, 'Antecedent Education and Officer Recruitment: An Analysis of the Public School-Army Nexus, 1849 – 1908' (unpublished PhD thesis, University of Lancaster, 1982).

⁹ Augustus Mockler-Ferryman, *Annals of Sandhurst* (London: Heinemann, London, 1900); Frederick G Guggisberg, *"The Shop" The Story of the Royal Military Academy* (London: Cassell and Co, 1900).

¹⁰ Brigadier Sir John Smyth Bt VC, *Sandhurst: The History of the Royal Military Academy Woolwich, the Royal Military College, Sandhurst, and the Royal Military Academy Sandhurst 1741 – 1961* (London: Weidenfeld and Nicolson, 1961); Alan Shepperd, *Sandhurst: The Royal Military Academy Sandhurst and its Predecessors* (London: Country Life Books, 1980); Michael Yardley, *Sandhurst: A Documentary* (London: Harrap, 1987).

¹¹ *Sandhurst: A Tradition of Leadership*, ed. by Angela Holdsworth and Christopher Pugsley (London: Third Millennium Publishing, 2005); Hugh Thomas, *The Story of Sandhurst* (London: Hutchinson & Co, 1961).

¹² Bridget Dorcas Malcolm, 'Educational Reform at the Royal Military Academy Woolwich and the Royal Military College Sandhurst 1854-1874' (unpublished MPhil dissertation, King's College, London, 1986).

side consideration of the main issue of the professionalization of the cavalry and infantry officer. It was generally acknowledged in studies by Gwyn Harries Jenkins, Edward Spiers, Brian Bond and Anthony Clayton, that the British army preferred the 'gentleman officer'. He was a man of courage, honour and bravery. His sense of public duty with little incentive of private reward was seen to provide stability with relatively little financial cost to the country. For scholars the stimulating questions were those such as; to what extent did the recruitment from a self-perpetuating clique hinder professionalism? Or, to what degree was professionalism hindered by the purchase and promotion system of the cavalry and infantry? The study of the social origin of such officers also provided modern historians with insights into the relationship between the officer, his men and wider society. In comparison, the training and development of artillery and engineer officers received less attention except to throw into sharp relief the deficiencies of the same in the cavalry and infantry. Admittedly, the 'Ordnance Corps' officers were fewer in number, but at the heart of the matter was the overall lack of contention given the fact they were a non-purchase corps, that promotion was by seniority and not by purchase and patronage; and that their education at the RMA was mandatory, scientific, and a foundation for further studies within Woolwich and at Chatham.

The first works on the RMA were two editions of *Records of the Royal Military Academy*, one published in 1851 by the Inspector of Studies Colonel William D Jones, and a second edition in 1892 by Lt Colonel H D Buchanan Dunlop.¹³ They were not histories as such, but rather 'scrapbooks' of unconnected chronologically arranged letters and memoranda which formed a resource for Captain FG Guggisberg's *The Shop*. This was published in 1900 and remains the best introduction to the first 140 years of the academy's history; detailed and well researched it has formed a foundation for future scholars. However, in the same way that Brian Bond noted how Godwin-Austen's *The Staff and the Staff College* was essentially a work for the institution's alumni, featuring heavily stories of sports and social life, so the same is true of *The Shop*, which is largely unreferenced, does not place the academy in its context, and occasionally suffers from a jumbled organisation and minor date inaccuracies. Truly historical scholarship did not address Woolwich until Gwyn Harries-Jenkins's book was published in 1977. For the pre-Crimean period, he appraised the RMA's capacity to provide professional education and enhance the search for professionalism, and judged it wanting. He argued that there was a conflict between the needs of theory and the needs of practice, encapsulated by the inadequate teaching of mathematics, on the one hand, and the absence of instruction in regimental duties on the other. He also criticised: the methods of instruction that failed to stimulate, the lack of textbooks, the long length of service of civilian staff and rote learning

¹³ William D Jones, *Records of the Royal Military Academy*, (London: RA Institution, Woolwich, 1851); H D Buchanan-Dunlop, *Records of the Royal Military Academy 1741-1892* (London: FJ Cattermole, 1892).

information that was out of date compared with technological developments in Victorian England.¹⁴ Some of his criticisms relating to the admission, probationary and passing out exams, along with recognising the issue of the admission age, had substance, but the former criticisms are more open to question. Other scholars criticised the school-like nature of the academy at this time. For example, Edward Spiers referred to the cadet colleges as 'a mixture of a public school and a military college – neither a good public school nor an adequate military college.'¹⁵ Brian Bond also thought the education at Woolwich, up to the Crimean War, resembled that of a second-rate public school, albeit to a slightly lesser degree than Sandhurst.¹⁶ It may be, however, that the reverse is true and that the best of both worlds prevailed. However, it is difficult to establish one way or the other without appeal being made to the details of the course of studies. Similarly, in viewing the course of instruction, Bridget Malcolm suggested that the diversity of subjects meant few cadets left with a sound professional grounding.¹⁷ However, this diversity might only appear so without a full examination of how the studies related to each other theoretically, and the order of succession in which they, and their subsidiary subjects, were introduced into the course of instruction. Furthermore, her claim that the academy's instruction in subjects such as artillery, fortification and tactics was outdated by the technological advancement of Germany and France is impossible to substantiate without reference being made to textbooks, notes and lectures.¹⁸ Clayton's work was a useful synthesis on the British officer which tackled a considerable time period but necessarily gave little specific attention to the Ordnance Corps officers and Woolwich (relying predominantly on *The Shop*). Guggisberg's successors, such as Alan Shepperd and Sir John Smyth, were similarly commissioned officers who wrote for alumni and public alike. However, they contributed little new and diluted the material on the RMA in a joint narrative with Sandhurst up to their time of writing. On the other hand, Hew Strachan's work concentrated on the period 1830 to 1854 which gave him a valid context to the RMA before the Crimean War.¹⁹ Despite being constrained to a mere four pages of his book, he succeeded in identifying several shortcomings of the academy. However, there is still insufficient detail to be really confident about these conclusions, and it does not of course chart the changes after 1854.

In conclusion, these studies either referred to a specific period with a comparatively good level of detail, or, if a greater time span was covered, then it was not in sufficient detail to render meaningful the long-term changes in the course of instruction at the academy. Even when a closer examination was made, as per, say, Harries-Jenkins

¹⁴ Harries-Jenkins, *Army in Victorian Society*, p.116.

¹⁵ Spiers, *Army and Society*, p.154.

¹⁶ Bond, *Army and the Staff College*, p.17.

¹⁷ Malcolm, 'Educational Reform at the RMA and RMC', p.12.

¹⁸ *Ibid.*, p.13.

¹⁹ Strachan, *Wellington's Legacy*, pp.122-125.

or Malcolm, use was primarily made of parliamentary reports. The political dimension of these should always be borne in mind and used in conjunction with other evidence to give a balanced view.

This pattern is generally repeated for the Royal Military College, except arguably there is an even more 'whiggish' approach to its history. Here the historiography often depicts a state of affairs wherein the college moved from a state of inefficiency to one which was efficient. This view was in part started contemporaneously by the Horse Guards and army itself in the wake of the Crimean War, when apportioning culpability for the war's setbacks created a politically charged environment. It was later perpetuated in the twentieth century with the first RMC history by Major Augustus F Mockler-Ferryman in 1900. *The Annals of Sandhurst* was like any other celebratory institutional history of the time. It characterised the early cadets as being 'merely school boys (many only thirteen years of age)' in a school 'with just sufficient military veneer to make the cadet a little different from an ordinary public school boy.'²⁰ The early course was thus denigrated and contrasted with the content in his chapter entitled 'Modern Times'. Whilst the *Annals* is an interesting historical document in its own right which gives an insight into the college life in 1900, it unfortunately lacks information which would have been at the author's disposal when two-thirds of the college's archives had not been destroyed. However, instead of 'rescuing' these details for the historian, the book consists of unreferenced material with over half of its contents dedicated to matters of more alumni interest – sports results, memorials and reminiscences about fagging.

This view was picked up by the next two books on Sandhurst. Brigadier John Smyth's work also covered the RMA and was in effect a summary of Guggisberg and Mockler-Ferryman; with a little added in to the narrative from published memoirs. Hugh Thomas's book is certainly of more value; it dealt solely with the RMC, used the WO99 series of archival material and broadly referenced the material used. Furthermore, Thomas was an academic historian who was more perceptive and adept at both, conveying a sense of the time, and in apportioning the chapters. Still, it was a book for the general reader and treated historical personages like 'heroes and villains'; whereby the founder, John Gaspard Le Marchant, is uncritically treated as the hero and others such as Colonel Butler and Earl Harcourt are either villains, or, as in the case of Sir George Scovell, a doddering old rabbit shooter.

Such unreferenced or partially referenced books, in lieu of anything else, were occasionally cited by academic historians. However, the lack of detail and analysis on certain questions compelled Richard Glover in his *Peninsular Preparation* to use original

²⁰ Mockler-Ferryman, *Annals of Sandhurst*, pp.33-35.

documents and memoirs to provide a picture of the operation of the early RMC and its influence on the Peninsular War; concluding, that there was no doubt that the RMC was of great value to the service.²¹ A similar conclusion was reached by Dr Anthony Morton in his article on the origins of the RMC.²²

Eighteen years after the publications of Smyth and Thomas came the third by a retired army officer, Alan Shepperd. Shepperd was the librarian of the newly established Royal Military Academy Sandhurst (1947) and was more academically inclined (having published other books). Whilst it is apparent Shepperd had a degree of access to the unpublished archives, none of the sources were referenced and the book's overall narrative approach remained similar to Smyth's but with additional material added on the post-WW2 period to bring it up to his time of writing.

The first book to examine the course of studies and offer some sort of academic evaluation was again Gwyn Harries-Jenkins's study of the Victorian army. He contended that in the pre-Crimean period too much time was spent on 'remedial' education, that the syllabus covered too wide a field, and that there 'was no study of the more practical subjects which would have been useful to a young officer' such as military law, logistics and communications. Ultimately, he concluded that 'the Sandhurst programme tried to meet too many aims – general education, military education, military training – and failed to satisfy any single one.'²³ Spiers's book followed in a similar vein for the same period. Like Harries-Jenkins, he noted that there was little incentive to improve the college as so few officers came from it. Painting a picture of a neglected, unpopular establishment which concentrated upon remedying the defects of the boys' general education, he also criticised the lack of teaching in the same practical subjects. He concluded that it was little more than another, somewhat inferior, public school which not only failed to establish itself as a centre of professional instruction but also failed to overcome reservations which some officers still retained about the value of specialist training in a military academy.²⁴ On the one hand, whilst it might be tempting to view this hybridised nature as a weakness, on the other, the educational context, and a thorough consideration of the practices carried on at the RMC, might cast the whole nature of the institution in a new light.

In Bridget Malcolm's treatment of the RMC, she certainly established the context of antecedent education and the adoption of competitive army entrance examinations. She also explored the debates among army reformers leading eventually to the reforms of Edward Cardwell. At the local level she considered the pre-Crimean system at Sandhurst

²¹ Glover, *Peninsular Preparation*, p.209.

²² RMAS Library, Anthony R Morton, 'From Flanders to Waterloo: The Origins of the Royal Military College', (unpublished Sandhurst Occasional Paper, 2019).

²³ Harries-Jenkins, *Army in Victorian Society*, pp.122-123.

²⁴ Spiers, *Army and Society*, pp.1-6, 10-11, 13.

and believed the diversity of subjects, some of which were non-professional, were one of the RMC's disadvantages made apparent during the course of the Crimean War.²⁵ However, Malcolm gave a somewhat brief and incomplete account of the RMC course of instruction up to the time of the Crimean War. Without a firm apprehension of this, a question mark remains over how serious the deficiencies were and, therefore, the justification for reform in the 1860s.

Hew Strachan's work looked at how the army, contrary to the prevailing historiography, was being reformed gradually and in more subtle ways. It is perhaps surprising, then, that he called into serious question the RMC as beneficial to the training of regimental officers and claimed that virtually no effort was made to render it effective. In common with other writers, he attributed the poor quality of education to a gradual withdrawal of government funds. This meant an increase in the fees and number of cadets of the higher paying class (sons of civilians). Further criticisms included: the low entry requirement, the subordination of the RMC Board of Commissioners to the Secretary at War, the low age of admission which brought with it the general school subjects, and certain structural faults within the course of studies.²⁶ Overall, he suggested such features pointed to an emasculated role within an army which neglected it. However, if this was the case, why, as indeed Strachan noted, did the *United Service Magazine* advocate that all officers should pass through the RMC? Is it possible that some of these faults and difficulties were not as pronounced, or of the exact nature, as they at first seem? In which case, this might suggest that the RMC was perhaps more of a rallying point for reform and a part of the solution. However, without exploring these features further this question cannot be addressed.

It appears there is a significant gap in the historiography of the British Victorian army by the omission of any academic study of the cadet colleges. There are a number of reasons as to why this should be the case for so long. Firstly, it may be to do simply with issues of scope. Naturally, historians wanting to give as full a picture and understanding of the army or officer corps as possible, necessarily had to restrict their treatment of each component. Perhaps it is also due to reasons of relative importance; as it is true that for the early part of the RMC's history not all officers were initially trained there. In the late Victorian era, when the officer profession was arguably better developed, it was still approximately two-thirds of officers that attended. Also, for those interested in studying the 'brain of an army', the Staff College presumably provided more fruitful study - particularly for those trying to understand the deficiencies of command in the First World War. After all, the cadet colleges supposedly provided only the basic training for an officer, and

²⁵ Malcolm, 'Educational Reform at the RMA and RMC', pp.12, 30.

²⁶ Strachan, *Wellington's Legacy*, pp.125-127.

therefore, can it not be fairly well assumed what was going on in them? Given these facts, and the number of, albeit problematic, works on the cadet colleges in existence, historians were generally able to make do. It is the intention of this study to show an opportunity has been lost resulting in certain assumptions and occasional misconceptions creeping into writings about the Victorian army.

In order to question these assumptions, however, it is necessary to thoroughly examine the way these institutions worked in a detailed manner – to understand what was being practised, and why, and by whom. This work is not, then, a linear institutional history including all aspects of each, but rather a study honed on firstly, the professional studies, and secondly, the intangible values inculcated in officers. In this context professional studies are taken to include military topography, fortification, tactics etc. and those non-military subjects which were a prelude to them, such as mathematics, geometry, drawing, and even those that were not strictly professional (languages, history and geography). The arrangements for regulating such studies, their content, the resources given to them and the staff teaching them is a vast subject, and forms four-fifths of the core chapters in this thesis. They are divided into pairs, one covering the course of studies at the RMA in the early and mid-Victorian period, and a second covering the late Victorian period. The same is repeated for the RMC. It is hoped that by following one chapter of one institution onto its chronological predecessor in this way, that an uninterrupted view and reference can be had. However, these chapters are not weighted in exactly the same way.

The first chapter on the RMA will consider the way in which the course was regulated. It will explore the approach to the cadets and the way their admissions, commissions and accommodation were managed. In terms of course content, the chapter looks at the textbooks and course notes produced by cadets. This will allow a consideration of the role of mathematics and its various branches in the key studies of gunnery, fortification and surveying, and whether they fitted together.

The RMA, being a seat of technical education, was more sensitive to the state of education in the country and so both chapters have sections on the prevailing state of secondary education in Britain in the nineteenth century. This gives a hitherto unappreciated context to the academy. Indeed, the manner in which the academy wrestled with the exponential growth in technical knowledge in the mid- to late Victorian period is a central theme in the second chapter on Woolwich. For example, the changing requirements of engineer and artillery cadets, as technology advanced, is something which will be explored. Another strand is the British ambivalence toward technical education in the country at large, a disposition which placed a greater relative importance on classical education in preparation for the public service. In such a climate, how was the

academy to fare when trying to recruit sufficiently grounded candidates? Similarly, what kind of pressure was there on the academy to fulfil the cadets' literary needs and what was the response in the late Victorian era? The context of these questions was an awareness among contemporary critics of the advance in Prussia, and later Germany's, engineering proficiency. In addition, the rise of Prussia as a military power and the influence of the Wars of German Unification will also be explored in shaping aspects of practice at the RMA.

The RMC has typically come in for more criticism for its courses of study and so the chapters dealing with it have had the sections on antecedent education omitted and focus more heavily on the detail of the courses of instruction. These are slightly larger than the chapters on Woolwich, but, as with the RMA chapters, they use hitherto untapped documentary sources. The first RMC chapter covers the period between about 1830 and 1870. This is a period in Sandhurst historiography that mirrors that of the wider army. In such a view the army of the Crimean War was simply the Peninsular army of 1811 'dusted down' and put into the field.²⁷ Both the RMC and the Peninsular army are seen as fossilised, inefficient, and ill-suited for the task in hand. However, informed by Hew Strachan's overall approach, this chapter will look again at the post-Waterloo/pre-Crimean era and question whether similar improvements were not also being made at the RMC. For example, were there any positive developments in what cadets were being taught and what might have been the benefits to their later careers? Also, what external developments, for instance, from continental practice, were percolating into the course? Such questions can be more fully explored from the from the cadets' point of view and the personalities and capabilities of the staff.

For many, the second chapter on the RMC is a particularly important one, as it seeks to investigate and, where appropriate, revise, the particularly negative view of Sandhurst in the late Victorian era. The principal sources of this view are the two government reports that sandwich the period, one in 1869 and another in 1902. The perception was compounded by certain biographies of ex-cadets, some of whom were prominent, such as J F C Fuller and Winston Churchill. Fuller's reputation as a military theorist meant his scathing views of his preliminary military education were distributed widely. While Churchill, writing in the 1930s, though sympathetic to his *alma mater*, hinted at the irony of forming square in a red coat, while the cataclysm of the First World War lurked around the corner. The intention of this chapter is to go beyond what might be described as impressionistic views, sometimes either written a considerable time after the period, or uttered at times of intense political pressure; and instead to concentrate as

²⁷ Correlli Barnett, *Britain and Her Army 1509-1970: A Military, Political and Social Survey* (London: Allen Lane The Penguin Press, 1970), p.290.

much as possible on contemporary sources before such views were expressed. These include external examiners' reports of the 1870s-1890s, the Governor's confidential correspondence, the internal correspondence of the RMC and cadets' letters. It will also cite cadets' work and textbooks and refer to the service records of staff members. In such a way it may be hoped to obtain a more balanced view.

The final chapter is on developing leadership and man-management and it will deal with both institutions over the entire time period. This is because it covers aspects of human behaviour which were slower to change and flowed through the colleges and indeed wider society.

This thesis focuses on the cadet colleges only; while on the one hand it will not divorce them from their context, on the other hand, it is certainly not an attempt at a holistic history of nineteenth-century officer training. It will discuss other places of officer education as they relate to the cadet colleges. This narrow focus is not as disadvantageous as it at first might appear, for the colleges were, for a large part of the nineteenth century, one of the benchmarks and hubs in officer education. For example, for a considerable period the RMC was a key officer training establishment. Later, when garrison instruction and training of the militia developed, it formed a benchmark, firstly because the quantity of personnel was greater than at any other institution, and secondly, because it formed the basis of what an officer learnt at the start of his career. The course of instruction necessarily came to agglomerate around it the gist of what was essential about an officer's knowledge.

This focus also helps reduce the difficulties inherent in the long time period covered by this study. With a period of around of around 60 years to cover there is inevitably a greater mass of material to assess, and contexts to be established. However, this is mitigated by restricting the scope to just the two institutions. In this sense it takes its cue from the 'microhistory' school of historical theory. This is about looking at larger issues and trends in a small locale or a brief time period. It is also about the holistic treatment of its subject and so in this sense areas beyond the syllabus of instruction are examined, that is, the fostering of 'officership' through certain social and cultural practices at these institutions. In one way, it might be useful to characterise this study as a companion to Brian Bond's book on the Staff College, in effect forming the second pillar of officer education. In addition, the advantage of taking a longer time period is that a more complete and reflective comparison is possible. It is to be hoped that in this way any potential pitfalls associated with taking a shorter period can be avoided, and by doing so understanding is not hampered by making fundamental assumptions just prior to the period of study.

There is an additional limitation that should be noted and that is the omission of the East India Company's Military Seminary at Addiscombe as a separate subject of study. There are several reasons for this. Firstly, the institution closed in 1861 and so ends only a couple of decades after the beginning of this study. Secondly, the instructional and examination style were broadly similar to the RMA and RMC, and occasionally reference has been made to it by way of comparison. Thirdly, there is already a detailed study by John Bourne which links together the civil and military sides of the company's service and their educational departments.²⁸

There is probably a further reason why no academic study on the cadet colleges has appeared and this is to do with the availability of original sources. Relatively little in the way of material exists in the National Archives about Victorian military education and the cadet colleges specifically. The War Office series on this was weeded repeatedly over the years and has left a disjointed collection of material. Also, more importantly at the cadet colleges themselves there has been an issue over survival and access. Principally, at the RMC during the Second World War it was estimated that not less than two-thirds of the archives were thrown out deliberately.²⁹ The remaining material was uncatalogued and in a physical condition that impeded access. Since the 1970s, however, the remaining RMC material has been conserved and catalogued and is now more accessible. An acquisition policy has also helped re-establish lost material. There may still be a problem in developing intellectual access, however, as the recent biographies of General Henry Brackenbury and James Joseph Sylvester, both significant Woolwich staff, did not incorporate the WO150 series of Woolwich material.

The present study thus comes at an opportune time in being able to use the hitherto virtually unused archival sources held at the Sandhurst Collection at the Royal Military Academy Sandhurst. The RMA, being the successor institution to the RMA and RMC, holds the material for both. The RMA archive is the more complete of the two. It includes letters into the Governor's office from both internal and external sources (1829 - 1902), as well as the letters out (at least from 1868 onwards). There are also a complete series of commissioning exam papers, a good sample of cadets' note and drawing books and various records including examiners' reports, minutes of academy board meetings, daily order books and disciplinary books. The RMC archive is more fragmentary, consisting principally of letters into the Governor's office in the first two decades of the nineteenth century and from 1857 well into the twentieth century. The destruction of the

²⁸ John Michael Bourne, 'The Civil and Military Patronage of the East India Company, 1784-1858' (unpublished PhD thesis, University of Leicester, 1977).

²⁹ SCA, CAYMA: 76.307, 'Memorandum by Lt Colonel Alan Sheppard to Major Charles Earle on Destruction of RMC records, August 1942', 17.7.1950.

records, however, was compensated for to an extent by the survival of minutes and associated correspondence held by the secretary of the board of RMC Commissioners at the Horse Guards (WO99 series, 1802-1867). It was, therefore, saved from destruction and donated to the RMAS in the 1980s. In order to compensate for this overall shortcoming, a greater use of cadets' letters and biographies has been used. Also, the cadet register and half-yearly exam reports have gone some way to negate the lack of cadets' progress reports. It is hoped that by using this new material a new light will be cast on these establishments which will go some way to informing understanding of officer training in the Victorian period.

Chapter 1

The Course of Studies at the Royal Military Academy, Woolwich, c.1840-1870

This chapter analyses the course of instruction at the Royal Military Academy (RMA) and assess how it changed and why. Any discussion about the reform of officer education, the development of training doctrine or the impact of general changes in educational theory, must have as their foundation a sound comprehension of the course of instruction. This also holds true for understanding the cadet's experience of the academy and any comparison with foreign military education.

In the introduction to this thesis it was noted how historians criticised the teaching at the academy. Whilst faults are inevitable it is important that these are understood properly within their context and without succumbing to any pre-conceived ideas about a continuous trajectory of progress within the nineteenth century, and into the twentieth. It is important then, to examine the course with some considerable detail so that a proper understanding is had of what the military authorities were trying to do and why. This will include a consideration of who was teaching the course, the resources they had and the dynamics between the staff. The non-classroom subjects of drill, riding and gymnastics will not be covered. Gymnastics did not really take off until the late Victorian period and, as for the first two, to a great extent they were not particularly contentious so long as they were organised properly and integrated with the other subjects.

The period in question starts around the time of the issue of the 1840 rules and regulations of the RMA. In doing so, an approximate synopsis of the previous 20 years of instruction is gained, but equally a framework can be established to apprehend the manner in which the course was modified over the following years. The chapter will start with a brief overview of the educational context of the academy. As the RMA was essentially a technical training institution, particular attention will be paid to the teaching of scientific and technical education in the country. Next, a summary of how the course was regulated will be given; including, the types and purposes of the exams and an impression of how the authorities managed the throughflow of cadets. It will then examine the various subjects taught from 1840 to 1857 with particular emphasis on the academy's most academically important subjects of Mathematics, Fortification and Artillery. After this, a section will examine the impact of the newly formed Council of Military Education (CME) in the aftermath of the Crimean War. This will include contemporary views of the academy and the CME's drive for creating a 'School of Application' as inspired by the French system of education. The end date of 1870 is taken for various reasons. Firstly, it is generally regarded as the start of the late Victorian army period; beginning as it does with

the rise of Prussia, the Cardwell reforms and changes in general education. Also, relative to the academy, is the coincidence with another large investigation into officer education (in 1869), the disbandment of the CME and the establishment of a Board of Visitors and the Director General of Military Education.

1.1 Antecedent and Technical Education in Britain

Before entering into the details of the course at the academy, it is worth taking stock of where it had come from and what the general education of the country was like. The Ordnance Office was that branch of government concerned with the supply of warlike material to the navy and army, but which also eventually included coastal defence and mapping. The construction and armament of coastal fortresses, and augmenting a field army with artillery, meant a caste of trained professional officers were needed. The difficulty facing the eighteenth-century Ordnance Office was that the secondary and higher education in the country was poor. Endowed grammar schools owed their origins to a time when Latin was needed for ecclesiastical purposes, and was latterly used to study classical literature. However, developing colonies, growth in world commerce, and increased scientific knowledge, made the schools appear increasingly out of date. The restrictive nature of many schools' foundation statutes meant in the seventeenth and eighteenth centuries many private academies with broad curricula were established.³⁰ Therefore, in 1719, the Ordnance Office set up its own academy within the Royal Arsenal and taught cadets, 'private men', bombardiers, gunners and Non-Commissioned Officers.³¹ The Royal Navy, in a similar position,³¹ set up the Portsmouth Naval Academy in 1733 as a means to replace the hitherto chaotic ship-based education. It also had a deliberately broader curriculum than a typical public school.³² In 1741 the academy at Woolwich was re-founded and, during the eighteenth century, it had to teach at a more elementary level than was necessary in the nineteenth century – most notably with 'Elements of Arithmetic' in the first class of the 'Under Academy'.³³

Continuing into the nineteenth century, the old grammar schools (some of which were later to be generally understood as public schools) were still constricted in their curricula and became disreputable for financial irregularity and the inhuman conditions which persisted.³⁴ This, coupled with the religious freedom for Roman Catholics and Non-Conformists, meant many new schools were formed such as Mill Hill School (1806), Royal

³⁰ Stanley James Curtis, *History of Education in Great Britain*, 7th edn (London: University Tutorial Press, 1967), pp.110, 115-116.

³¹ William D Jones, *Records of the Royal Military Academy* (Woolwich: London, 1851), p.1 [hereafter RMA Records 1851].

³² Harry W Dickinson, *Educating the Royal Navy: Eighteenth and Nineteenth Century Education for Officers* (London: Taylor & Francis, 2012), pp.33-34, 36.

³³ RMA Records 1851, p.23.

³⁴ Curtis, *History of Education*, pp.140-141.

Belfast Academical Institution (1814), Edinburgh Academy (1824) and King's College School (1829) to name a few. Later, came schools such as Cheltenham (1841) and Marlborough (1843).³⁵ In all cases they were at liberty to teach what their founders wanted according to religious or vocational tastes. Cheltenham developed a strong link with the army and Woolwich in particular.³⁶

By the 1840s steps had been taken in the direction of providing education in modern languages, mathematics and science subjects. Therefore, the RMA entrance examination became harder than when the 'Elements of Arithmetic' were taught.³⁷ Whilst some were able to pass with ease, many boys still received either a poor education or one not suited to the admission exam.³⁸ A significant part of the problem was that whilst new schools were founded, some of them, and some which were reformed, were done so in accordance with the trend typified by Thomas Arnold and the pursuit of a Christian moral education. Such a view regarded with horror the materialistic philosophy of a practical and utilitarian education.³⁹ Rather than introducing new subjects, Arnold exploited classics to its fullest as a basis for a 'liberal' education.⁴⁰ Therefore, many boys resorted to specialist tutors to pass even this qualifying exam and there are many examples of army tutors who kept abreast of the regulations and textbooks of Sandhurst, Woolwich and Addiscombe, directly tailoring their instruction for these institutions. Those private academies around Woolwich Common became particularly prosperous.⁴¹ An interesting fictional account of a cadet in the 1840s, based on the author's real experience, described his problematic education and the tutors used to pass the exam.⁴² This is echoed by another from the same period.⁴³ The problem persisted and it caused the Board of Ordnance to found a preparatory school for the RMA at Carshalton in 1847.⁴⁴ In theory, this should have worked, but the discipline and culture of the institution gave it a reputation for poor results.⁴⁵

³⁵ Brian Gardner, *The Public Schools: An Historical Survey* (London: Hamish Hamilton, 1973), pp.146-158, 161-165.

³⁶ WO150/29/69, 70, 72, 77, Letters from Captain R Lichfield, Cheltenham College to Lt Governor RMA, 15.5.1844 & 29.5.1844.

³⁷ Guggisberg, *The Shop*, pp.44-46.

³⁸ Sir John Adye, *Recollections of a Military Life* (London: Smith, Elder & Co, 1895), p.3.

³⁹ David Newsome, *Godliness and Good Learning* (London: John Murray, 1961), pp.4-5.

⁴⁰ Curtis, *History of Education*, p.145.

⁴¹ Trevor Hearl, 'Military Education and the School Curriculum 1800 – 1870', *History of Education*, 5.3 (1976), 251-264 (pp.255-256).

⁴² Alfred Wilkes Drayson, *The Gentleman Cadet: His Career and Adventures at the Royal Military Academy, Woolwich* (London: Griffith & Farran, 1875), chapters 3-5.

⁴³ T Bland Strange, *Gunner Jingo's Jubilee* (London: Remington & Co, 1893), pp.19-21.

⁴⁴ Guggisberg, *The Shop*, p.69.

⁴⁵ Sir Desmond O'Callaghan, *Guns, Gunners and Others* (London: Chapman and Hall, 1925), pp.1-5; Guggisberg, *The Shop*, p.69; C25, *Minutes of Evidence Taken Before the Royal Commission appointed to Inquire into the Present State of Military Education and into the Training of Candidates for Commissions in the Army* (London: HMSO, 1870), [hereafter *Dufferin Commission Minutes 1870*], Appendix II, G (ii) 'Extract from a Speech on Military Education by Sidney Herbert, 5.6.1856.

Therefore, could a scientific education be had elsewhere in the first half of the nineteenth century? Despite the growing eighteenth-century interest in the study of science, particularly for practical applications (such as in the extractive industries) it stimulated little by way of educational provision before 1824. Firstly, the ancient universities of Oxford and Cambridge provided virtually no scientific education, neither did newer foundations such as Durham. There were some developments at King's College London, most notably in engineering under William Hoskin. However, in the main, higher scientific education took place outside the universities, for example, at the Royal Institution, where the RMA's Professor of Chemistry, Michael Faraday, lectured. In 1824 the London Mechanics' Institution was founded, beginning a movement for similar institutions explaining the scientific principles underlying crafts. In addition, from this date onwards a substantial number of cheap tracts and pamphlets, many published by the 'Society for the Diffusion of Useful Knowledge', spread technical and scientific information to those not attending the institutes.⁴⁶

In these circumstances the RMA had to be, in a sense, self-reliant; as it had to teach and develop the abilities of cadets without any real reference to other educational establishments because these were so variable. It stood apart as a scientific and technical hub, particularly because of the way in which it was embedded within the industrial areas of the Royal Arsenal. However, were these scientific principles applied to the way studies were regulated at the institution itself?

1.2 Regulation of the RMA Course of Studies

Interestingly, despite being the 'Scientific Corps', within the institution which trained Ordnance Corps officers, there was a rather unscientific elasticity in the regulation of the course of studies. A commission, under the chairmanship of Lieutenant Colonel Yolland RE, investigated the academy in 1856. It felt that, out of all the sources of inefficiency, the greatest was the extreme variance in the cadets' residence. The maximum duration allowed to complete the theoretical portion of the course was four years, but it could take as little as two. By this system, the commission felt, cadets who took longer and were idle, but not to the degree which warranted removal, were not only more likely to bully the younger cadets, but were placed at the unfair advantage of competing on equal terms with those who, by their skill and industry, reached the final commissioning exam in half the time. Their view was that it was totally at odds with that at

⁴⁶ Stephen F Cotgrove, *Technical Education and Social Change* (London: George Allen & Unwin, 1958), p.11-13; Michael Sanderson, *The Universities and British Industry 1850-1870* (London: Routledge & Kegan Paul, 1972), pp.1-3.

continental schools and the injustice of it was 'too glaring to require further comment'.⁴⁷ The commissioners were incredulous at the persistence of such a system. However, it can be better understood if an allowance is made firstly, for the variable quality of the antecedent education, and secondly, for the fact that although the cadets were to become 'scientific officers' they were nonetheless gentlemen. As Harries-Jenkins pointed out, there was an expectation at large that a 'gentleman officer' would carry out his military duties in his own way without worrying about external evaluation of his military professionalism.⁴⁸ Similarly, 'Gentlemen Cadets', within certain parameters, were allowed to proceed at a pace which suited them, so long as they showed ability, improvement and their conduct was steady. When they erred or their academic performance dipped, they were given ample chances to correct this. The regulating system of exams facilitated this 'gentleman's agreement', and these will be dealt with in turn.

The first examination was the entrance exam. This was not truly open in that any candidate could attend and be assessed; instead a nomination was required from the Master General of Ordnance (MGO). The nomination, and the provision of certificates of good conduct and proof of religious instruction, ensured only gentlemen could attend.⁴⁹ This was not conducted by an independent body but by the academy's professors and masters before a board of the Lieutenant Governor, the Inspector of Studies and his assistant.⁵⁰ From 1840 the 'qualifications' required were in English, mathematics, Latin, French, geography, history and drawing. German was added in 1848; it might have been added in 1840 had the German master's advice been received in time. He complained of the difficulty of instructing the cadets given their differing abilities; some had no knowledge while others could speak it.⁵¹ Similarly, in mathematics, to accommodate the attainments of the candidates, in 1848, a progressively higher requirement in mathematics and geometry was expected from candidates as their age increased. For example, a candidate at the youngest admission age of 15 had to know the first book of Euclid, at 15 ½ - the first two books, at 16 - the first two books and the first 17 propositions of the third book, and at 16 ½ upwards, all of the first three books of Euclid.⁵² Guggisberg remarked 'the whole system of admission was bad.'⁵³ However, writing in 1900 at a time when mathematical

⁴⁷ *Report of The Commissioners Appointed to Consider the Best Mode of Re-Organizing the System for Training Officers for the Scientific Corps; Together with an Account of Foreign and Other Military Education* (London: HMSO, 1857), pp. lii-liii [hereafter *Yolland Commission Report 1857*].

⁴⁸ Harries-Jenkins, *Army in Victorian Society*, p.12.

⁴⁹ SCA, CAYMA: 76.397, 'General Rules and Regulations of the Royal Military Academy at Woolwich', 1840, Section 12, Para. 1, p.53 [hereafter RMA Regulations 1840]; SCA, [no ref.], *Regulations for the Admission of Gentleman Cadets into the Royal Military Academy at Woolwich*, 1848, Paragraph 1.

⁵⁰ RMA Regulations 1840, p.5.

⁵¹ WO150/23/140, Mr A Troppeneger to Lt Col WD Jones, Inspector of Studies, 21.8.1840.

⁵² Royal Artillery Museum, 'General Rules and Regulations of the Royal Military Academy at Woolwich', 1848, Section 13, pp.38-43 [hereafter RMA Regulations 1848].

⁵³ Guggisberg, *The Shop*, p.46.

and scientific education had grown exponentially, such a judgement does not consider the poor or ill-suited quality of education as mentioned in the previous section.

Guggisberg might have been more critical instead of the nature of the admission exam. This was in the form of a *viva voce* interview. From one point of view, this might be deemed responsive and flexible, but on the other hand, vague and inconsistent. So, whilst the subject was stated, the requirement, for example in history of, a 'competent knowledge of English History, and a general acquaintance of the leading points of Ancient and Modern History', is unqualified by any form of published grading or weighting.⁵⁴ It was equally unclear, therefore, how to decide between competing candidates, whereby a candidate succeeded if possessing 'an extended knowledge in all these branches, with progress in the Greek and German languages, and superior skill in Drawing [giving] a decided preference.'⁵⁵ Greek and German, as noted above, however, were not on the list of examination subjects. On the other hand the lack of any prescriptive regulation in 1840 allowed the academy leeway to give unsuccessful candidates a second trial depending upon 'the nature of the report, as to each individual.'⁵⁶ Such regulations inevitably brought uncertainty; a point illustrated by the fact that in October 1840 the MGO requested the academy authorities to contact tutors in Woolwich to prevent parents' disappointment if their sons were rejected or struggled when under academy instruction.⁵⁷ Also, the regulations did not permit transparency beyond the fact that examinations were held before a board, as opposed to the masters on their own, with the results reported to the MGO. When a candidate was rejected there was no other method of relaying the results of the exam beyond the candidate recounting the experience to his parents. An aggrieved parent might then complain based on his son's version of events. For example, the Mathematics professor rebuffed a complaint of a parent, Mr Kennedy:

[The parent's] statement regarding his son's examination in arithmetic and algebra, that "*the only questions he feels he failed in were two or three in quadratic equations, in each of which there was a catch but having done what was required in cubic equations proved he must have been fully conversant in quadratics.*"

There were only two questions in quadratic equations given, one of which, a very easy one, Mr Kennedy's son resolved, though not correctly and the other involved two simultaneous equations involving surds. It is to this last that I presume the 'catch' is to be referred, but the only one I can discover in it is, the very simple and obvious manner in which the equations are resolved in four or five lines.⁵⁸

⁵⁴ RMA Regulations 1840, Section 12, point 2.6, p.55.

⁵⁵ *Ibid.*, point 3, p.55.

⁵⁶ *Ibid.*, point.4, p.56.

⁵⁷ WO150/23/154, Sir Hussey Vivian, MGO to Lt Governor Royal Military Academy, October 1840.

⁵⁸ WO150/27, Letter from S Hunter Christie, Professor of Maths to Lt Governor, RMA, 19.12.1842.

Similarly, a Captain R Daly complained about the nature of his son's examination. He felt the wording of questions was so obscure it confused 'a lad of 14', in the 'hurry and nervousness' of an examination.⁵⁹ Again the staff explained how these 'obscure' questions could be answered.⁶⁰ However, there was obviously great latitude available to staff in putting questions which, while within the framework of the regulations, might be more applied rather than abstract in nature.

With such a lack of transparency it might be thought that at least sons of RMA staff would be sure of admission. However, the son of Mr Dawson, the Plan Drawing master, was rejected, which caused him to resign and attempt to ascertain in which subject his son had failed and which master failed him. In response to Dawson's violent remonstrations to the Inspector of Studies, the latter reported the whole episode to the Lieutenant Governor:

[...] when I told him in what subjects his son had failed, he became more excited and said it was well known that the examinations were all a humbug. That the mathematics swamped everything, and in fact it was of no use doing anything else.⁶¹

It is difficult to establish to what extent the entrance exams were thought of as capable of manipulation. On the one hand, relatively speaking, the number of complaints referred to the academy to deal with, was very low, given the number of admissions. However, rejections in general were fairly low and, when they occurred, may have been accepted with resignation. There seems little written evidence of attempts to influence the process. One tutor, however, wrote to the Lieutenant Governor about 'a young protégé' of his attending the admission exam. Apparently, he was a 'very quiet good lad', and the tutor requested: 'pray do for him what can be done [...] will greatly oblige.'⁶² Likewise, a letter from the MGO, the Marquis of Anglesey, recorded that 'upon further consideration' he decided to allow the admission of two cadets, one being the Honourable Alexander Temple Fitzmaurice. The Lieutenant Governor seized the opportunity to recommend another cadet by informing Anglesey that the additional cadet did equally as well as Fitzmaurice.⁶³

⁵⁹ WO150/35, Letter from Capt R Daly, RMC, to Master General of Ordnance, 28.3.1848.

⁶⁰ WO150/35, Letter from William Rutherford to Lt Governor Major General Parker, RMA, 30.4.1848.

⁶¹ WO150/35, Letter from Lt Col W D Jones, Inspector of Studies, to Lt Governor Major General Parker, RMA, 27.3.1848.

⁶² WO150/28. Letter from Gerald W Clarence to Lt Governor Sir George Whitmore, RMA, 15.10.1843.

⁶³ WO150/35, Letter from Ordnance Office to Lt Governor Major General Parker, RMA, 9.6.1848, and, letter from Lt Governor to Ordnance Office, 12.6.1848.

However, by the same token it is evident that the authorities realised the stricter they enforced the standard, the less likely they were to maintain the flow of cadets through the academy. For example, the Lieutenant Governor wrote:

[...] the results of the late examinations for admission you will observe that notwithstanding the lowest qualification was all that was required are very indifferent. 7 out of the 19 only qualified [...] his Lordship having lowered the standards to the utmost can conscientiously reject all but the seven; should the Governor [i.e. the Master General] desire to be more lenient he may admit 12 as far as Mr Clarke [...] ⁶⁴

Anglesey annotated the report:

This is a very discouraging report. We must be cautious how we give hopes to idlers, by being too easy in respect of admissions. However under all considerations, I do not object to the 12, as recommended by you, being admitted. ⁶⁵

Whilst Professor of Mathematics Hunter Christie (professor 1838-1855) was thought to undertake the entrance exam in an 'ably impartial manner', there were several instances when the higher authorities seemed to intervene according to circumstances. ⁶⁶ Colonel Portlock, Inspector of Studies 1851-1856, believed powerful influence was a factor, and that although nominally the regulations were quite sufficient to ensure a good selection:

[...] they have been successively frittered down to meet the views of influential complainants; and that rigid examinations could scarcely be expected to exist simultaneously with patronage, as the principles of the two are antagonistic. What favour would it be to a powerful applicant to give a nomination on the one hand, and to cancel it on the other, by a too stiff examination? ⁶⁷

Yet, it must be borne in mind that Portlock was a reformer and member of the Council of Military Education between 1857 and 1862. Despite nomination, candidates were nonetheless rejected, and letters from the Ordnance Office revealed there was generally little indication throughout the 1840s that the MGO put pressure on the

⁶⁴ WO150/33, Report from Lt Governor Major General Parker, Royal Military Academy, to Master General of Ordnance, Marquis of Anglesey, 8.5.1847, with Anglesey's Minute on report dated 8.5.1847.

⁶⁵ Ibid.

⁶⁶ See WO150/33, Letter from Lt Col WD Jones, Inspector of Studies, to Lt Governor Major General Parker, 28.5.1847, supporting Christie's request to cease being an entrance examiner.

⁶⁷ *Yolland Commission Report 1857*, p.lii.

Lieutenant Governor to re-examine certain candidates and not others. The remarks of the previous Inspector of Studies, whose tenure was longer (11 years), were less opinionated:

[...] very many are admitted with a very superficial knowledge of a great majority of the subjects required; so that the time of the Masters, for the first year, is occupied in imparting the very rudiments and elementary knowledge of the subjects they ought to have soundly known on joining, which leads to so many being removed at the probationary examinations twelve months afterwards; and the valuable time of the Masters is thus occupied when they should have been engaged in carrying them forward in the course.⁶⁸

The reason for this potential leniency in the entrance examination should be looked for, not in the influence of patronage, but rather the exigencies in providing sufficient second lieutenants for the artillery and engineers. Indeed, the majority of the correspondence between the Lieutenant Governor and the MGO's office bore testimony to a system of continuous feedback between the Ordnance Office and the academy to maintain the optimum output of new officers. The task confronting the authorities was as follows. A cadet might progress quicker than others of his same intake and pass the theoretical course in two and a half years; transferring to the 'Practical Class' in the Royal Arsenal and commission. Others might take the full four years. In the meantime, cadets might fail their probationary exam, or after that, make such poor progress in their periodical examinations and be removed before their final theoretical exam, which again they could fail. So, from the point of view of the authorities the number of cadets had to be closely monitored, and this was done by continuously checking the progress or ability of the cadets so that it could be anticipated how many would successfully commission. In addition to this, the relative strength of the 'Practical Class' and the 'Theoretical Class' had to be borne in mind; the former was based in the Royal Arsenal whilst the latter was at the academy on Woolwich Common – both locations had limited accommodation. Therefore, to ensure the correct numbers of candidates for admission, the Lieutenant Governor constantly communicated with the Ordnance Office; informing them of places available consequent on accommodation rendered available by the intermittent departure of cadets to the Royal Arsenal.⁶⁹ It was these intermittent departures which led to the varying number of both the entrance examinations and the candidate numbers. This is seen in the variation for 1844 to 1850 inclusive; less variation is seen in the number of final

⁶⁸ *Yolland Commission Report 1857*, replies from Major General William D Jones, 22.4.1856, pp.394-396(394).

⁶⁹ WO149, RMA Cadet Register, Vol. 5, 1832-1854, 'Distribution of the Company of Gentleman Cadets' years 1832-1854, pp.56-79.

commissioning exams and those sitting them.⁷⁰ Apart from the particular demand in 1847, the academy had managed to keep a fairly regular output despite the variable input.

To make this system as efficient as possible a monthly report written by the staff monitored cadets' progress.⁷¹ This was for information only, as the periodical examinations actually regulated progress through the different classes. Prior to the 1840 regulations cadets moved up to the next 'academy' – a group of around 40 cadets who were taught the same subjects together. Such progress was regulated 'chiefly according to mathematical talent, provided a certain number of plates in fortification were drawn.'⁷² To improve matters, after 1840 the classification system was introduced whereby cadets were divided into classes by subject so that instruction was carried on independently of the other subjects. It was, however, the class and the position in that class for Mathematics, Fortification and French which were the most important, and these were recorded in the Woolwich cadet register.⁷³

The periodical examinations were held four times a year by the professors and masters in the presence of the Inspector of Studies. Two took place within six weeks after the vacation, and the other two, about three weeks prior to each vacation. Rather than a *viva voce* examination, written questions ascribed numerical values and approved by the Inspector were distributed to the cadets on printed papers which were signed upon completion by the cadet.⁷⁴ The numerical result would place the cadets in order of merit within the class and lead to the promotion of a certain number to the next.

To be eligible for the final examination a cadet had to belong to the first class in Mathematics, Fortification, and French, (or of sufficient French standard), and finally, by having certificates of diligence and fair progress in the other branches of study.⁷⁵ However, the inexact attainment required of other subjects meant that by 1848 this system was found '[...] to act very detrimentally, the other studies not being allowed to count for promotion.'⁷⁶ Initially, the marks of the other studies were combined with French, presumably so there was an incentive to maintain progress in the other studies. However, from June 1848 the studies in the theoretical course were arranged under one list formed from the sum of the credits gained in each branch.⁷⁷ In effect a kind of reversion to the scheme prior to 1840.

⁷⁰ See Appendix 1 Table 1.

⁷¹ RMA Regulations 1840, p.14.

⁷² RMA Records 1851, entry for 2nd Feb 1840.

⁷³ WO149, RMA Cadet Register, Vol. 5, 1832 - 1854, pp.14-29.

⁷⁴ RMA Regulations 1840, pp.63-64.

⁷⁵ RMA Regulations 1840, section XIV, Art. 3, p.69.

⁷⁶ WO150/35/14, Extract from the 'Second Report of the Committee on the RMA', 14.3.1848.

⁷⁷ WO149, RMA Cadet Register, Vol. 5, 1832 - 1854, annotation on p.40 beneath cadet Champagne L'Estrange.

It was not compulsory for a cadet to go up a class at each periodical examination, some might remain a year within a class. However, a lack of progress would eventually be noticed by the Inspector of Studies. For example, in 1844 he reported being particularly struck by the limited progress of Gentleman Cadet Bruce '[...]' who has been 2 ½ years at the institution, and is still at the bottom of the 3rd class of mathematics, so that I can not see the smallest possibility that he can get through in 4 years.⁷⁸ According to the register this cadet was removed at the request of his 'friends' (parent or guardian). This was a common occurrence once lack of progress had been brought to their attention. However, there was a certain degree of subjectivity in assessing potential or progress. So for example, in 1856, although a Gentleman Cadet Kemm had not passed a satisfactory Mathematics exam, the Governor stated:

[...] he is very well conducted, has been 1 year and 6 months at the Royal Military Academy, and [I] am not without hope that as he grows older his faculties for study may improve, and I should recommend that he also may be permitted to remain at the institution.

I would by no means advocate a relaxation of the scale of qualification for promotion to the practical class at the termination of the theoretical courses, but I am of opinion that if cadets pass their probationary examination after two sessions of residence every fair chance should be given of qualifying for the practical class within the fixed period of four years. I have known many distinguished officers of artillery and engineers who had been by no means remarkable at their rapid progress through the academy or for any remarkable final attainments in the theoretical studies.

As I am sensible that I take somewhat different views from my predecessor in the government of the RMA as regards the removal of cadets who do not make satisfactory progress in mathematics from their first entrance, I have thought it proper to state for the consideration of Lord Panmure the motives of my recommendations being prepared however to act on whatever principle shall meet his Lordship's approval.⁷⁹

The above extract underlines the point about how the cadets were being treated as gentlemen. Rather than being subject to the rigid strictures of performance measurement, they were afforded every opportunity to progress in their own way. In the case of Kemm his performance did not improve and so was eventually removed for bullying once he

⁷⁸ WO150/31/11, Lt Col WD Jones, Inspector of Studies, to Lt Governor, 21.6.1844.

⁷⁹ SCA, RMA Letters Out, Page 10, Colonel EN Wilford, Governor, RMA, to Secretary of State for War, 24.10.1856.

realised there was little hope of commissioning.⁸⁰ However, overall it was felt that the system worked, hence Colonel Wilford's point about how rapid success at the RMA did not necessarily equate with a distinguished career. For example, OHA Nicolls spent three and a half years in the first four classes and went on to become Colonel Commandant of the RA. Still, as indicated in Wilford's reference to Kemm, there was a connection between the duration of residence and the age of admission – Nicolls was just under 15 when admitted.⁸¹ Similarly, Charles Henry Owen, who later became Professor of Artillery, passed through the course in two years but was nearly one and a half years older than Nicolls upon joining.⁸² Thus, the class of the final examination would consist of cadets of varying ages and duration at the academy.

However, the elastic system of management which indulged Kemm could also be a disadvantage – especially if cadets, lacking the academic pressure to work hard, became idle and bullied the more studious. Bullying is a topic which will be covered more in chapter five and in particular connection with the RMC, however, it is worth highlighting here because it seemed to potentially affect the efficiency of the learning on the Woolwich course. Guggisberg noted how the difference in age promoted bullying and that its perpetrators deliberately discouraged assiduity in study of those more academically capable.⁸³ Correspondence and biographies corroborate this bullying and that, rather than simply being a superficial nuisance, it could have an adverse effect on academic results.⁸⁴ It was, after all, this factor which prompted amendments in the academy resulting in the 1848 regulations.

Nevertheless, in spite of whatever disadvantages were present in the manner the course was regulated up to the mid-nineteenth century, there was at least a clearer view on the core professional studies required. Based on the functions of the engineers and artillery, subjects such as Mathematics, Fortification, and Gunnery, remained a constant since the beginning. However, in the first half of the nineteenth century the course developed in an ad hoc manner. This was principally because the academy lacked a permanent committee for educational improvement; changes arose due to individual MGOs or staff making suggestions. If greater changes were needed, then special temporary committees (in 1835, 1840 and 1846) conducted enquiries and issued revised regulations. At the mid-nineteenth century period, the 1840, and particularly the 1848 regulations, are the most important. Disciplinary problems led to a committee being set up

⁸⁰ SCA, RMA Letters Out, Page 107, Colonel EN Wilford, Governor, RMA, to Secretary of State for War, 26.4.1858.

⁸¹ WO149, RMA Cadet Register, Vol. 5, 1832-1854, p.43.

⁸² WO149, RMA Cadet Register, Vol. 5, 1832-1854, p.34.

⁸³ Guggisberg, *The Shop*, pp.54-62.

⁸⁴ Bland Strange, *Gunner Jingo's Jubilee*, pp.22-23; Drayson, *The Gentleman Cadet*, pp.113-115; see letters, WO150/29/83, Capt Robe to Lt Governor, 25.6.1844; WO150/29/94, Revd E Windsor Richards to Lt Governor, 27.7.1844; WO150/30/2, Mr Thace to Capt Burnaby, RMA, 28.1.1844.

at the end of 1846. It sat for over a year and issued recommendations that were incorporated into the academy's course of studies throughout 1847 culminating in a revised set of regulations in 1848. These were in effect up to 1859 and essentially put the consolidating touches to the sporadic changes that had occurred. For example, the 'Practical Class', created by Wellington in 1820 to occupy the surplus of newly commissioned officers, was improved by the 1848 regulations. These allocated marks to the practical subjects in the final exam, extended the course length and added further subjects.⁸⁵ Attempts were made to make the course more practical and introduce instruction that particularly benefitted the engineers. In the second part of this chapter the constituents within the course of studies and their subsequent consolidation and improvements will be examined. Each subject will be dealt with in turn and will conclude with the alterations brought about by the Council of Military Education.

1.3 Subjects of Instruction

For many of the studies at the academy, Mathematics, and its various branches, should really be considered as the engine which drove the other, more professional, studies at the institution and for that reason it was given great prominence.⁸⁶ Surveying, Fortification and Artillery all needed advanced mathematics – even field work construction required a command of algebra. So, cadets studied its various branches throughout their entire residence in the 'Theoretical Class'. This benefitted those proceeding to the 'Practical Class' in the Royal Arsenal. Cadets were taught in classes of around 40, and then sub-divided according to ability, to 'best ensure a steady and efficient progress'.⁸⁷ During each session of study, which generally lasted between two and a half and three hours, instruction was given to each section of the class who had their own branch of study. Cadets wrote condensed notes which were inspected by the master to assess a cadet's comprehension whilst writing his monthly report. Although termed 'lectures' in the regulations, it is clear that whilst the session started with a presentation on a subject, theorem or formula, care was taken to 'ascertain they [were] so comprehended' – just as in a lesson.⁸⁸ Similarly, whilst they had to follow the regulations, masters were:

[...] left each to his own judgement and talent in the art of tuition. Their aim should be to keep alive the spirit of industry and activity, and the love of knowledge, in their pupils; they should develop, to the utmost of their power, the faculties of investigation, of arrangement, and of correct practical explanation, and to ensure,

⁸⁵ See Appendix 1, Tables 3a and 3b.

⁸⁶ See its relative allocation of marks in Appendix 1, Tables, 2, 3a, 3b and 4.

⁸⁷ RMA Regulations 1840, Section 15, point 3; RMA Regulations 1848, Section 16, point 3.

⁸⁸ Ibid.

as far as possible, the benefit of a clear recollection of the knowledge acquired; they should not merely remind the cadets of the probable operation of the Periodical Examinations, but at frequent intervals, by oral examination, or other mode of revision as to them may appear best, ascertain the difference between real and apparent progress, and in all cases where the advance is not sound and satisfactory, cause the student to retrace his steps.⁸⁹

This extract is interesting from a pedagogical point of view, inasmuch that it formed an aide memoire for masters whose teaching capacity was possibly not known or trained. Furthermore, it revealed that the ability of staff clearly counted a great deal. William Rutherford (master 1838-1864) was recorded by contemporaries as a skilful teacher, able to explain and give practical applications clearly. An accomplished mathematician, his published works were mainly revisions or companions to other works, or papers 'of a fairly elementary nature'.⁹⁰ With two other Woolwich masters, Stephen Fenwick (master 1841-1857) and Thomas Stephen Davies (master 1834-1851), he edited *The Mathematician* – a periodical, published from 1843 to 1850, which simplified processes to '[...] furnish good models for the younger student's initiation in conducting his own researches.'⁹¹ Described as excellent, its short life could be attributed to its production costs borne by the editors and a small society of subscribers.⁹² Nevertheless, it demonstrated the earnest desire of these three teachers to improve their students' understanding. James Joseph Sylvester on the other hand, although historically one of Britain's most significant mathematicians, was more concerned with his research than with teaching. His teaching was not considered a great success and he gained a reputation for being eccentric and irritable.⁹³ He was often the subject of cadets' teasing but with certain students he was able to make a difference.⁹⁴ His primary research interest was in pure mathematics, and without onerous teaching commitments, his first ten years at Woolwich were very productive.⁹⁵ Indeed, he succeeded in fending off claims on more of his time once the CME began to

⁸⁹ RMA Regulations 1848, Section 16, point 8.

⁹⁰ W F Sedgwick, 'Rutherford, William (1797/8 – 1871)' *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/24365> [accessed 2 Mar 2018].

⁹¹ Raymond Clare Archibald, 'Notes on Some Minor English Mathematical Serials', *Mathematical Gazette*, 14.200 (April 1929), 379-400 (p.395).

⁹² Ibid.

⁹³ I M James, 'James Joseph Sylvester, FRS (1814-1897)', *Notes and Records of the Royal Society of London*, 51.2, (July 1997), 247-261 (p.252).

⁹⁴ Susan Harris, Countess of Malmesbury, *The Life of Major-General Sir John Ardagh* (London: John Murray, 1909), p.5; Stanley Lane-Pole, *Watson Pasha: A Record of the Life-Work of Sir Charles Moore Watson* (London: John Murray, 1919), pp.12-13.

⁹⁵ Ivor Grattan-Guinness, 'The Contributions of JJ Sylvester, FRS, to Mechanics and Mathematical Physics', *Notes and Records of the Royal Society of London*, 55.2, (May 2001), 253-265; Karen Hunger Parshall, 'Sylvester, James Joseph (1814-1897), mathematician', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/26872> [accessed 2 Mar 2018].

regulate the hours of study.⁹⁶ That is not to say researchers could not be good teachers, as in the case of Peter Barlow (see below), but the RMA did not distinguish between the two when selecting staff. The report of the 1846 committee concluded that ‘men of talent and respectability’ were required.⁹⁷ To retain them, the RMA set the maximum salaries of the seven masters at £400, which was £100 more than the various drawing masters and twice that of the language masters. The professor’s salary was £650, or £150 more than the Lieutenant Governor (although the latter had regimental pay in addition).⁹⁸

As one of the handful of centres of mathematical learning in the country, the RMA was always able to attract good mathematicians. In the early nineteenth century, the academy had some notable scholars in Olinthus Gregory and Charles Hutton.⁹⁹ The latter’s Mathematics course had adopted the innovative ‘continental’ approach to calculus.¹⁰⁰ By the 1840s this course had been in use for nearly 50 years, and there appears some truth in Harries-Jenkins’s claim that as the majority of the civilian staff (most of whom were mathematicians) were employed continuously:

[...] for upwards of thirty years, lectures became increasingly out-dated as a form of ‘rote learning’, and it is evident that much of the transmitted information failed to take into account the technological developments which were taking place in Victorian England.¹⁰¹

However, long service is not synonymous with sterility. Hutton’s course had gone through twelve editions which incorporated advances in knowledge; the last being so substantial that it contained ‘not a single line of the original work’.¹⁰² Similarly, when Samuel Hunter Christie was appointed Professor of Mathematics in 1838, after already 32 years’ service, he still agitated for improvements. He advocated a course providing a foundation in elementary mathematics, but also one that was ‘[...] more in accordance with the present

⁹⁶ See for example WO150/51/42, Letter from JJ Sylvester to RMA Lt Governor, 4.2.1863; WO150/51/110, CME Memo (no.2183) on Sylvester terms, 17.2.1863; WO150/53/145, Letter from JJ Sylvester to Inspector of Studies, 7.2.1865; Karen Hunger Parshall, *James Joseph Sylvester: Jewish Mathematician in a Victorian World* (Baltimore: John Hopkins University Press, 2006), Ch.7.
⁹⁷ WO150/35/153, ‘Committee on the Royal Military Academy’s Second Report’, 18.8.1848.

⁹⁸ Ibid.

⁹⁹ Niccolò Guicciardini, ‘Hutton, Charles (1737 - 1823)’, *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/14300> [accessed 2 Mar 2018]; Alexander Gordon, ‘Gregory, Olinthus Gilbert (1774 – 1841)’ *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/11469> [accessed 2 Mar 2018].

¹⁰⁰ Alex DD Craik, *Mr Hopkin’s Men: Cambridge Reform and British Mathematics in the Nineteenth Century* (London: Springer, 2008), pp.60-61.

¹⁰¹ Harries-Jenkins, *Army in Victorian Society*, p.116.

¹⁰² Thomas Stephens Davies, *A Course of Mathematics in Two Volumes Composed for the use of The Royal Military Academy by Charles Hutton*, 2 vols., I (London: Longman, Brown & Co., 1841), Editor’s Preface, pp.iii-iv.

state of mathematical knowledge than that which has until now been followed here [...].¹⁰³ Christie's revised syllabus included the use of better suited course books such as William Whewell's *Treatise on Elementary Mechanics* – Whewell being a reformer of maths education at Cambridge.¹⁰⁴ Christie's plan was accepted on 5th March 1840.¹⁰⁵

However, as mentioned previously, such initiatives came as ad hoc suggestions which lacked coordination and led to wasted effort. So, in 1842 Christie further proposed producing a systematic course published in several parts; this was approved due to his high standing.¹⁰⁶ However, a lengthy correspondence followed, between the somewhat truculent Christie and the Board of Ordnance, over the former's remuneration and copyright entitlement. Ultimately, this terminated with the board declining to meet with him to discuss it further.¹⁰⁷ Nevertheless, in October 1842 the first two parts were commissioned and belatedly printed. Unfortunately, in January 1847 the committee of 1846 found Christie's work 'wanting' and that 'more time was devoted to the higher branches of Mathematics than was considered practically necessary.'¹⁰⁸ They suggested producing a replacement rapidly with various masters writing a chapter each under the overall editorship of Professor Christie. However, owing to differences of opinion between the masters, it was not until June 1847 progress was made. The Marquis of Anglesey sanctioned the plan but caustically added: '[...] this very important work however will never attain perfection and be creditable to the institution unless the masters lend a willing and zealous hand devoid of all jealousy in preparing it.'¹⁰⁹

Still, in 1848, Anglesey, growing tired of delays, appointed Captain Henry Harness and directed the masters to provide material, '[...] taking care to give as practical a character as possible.'¹¹⁰ Christie argued he should be co-editor with Harness but Anglesey rejected the idea stating:

[Harness as editor] is designed to combine all the advantages to be expected from the valuable experience of the [maths staff], with the more extended practical deductions and observations that can be derived from other sources; and which object, it is conceived, will be more fully attained under one responsible editor, a highly qualified military officer.¹¹¹

¹⁰³ RMA Records 1851, p.150.

¹⁰⁴ Craik, *Mr Hopkin's Men*, pp.70-77.

¹⁰⁵ RMA Records 1851, p.152.

¹⁰⁶ WO150/25/15, Letter from Ordnance Office to Lt Governor Sir G Whitmore, 12.2.1842.

¹⁰⁷ WO150/25/176, Letter from Ordnance Office to Lt Governor Sir G Whitmore, 8.8.1842.

¹⁰⁸ WO150/35/153D, Extract of Committee's Second Report, 18.8.1848.

¹⁰⁹ WO150/33/198, Letter from Ordnance Office forwarding a memorandum from the Committee on the Royal Military Academy to the Master General, 24.6.1847.

¹¹⁰ WO150/34/188, Letter from Ordnance Office to Lt Governor Maj General Parker, 11.2.1848

¹¹¹ WO150/35/95, Ordnance Office to Lt Governor Maj General Parker, 8.6.1848, My emphasis.

Apart from bringing Harness's practical knowledge and experience to bear, he was probably seen as a good 'trouble-shooter'. In 1845 he reorganised the Welsh roads, showing him to be 'a man of great ability, and much power of organisation.'¹¹² Then he served on a railway commission, and in 1850 reorganised the Royal Mint.¹¹³ It is perhaps unsurprising that the new course was not finished until 1853, and that it was not Christie who was acknowledged as providing valuable assistance, but his predecessor, Peter Barlow. The latter was a popular master with 41 years' experience at the academy, and to whom 'must be attributed whatever merit [the course book's] general conception and arrangement may possess.'¹¹⁴

It can be seen, then, how improvements based on individual initiative bore risks which ideally should have been avoided by committee. Also, it revealed a developing consensus for the practical application of mathematics – first dropping Christie's course and then handing the project over to a 'practical man'. Despite the new course having a number of mathematical examples of a practical military character, once the CME oversaw teaching in 1858, dissatisfaction was again expressed with the course.

Whist on the one hand, the mathematical instruction must have been sufficient to enable cadets to study professional military subjects, on the other, the foregoing difficulties suggested it was not as effective as it could be. This would have contributed to the effects detected by Harries-Jenkins. He noted a number of individuals who expressed dissatisfaction with the professional attitudes of newly produced RMA officers.¹¹⁵ In support of this were perceptions about officers joining at Chatham as having negligible training in Natural Philosophy.¹¹⁶ Lectures were delivered illustrating principles of statics, dynamics, hydrostatics, hydrodynamics, and pneumatics.¹¹⁷ These were supposedly illustrated by working models, but without much evidence in the correspondence of their repair and acquisition, such lectures must have been very dry. Certainly, the quality of Hunter Christie's lectures had aspersions cast on them when the committee of 1846 rejected the principle that they should be assigned to the professor. In addition, the same committee called for a new lecturer in Mechanics, Machinery and Metallurgy whose

¹¹² Whitworth Porter, *History of the Corps of Royal Engineers* 2 vols., I (London: Longman & Co., 1889), p.486.

¹¹³ Ibid.

¹¹⁴ *An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 1*, ed. by H D Harness (London: HMSO, 1853) Dedication page; A M Clerke, 'Barlow, Peter (1776-1862)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/1435>> [accessed 20 Mar 2018].

¹¹⁵ Harries-Jenkins, *Army in Victorian Society*, pp.117-120.

¹¹⁶ *Yolland Commission Report 1857*, Evidence of Captain Henry Scott RE, p.370.

¹¹⁷ RMA Regulations 1840, Section 15, point 35; RMA Regulations 1848, Section 16, points 38.

lectures were assigned marks – another fact suggesting the lectures in their current form were not highly regarded.¹¹⁸

The Chemistry lectures might be seen in a similar light. Given by Michael Faraday, they were very well thought of; with many officers of Woolwich garrison requesting to attend. Faraday gave 25 lectures per year and between 1830 and 1851 he spent the best part of two days per week at Woolwich to deliver them, which suggested that no matter to whom he was lecturing he took inordinate pains to prepare.¹¹⁹ Even so, Faraday felt:

Lectures alone cannot be expected to give more than a general idea of this most extensive branch of science, and it would be too much to expect that young men who at the utmost hear fifty lectures on chemistry should be able to answer with much effect in writing, questions set down on paper, when we know by experience that daily work for eight hours in practical laboratories for three months does not go very far to confer such ability.¹²⁰

This smattering of chemical training feeds further into Harries-Jenkins's assessment.

The largest course component after Mathematics was Fortification. This was a curious hybrid of subjects and not a pure discipline. It mixed practical drawing skills, geometry, historical and architectural knowledge as well as applied mathematics. Accordingly, such subjects were taught by the appropriate civilian and military instructors; civilians tackling Geometrical Drawing whilst military staff dealt with the 'Attack and Defence of Positions'. In some respects, the course was similar to what was taught in the late eighteenth century. The continuing use of smooth bore artillery meant that benefits could still be derived from studying the systems of long-dead architects Vauban, Cormontaigne and Coehorn. The principles of the 'bastion system', and the attack and defence of such systems, along with the use of mines, remained important.¹²¹ However, by the mid-nineteenth century, the method of teaching was more developed and additional subjects were added. Again, these changes were the result of personal initiatives, but on this occasion with more positive outcomes. In 1836 Henry Harness, then an Assistant Instructor in Fortification, noticed: 'it took the cadets [...] longer to copy the papers given

¹¹⁸ WO150/35/153D, Committee into the Royal Military Academy's Second Report, 18.8.1848.

¹¹⁹ Geoffrey Cantor, David Gooding and Frank AJL James, *Michael Faraday* (New Jersey, USA: Humanities Press International, 1991), pp.40-41.

¹²⁰ Henry Bence Jones, *The Life and Letters of Faraday, Vol. 2* (London: Longmans, Green & Co, 1870), pp.289-292 (p.290), Letter from Faraday to General Portlock, 1.12.1851.

¹²¹ Compare late 18th century course epitomised by, RMA Records 1851, entry for 11th February 1792; SCA, CAYMA: 76.662, Course work of GC Howard Elphinstone, 1791-1793; and, John Muller, *A Treatise Containing the Elementary Part of Fortification, Regular and Irregular* 4th edn (London: C Nourse, 1782), with, SCA, [no. ref.], 'Fortification Plates', unpublished drawings by GC Alexander J MacDougall, 1843-1846.

out to them, than would be required to become conversant with their contents.¹²² He lithographed papers on topics which could be bound up with the cadets' own notes and drawings to form a bound course book; the Professor of Fortification sanctioned their use as 'the difficulties of the institution had so long [been] felt from want of a comprehensive elementary course of fortification.'¹²³ The regulations of 1840 and 1848 combined this 'quarto' book with a folio of large drawings produced during the course. Together they constituted the cadet's course work and were presented at the final exam; presumably they also served as a reference in the young officer's early career.

Harries-Jenkins criticised the academy of the mid-nineteenth century in general terms, suggesting it was questionable how far the subjects studied contributed to the development of professionalism.¹²⁴ However, an analysis of the Fortification course, widely considered a core requirement of the education of artillery and engineer officers, suggests that whilst not without its weaknesses, it would be a misrepresentation to say its benefits were only questionable. Similarly, another common criticism was the number of subjects, but this is partly explained by how the constituent subjects of Fortification had to be studied in sequence, thus:

Previously to commencing the study of fortification, a knowledge of Practical Plane Geometry, of Descriptive Geometry, and skill in Mechanical Drawing are essentially necessary. Each of these subjects forms a special branch of study at the institution; and the cadet is [urged] to apply himself attentively to these early parts [...] to prepare himself to enter with advantage on the Study of Fortification.¹²⁵

These preliminary studies were taught in the fourth, and subsequent third, classes. Geometrical Drawing was taught by two civilian masters and involved drawings of geometrical figures (accurate polygons, parabola, curves, ellipses etc.), scales, shading, perspective - all synthesised into a plan, section and elevation of an ordinary building.¹²⁶ It may have included elements of practical geometry, involving parts of the 'Geometry of Planes and Solids' as covered in the second volume of the academy maths course.¹²⁷ Such drawing prepared cadets for Descriptive Geometry in the second class. This was a

¹²² RMA Records 1851, entry for August 1836, p.146.

¹²³ *Ibid.*, p.147.

¹²⁴ Harries-Jenkins, *Army in Victorian Society*, p.116.

¹²⁵ *Treatises on Mechanical Drawings, On the Arms in Use, On Permanent Fortification, The Attack and Defence of Fortresses and on Military Mines, Compiled by the Professors and Instructors and printed for the use of the Gentleman Cadets, at the Royal Military Academy Woolwich* (Woolwich: E Jones, 1847), Preface.

¹²⁶ RMA Regulations 1848, Section 16, point 10; See SCA, [no ref.] 'Fortification Plates', unpublished drawings by GC Alexander J MacDougall, 1843-1846 [first 13 drawings].

¹²⁷ Thomas Stephens Davies, *An Elementary Course of Mathematics, Prepared for the use of the Royal Military Academy Vol.2: The Geometry* (London: HMSO, 1853), pp.138-220.

systematic method of representing three-dimensional objects on paper and was invented by Gaspard Monge, a French mathematician who lectured at the *Ecole du Genie* at Mézières between 1769 and 1784.¹²⁸ This also required two specialist civilian masters; the course content is in the second volume of the academy Mathematics textbook.¹²⁹ The crux of the bastion system was the eradication of defensive blind spots, so it was imperative angles and dimensions of flanks were correct. To ensure the various architectural features of a fortress were combined efficiently, Monge's descriptive geometry gave the methods of exact graphical representation to reproduce the fortress from drawings accurately.¹³⁰

The weapons in use at the time and their capabilities (range, penetrative power, rate of fire etc.) were also studied as a preliminary in the second class; artillery pieces were kept at the 'Upper Academy' and constantly referred to at this stage.¹³¹ So, for example, the general principles of fortification could only be understood, if it was assumed that:

A soldier occupying three feet of parapet, will load and fire three times in a minute, making sure of a reasonable mark at 40 or 50 yards; he usually fires (particularly at night) in a direction perpendicular to his front.¹³²

Contrary to Harries-Jenkins's and Bridget Malcolm's view that the course failed to take into account technological developments, by 1858 the course book included the newly introduced rifle.¹³³ This noted the rifle's ability to '[...] throw its bullet with sufficient force to pass through 39 inches of newly raised stiff clay at the distance of 100 yards' – again, important foundation knowledge when planning field works.¹³⁴

After the preliminary subjects, cadets learnt the principles of fortification through studying field works. Although ostensibly a practical subject, Field Fortification at this stage was learnt in the class room using MacAulay's *Treatise on Field Fortification*. The parapet profile and trace were learnt with a view to adapting them to peculiarities in the field. The extant fine pen drawings, which superficially appear incongruous given the nature of field works, established the exact quantity of material to be excavated and enabled labour requirements to be calculated. The fundamental principles of flank

¹²⁸ Christopher Duffy, *The Fortress in the Age of Vauban and Frederick the Great, 1660-1789: Siege Warfare Volume 2*. (London: Routledge and Keegan Paul, 1985), p.151.

¹²⁹ Davies, *Course of Mathematics vol.2*, pp.221-387.

¹³⁰ Duffy, *The Fortress*, p.151.

¹³¹ WO150/36/189, Col W D Jones, Inspector of Studies to Maj General Parker, 10.2.1849.

¹³² *Treatises on Mechanical Drawings etc.*, 1847, p.10.

¹³³ Harries-Jenkins, *Army in Victorian Society*, p.116; Malcolm, 'Educational Reform at the RMA and RMC', p.13.

¹³⁴ *Papers on Geometrical Drawing, On the Arms in Use and Permanent Fortification, on the Attack and Defence of Fortresses, On Military Mining and on the Defence of Coasts* (London: HMSO, 1858), pp.2-3.

defence, and the relative strengths of field works (lunettes, redoubts etc.) were studied through the cadets' drawings – rather than by digging. Cadets were asked to adapt such works given certain requirements:

What should be the length in feet of the parapet of a square redoubt intended to be defended by 300 men, with two 9 pdrs at the opposite angles, one side only to have a banquette for double rank, and allowance to be made for a reserve of one third.¹³⁵

These complex calculations involved equations based on parameters set out in MacAulay's text.¹³⁶ However, while a useful introductory to the principle of fortification, cadets, such as Nicolls who answered the above question, would not have actually executed any field works until almost two years later upon entering the 'Practical Class'. On this point Harries-Jenkins's criticism of the inadequate link between the theoretical and practical classes would appear justified.

Whilst still in the second class, principles were developed further in 'Permanent Fortification', which were '[...] explained to them by means of short lectures, diagrams and models, and a set of lithographed plates.'¹³⁷ Considerable attention was given to the historical development of the bastion system; starting in the sixteenth century and then examining Vauban's first and third systems, Cormontaigne's system, the French 'Modern System', Coehorn's use of water in the defence, and Carnot's system. The 1858 course added the modifications of the bastion trace by Chasseloup de Laubat, Noizet, Haxo and Choumara. Cadets produced drawings of the principle fronts of fortification; that is, Vauban's, Cormontaigne's and the 'Modern System'. When compared to the 1847 course, that of 1858 elaborated further on the 'polygonal' or German system and also had two lectures on the defence of coasts and the armament of coast defences.¹³⁸ These certainly reflected the increasing attention paid to the polygonal trace and the anxiety of coastal defence due to the advent of steam powered ships.¹³⁹ In fact, it could be argued that too much attention was being paid to the pedigree of the bastion system and not enough on the polygonal, especially when it is considered that from 1856 onwards a chain of mutually dependent polygonal fortresses were being constructed to protect Portsmouth.¹⁴⁰

¹³⁵ SCA, CAYMA:2015.3, 'Fortification Notes', unpublished MS by GC OHA Nicolls, p.6.

¹³⁶ For this example see J S MacAulay, *A Treatise on Field Fortification and Other Subjects*, 3rd edn (London: Bosworth, 1855), pp.15-19.

¹³⁷ *Papers on Geometrical Drawing etc. 1858*, Preface.

¹³⁸ *Ibid.*, pp.156-168.

¹³⁹ Andrew Saunders, *Fortress Britain: Artillery Fortifications in the British Isles and Ireland* (Liphook: Beaufort Publishing, 1989), pp.151-155.

¹⁴⁰ David Moore, *Solent Papers Number 6: Fort Brockhurst and the Gomer-Elson Forts* (Gosport: D Moore, 2011).

Fortification terminated in the first class where the attack and defence were studied through lectures and drawings, and culminated in the production of a 'Siege Diary' with illustrations.¹⁴¹ The diary scheduled when parallels began, batteries dug and detailed the distribution of labour and equipment. It acted as a kind of dissertation which synthesised all the theory of defence and attack into one document. This was appended to the cadets' quarto book for reference and was clearly preparation for the type of journals kept by engineers during the Siege of Sebastopol.¹⁴²

The Fortification course, then, certainly consisted of much theory and technical drawing requiring mastery first to understand the principles. However, the regulations allowed for the truncation of the course at any point if the demand for officers was high.¹⁴³ Certainly, this applied to other parts of the course too. Although, this could be stressful on cadets, for example, when Sir Richard Harrison was admitted direct to the Practical Class during the Crimean War.¹⁴⁴ In normal circumstances though, up to four years of class work unsurprisingly attracted criticism, as noted by Strachan and contemporary observers.¹⁴⁵ One, writing in 1856, cited the original RMA regulations of 1741 which prescribed in detail how siege exercises were to be undertaken, but that this practice had never been implemented.¹⁴⁶ However, it is difficult to judge to what extent this was really true and, if so, how it could have been remedied. For example, the practical part of building field works was taught in the Royal Arsenal whilst Permanent Fortification (i.e. fortresses) was taught with models and drawings – as would any other architectural structure. Perhaps the difference was all in the class delivery, as the following extract suggested:

[fortification teaching required] the constant supervision of the instructor (the want of which no printed explanations, however detailed, can make up for) since the object in view is to teach the student to reason on each subject, and to apply the principles of fortification practically, rather than merely to learn the details of proposed systems, the peculiarities of which are however explained, so as to

¹⁴¹ RMA RegulationS 1848, Section 16, point 21.

¹⁴² See 'Siege Diary' in SCA, CAYMA:2015.3, 'Fortification Notes', unpublished MS by GC OHA Nicolls, 1847; War Office, *Siege of Sebastopol. Journal of the Operations Conducted by the Corps of Royal Engineers: Part II. From Feb. 1855 to the fall of Sebastopol, September 1855*, by Major General Sir Harry D Jones (London: George Edward Eyre and William Spottiswode; 1859).

¹⁴³ See for example, RMA Library, Acc. No. 101139, 'Fortification Notes' unpublished MS by GC R Phipps, 1855. Phipps spent only three months in the 1st Class, the same in the Practical Class, and then was commissioned in August 1855. He produced only one drawing and a very slim siege diary.

¹⁴⁴ Sir Richard Harrison, *Recollections of a Life in the British Army during the Latter Half of the 19th Century* (London: Smith, Elder & Co, 1908), pp.14-15.

¹⁴⁵ Strachan, *Wellington's Legacy*, p.124.

¹⁴⁶ 'The Royal Military Academy', *United Services Magazine*, 1 (March 1856), 338-345.

enable the cadets to form a judgment as to their capabilities of being applied to different sites.¹⁴⁷

However, at first, there was a want of sufficient models or a dedicated model room.¹⁴⁸ After their supply, sand modelling was introduced as the cadets had '[...] considerable difficulty in conceiving the effect of musketry fire in the defence of re-entering angles etc.'¹⁴⁹ The Professor of Fortification felt the nature of the instruction to be sufficiently practical, but that it needed 'constant personal explanation' and that it would be better if cadets were taught in sections of not more than ten so each can '[...] clearly see all the details of the numerous plans and models which are necessary [...] and to admit of their being questioned and made to reason on them.'¹⁵⁰

Perhaps for this reason the Professor of Fortification deemed it advantageous to construct full size portions of the works comprising the attack and defence on waste ground to the rear of the RMA. This ambitious plan was to include a portion of a first and second siege parallel, three different types of battery, a traverse and a field powder magazine.¹⁵¹ Yet, whilst feasible in modified form and approved by the authorities, it is not clear whether the plan was ever carried into effect. Nevertheless, these works do not seem to have been intended for siege manoeuvres, and if built, may still not have deflected the critics. Whether the academy would have had the resources to simulate a realistic siege is difficult to say; for even at the School of Military Engineering in Chatham, siege manoeuvres were held only intermittently.¹⁵²

Next, what might be styled the 'ancillary' subjects will be considered. This term can be justified when the timetable shows Mathematics and Fortification took the lion's share of cadet's time and attention.¹⁵³ Morning sessions of study were always three hours; whereas two or two and a half hours (the latter in summer) constituted the afternoon period. The morning slots were allocated to Mathematics and Fortification (including Geometrical Drawing and Descriptive Geometry) whilst the ancillary subjects tended to be allotted the afternoon or the evening slot, that is, 6 - 8 pm or 5 - 7 pm (if winter). With this in mind, progress in subjects such as French would be consequently difficult. For

¹⁴⁷ *Papers on Geometrical Drawing etc. 1858*, Preface.

¹⁴⁸ WO150/25/132, Captain H O'Brien, Professor of Fortification to Inspector Royal Military Academy, 14.6.1842.

¹⁴⁹ SCA, [no. ref.], letter book starting June 1846, Letter 44, Captain Bainbrigge, Instructor in Fortification to Captain J Williams, Professor of Fortification, 20.6.1846.

¹⁵⁰ *Yolland Commission Report 1857*, evidence of Captain Bainbrigge, p.361.

¹⁵¹ WO150/32/80 & 83, Captain J Williams to Lt Colonel Jones, Inspector of Studies 15 & 16.9.1845.

¹⁵² At this time they were held in 1833, 1844, 1848 and none in the 1850s. See Colonel Bernard Rowland Ward, *The School of Military Engineering 1812-1909* (Chatham: Royal Engineers Institute, 1909), p.42.

¹⁵³ See Appendix 1 Table 4.

example, a cadet in the fourth class in summer, on a Monday, before tackling French at 6 pm would have studied mathematics for five and a half hours and undertaken about two and a half hours of drill.¹⁵⁴

Nevertheless, French was considered necessary to study further fortification, or even mathematical, texts. So, a cadet had to pass a minimum requirement to progress to the Practical Class. Despite this, there was neither a prescribed course of French studies nor an examination standard set. The masters were therefore left to their own devices except for the stipulation to use certain books. However, the criteria for prizes suggested the emphasis was on reading and writing rather than conversation.¹⁵⁵ This was also the case with German, except less knowledge of it upon entry was expected.¹⁵⁶ Although valued by the authorities, attaining a high standard in languages was difficult given both the emphasis on the other subjects and the large class sizes preventing conversation and oral drilling.¹⁵⁷

Plan Drawing was '[...] the method of expressing upon paper [...] the various objects which the face of a country presents, and that are to be delineated by the topographical draughtsman: but of these, the drawings of hills alone demands serious attention, for all the rest give us no difficulty whatever'.¹⁵⁸ Cadets learnt this art by mastering the contour system, which like much of fortification, was borrowed from the French. Contours and shading were based on models and the copying of plans.¹⁵⁹ Like fortification instruction, it was a class-based drawing exercise unconnected with the surveying of the Practical Class. However, the committee considered it 'more useful and more valuable to an officer than Landscape Drawing'; increasing the attendances by two per week and the salary of the Master from £250 to £350.¹⁶⁰ The masters from 1839-1848 were civilians from the Ordnance Survey, between 1848 and 1865 it was an officer of artillery.¹⁶¹

Again, contrary to Harries-Jenkins's view that advances in science were not incorporated into the course, the 1846 committee introduced specialist lectures to the

¹⁵⁴ RMA Regulations 1840, Section 17, 'Distribution of Studies and Employment of Time', pp.90-93.

¹⁵⁵ WO150/38, Lt Governor's Memorandum on Prizes, 25.4.1849.

¹⁵⁶ SCA, [no ref.], *Regulations for the Admission of Gentleman Cadets into the Royal Military Academy at Woolwich*, 1848.

¹⁵⁷ For emphasis on other subjects see WO 150/38/56, M. Lovey, French Master to Col WD Jones, Inspector of Studies, 15.6.1849; for class sizes see *Yolland Commission Report 1857*, evidence of Captain Bainbrigge, p.361.

¹⁵⁸ Basil Jackson, *A Treatise on Military Surveying: Including Sketching in the Field, Plan Drawing, Levelling, Military Reconnaissance etc.*, 4th edn (London: WH Allen & Co., 1853), p.60.

¹⁵⁹ RMA Regulations 1848, Section 16, point 35.

¹⁶⁰ WO150/35/153D, 'Committee into the Royal Military Academy's Second Report,' 18.8.1848.

¹⁶¹ Guggisberg, *The Shop*, Appendix XII, 'The Military Topography Staff of the Royal Military Academy'.

Practical Class.¹⁶² Cadets at this stage were older and caused fewer disciplinary problems; lectures were probably seen therefore as a suitable means of instruction. Proximity to the Royal Arsenal meant the RMA could secure the services of Mr John Anderson, senior engineer in the Inspector of Artillery's department. He was highly recommended by Colonel W B Dundas due to his great practical knowledge and excellent draughtsman skills. Dundas envisaged Anderson giving elementary lectures on practical mechanics but not on higher mathematics.¹⁶³ The mathematics caveat might be due to Anderson's humble origins; an apprentice mechanic at an Aberdeen cotton works, he was recommended as a foreman at the Arsenal where he eventually reorganised it along industrial lines, personally inventing machinery and maximising production during the Crimean War.¹⁶⁴ In any case the mathematics relating to the machines was covered in Part III of the Mathematics course.¹⁶⁵ He gave 20 lectures a year on Mechanics, Machinery and Metallurgy; demonstrating their practical application using working models and specimens of ore to explain the extraction and properties of metals.

Mineralogy and Geology lectures were also established. The reasons for this were not explicitly articulated and the regulations only specify that the elementary principles of the science and the knowledge of the various kinds of mineral and geological strata should be had.¹⁶⁶ Undoubtedly though, the authorities were responding to the growing awareness of the importance of geology for engineering purposes.¹⁶⁷ The academy benefitted from James Tennant (in post 1850-1867), a prominent mineralogist and mineral dealer who would supervise the re-cutting of the Koh-i-Noor diamond.¹⁶⁸ However, it is not clear to what extent the practical application of this knowledge was made. The lectures on Astronomy, on the other hand, had an obvious link for navigation purposes and were built upon the Geodesy carried on in the Mathematics course.¹⁶⁹

After cadets completed the final (or 'first') class of the Theoretical Class, they were billeted down in the Royal Arsenal to commence their studies in the Practical Class. As

¹⁶² Harries-Jenkins, *Army in Victorian Society*, p.116.

¹⁶³ WO150/34/24, Lt Col WD Jones, Inspector, to Maj Gen Parker, Governor, 24.8.1847.

¹⁶⁴ Lionel Alexander Ritchie, 'Anderson, John, Sir, 1814-1886', *Oxford Dictionary of National Biography*, online edn, September 2004-09-23, (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/46572> [accessed 2 Mar 2018].

¹⁶⁵ See *An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 3, Part I: Mechanics, Including Statics and Dynamics; Hydrostatics and Hydrodynamics, Including Pneumatics* (London: HMSO, 1853).

¹⁶⁶ RMA Regulations 1848, Section 16, point 42.

¹⁶⁷ As an example, see Richard Baird Smith, 'Essay on Geology as a Branch of Study especially meriting the Attention of the Corps of Engineers', *Corps Papers of the Royal Engineers and EIC Engineers*, 1 (1849-50), 27-33.

¹⁶⁸ H S Torrens, 'Tennant, James, 1808-1881', *Oxford Dictionary of National Biography*, online edn September 2004, (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/27133> [accessed 2 Mar 2018].

¹⁶⁹ *An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 3, Part II: Geodesy, Including Practical Astronomy by Captain Yolland, RE, FRAS* (London: HMSO, 1853).

mentioned previously, it began in 1820 but its institution arose not from any criticism of a lack of practicality in the existing course, rather it was an expediency to deal with a surplus of cadets. Vacancies in the Ordnance Corps were so few that the cadet establishment was caused to be, not only reduced, but the course lengthened by sending cadets to the Arsenal for additional instruction. The manufacture of ordnance and ammunition, the types of gun and carriage, and attendance at gun practice were all to 'excite them to fresh exertions' after which they would be examined and sent home to await a commission.¹⁷⁰ This measure kept the course at 12 months' duration until 1826 when it was shortened to six months and finally lengthened again in 1847 with the new 1848 regulations. It was the 1846 committee which developed the Practical Class further, by adding the lectures in the three new subjects and developing a marking system making the studies count in the commissioning exam.¹⁷¹

The Practical Artillery course was therefore well established by the mid-nineteenth century, particularly as it was assisted by the various Ordnance establishments nearby. At the Royal Military Repository, the class learnt to move heavy guns and to make bridges. In the Inspector of Artillery's department, cadets observed gun manufacture and proofing. Similarly, the Royal Carriage Department imparted knowledge of all gun carriages, traversing platforms and their manufacture. The course in the Royal Laboratory was particularly involved; having as its objective the qualification of officers in the manufacture of all kinds of ammunition. Lastly, at the Woolwich ranges, in the marshes, practice was had of every nature of gun and projectile, including rockets.¹⁷²

Cadets took notes on the manufacturing processes and in class it was recapitulated and augmented with the lessons on the history of artillery and its use in the field. The notes of all of which were written up as 'fair notes' and available for inspection at examination.¹⁷³ The class benefited from some notable instructors. Captain William M H Dixon RA (in post 1846-1851 and later Superintendent of the Royal Small Arms Factory) was reported as 'doing wonders.'¹⁷⁴ The eminent artillerist and inventor, Edward Mournier Boxer, was also an instructor. He had instructed at the Repository, in Fortification at the academy, and later became the Superintendent of the Royal Laboratory.¹⁷⁵ Such was the influence of having these establishments at hand - although they were not always as close

¹⁷⁰ RMA Records 1851, p.113, Master-General Duke of Wellington's minute.

¹⁷¹ WO150/34/83, Memo of Lt Col WD Jones, Inspector of Studies, RMA, 5.11.1847; See Appendix 1 Table 3b.

¹⁷² RMA Regulations 1848, Section 16, part 4.

¹⁷³ For example, SCA, CAYMA: 2015.8, 'Notes on Artillery', unpublished MS by GC A Earle, 1847; SCA, CAYMA: 2015.14, 'Notes on Artillery', unpublished MS by GC J Baddeley, 1843; SCA, CAYMA: 2015.13, 'Notes on Artillery', unpublished MS by GC S Freeling, 1847.

¹⁷⁴ Frances Augusta Eardley Wilmot, *Memorials of Major General Frederick M Eardley Wilmot RA FRS* (London: Clowes, 1879), p.89 letter to Lt Col Lawrence, Rifle Brigade, 20.2.1848, and p.120 letter to John Henry Lefroy 21.8.1849.

¹⁷⁵ WO76/365, E M Boxer record of service.

enough for the cadets. With the Royal Military Repository, the distance from the Arsenal involved an hour's march, and so guns and equipment were removed to the Arsenal for instruction there.¹⁷⁶ Also, whilst the Arsenal was convenient in some respects, it was not a healthy location and did not at first have the best facilities for instruction in Metallurgy or Chemistry.

A point not readily recognised is that the term Practical Class masked the attention, although comparatively small, paid to doctrine and administration. 'Tactics' was not a term specifically mentioned, but under the titles 'Application of Artillery' and 'On the Organisation of Field Artillery', cadet note books recorded a number of maxims about the positioning of guns for defence or attack and the importance of concentrating artillery fire.¹⁷⁷ These remarks were almost certainly paraphrased from Spearman's *The British Gunner*, which was requested as a text by the instructor in the early 1840s.¹⁷⁸ *The British Gunner* was one of two key manuals referred to by artillery officers at this time, the other being the *Artillerist's Manual and British Soldier's Compendium* by Captain F A Griffiths. In terms of doctrine, both were criticised by Robert H Scales as omitting tactics almost entirely.¹⁷⁹ However, whilst Griffith's book was solely concerned with drill, Spearman's did at least propound a *raison d'être* for artillery, supporting it with a list of 'rules of thumb'. Such maxims, which remained core, were repeated in the printed lectures on artillery in 1865.¹⁸⁰ In addition, instruction was given in military law and courts martial; although, despite being in the regulations, no marks were assigned to this.¹⁸¹

Prior to 1841 the Practical Class was known as the 'Course of Practical Artillery' and consisted only of artillery instruction; but in 1841 permission was granted for field work instruction in the Arsenal.¹⁸² Later, with the addition of Surveying, the course befitted the term Practical Class and was more beneficial to future RE officers – a point which calls into question Strachan's view that the Practical Class was biased heavily toward gunners.¹⁸³ However, these new activities were more weather dependent and so there had to be more flexibility in the syllabus. As mentioned previously, some Field Fortification was begun in the Theoretical Class; but now cadets, assisted by a party of Sappers and Miners, could construct the field works described in MacAulay's *Treatise*. The works

¹⁷⁶ WO150/36/216, Inspector, RMA to Maj Gen Parker, Lt Governor, 10.3.1849.

¹⁷⁷ SCA, CAYMA: 2015.8, 'Notes on Artillery', unpublished MS by GC A Earle, 1847, pp.4-8, 44-45.

¹⁷⁸ WO150/28/49, Capt Townsend, Artillery Instructor to Lt Col WD Jones, 31.7.1843; see James Morton Spearman, *The British Gunner*, 3rd edn (London: Parker, Furnivall & Parker, 1844), Entry for 'Artillery: Field Artillery' [particularly 'Application of Artillery in the Field' section].

¹⁷⁹ Scales, 'Artillery in Small Wars', p.55.

¹⁸⁰ Charles Henry Owen, *Elementary Lectures on Artillery Prepared for the Use of the Gentleman Cadets of the Royal Military Academy*, 4th edn (Woolwich: Royal Artillery Institution, 1865), pp.208-211.

¹⁸¹ See RMA Regulations 1848, Section 16, part 4, and SCA, CAYMA: 2015.14, 'Notes on Artillery', unpublished MS by GC J Baddeley, 1843.

¹⁸² WO150/24/76, Ordnance Office to the Governor RMA, 24.2.1841.

¹⁸³ Strachan, *Wellington's Legacy*, p.125.

varied from term to term, and could include: distribution and arrangement of working parties, making fascines and gabions, profiling and construction of a field work, single and double saps, laying gun platforms, revetting and when time permitted, construction of a mine shaft and gallery.¹⁸⁴ Surveying not only included trigonometrical surveying and finding altitudes, but also the use of the prismatic compass to sketch ground, as conducted in Jackson's textbook - an esteemed manual also used at Addiscombe and which 'convey[ed] every lesson in the most impressive manner.'¹⁸⁵ Despite this latter training, it was suggested from experience in the Crimea that some engineer officers 'were not able to sketch ground sufficiently rapidly.'¹⁸⁶ However, whether this is from a want of instruction at the RMA or at the RE establishment in Chatham is not clear.

1.4 Post-Crimean War Reform and the Council of Military Education

The foregoing has thus set out the nature of the course in the 1840s and early 1850s. It is interesting to ponder how long it, and the system of regulation, would have continued had not the academy been caught up in the post-Crimean clamour for reform. Indeed, although there was some criticism of the academy, there was a general level of approval. For instance, the *United Service Magazine* of the 1840s was generally free from complaints about the RMA's educational standards. Further, when appraising aspects of the artillery's organisation, strength, and equipment etc, the cadets' education was not questioned.¹⁸⁷ If anything, there was a point to be made that it was the post-Woolwich education that was the problem. For example, Howard Douglas stated: 'Most young men, after joining the regiment or corps neglect to keep up the knowledge they have acquired at the Academy, and thus are incapable of applying it to useful purposes.'¹⁸⁸ Similarly, another witness:

I can make no suggestions with the view of the improvement of the teaching now given at the academy at Woolwich. The boy learns enough; all that is necessary is to prevent the man from forgetting it.¹⁸⁹

Experience from the Crimea prompted contributors to the military press to concur: 'That Woolwich has sufficed to furnish our engineer and artillery corps with efficient officers, we

¹⁸⁴ WO150, [no. ref.], letter book commencing June 1846, Letter 94, 28.7.1846 and Letter 202, 8.12.1846, "Course of Practical Instruction in Surveying and Military Field Works followed by the class in the Present Term", from Captain RJ Stotherd, Instructor in Surveying and Field Works to Lt Col WD Jones, Inspector, RMA.

¹⁸⁵ *Ibid.*, see Jackson, *Treatise on Military Surveying*, pp.12-15; 'Military Surveying', *United Service Magazine*, 2 (Jun 1857), 208-214.

¹⁸⁶ *Yolland Commission Report 1857*, evidence of Captain Bainbrigge, p.360.

¹⁸⁷ See Lt Colonel Chesney, *Observations on the Re-Construction of the Royal Regiment of Artillery etc.* (London: W Clowes & Sons, 1849).

¹⁸⁸ *Yolland Commission Report 1857*, evidence of Sir Howard Douglas, p.314.

¹⁸⁹ *Ibid.*, evidence of Colonel St George, p.328.

think no one will dispute, after what we have seen in the Crimea.¹⁹⁰ Furthermore during the war, the fact that the studies remained largely unchanged, seems to reinforce the perceived suitability of what was being taught.¹⁹¹ The principal change from the Crimea was the introduction of competitive entrance exams (see below).

The satisfaction with Woolwich is reflected by similar subjects selected to be taught at private institutions. The 'Practical Military College of Sunbury' taught similar subjects and issued its own textbooks. That on fortification was based on material from Sandhurst and Woolwich.¹⁹² The Military Department of King's College, London, for a small fee taught Geometry, Mensuration and Plane Trigonometry. A larger fee provided tuition in Surveying, Reconnaissance, Plan Drawing, Fortification, Ordnance Manufacture, Gunnery, Field Works, and Military Law.¹⁹³ Similarly, the Royal United Services Institution were 'most anxious to obtain the assistance of Scientific Officers' in conducting a practical course of lectures on, amongst others, the 'application of Physical Sciences to Military Art, Field Fortification and Surveying.'¹⁹⁴

Nevertheless, despite the general approval and improvements made in Mathematics and the Practical Class to render the course more practical, the RMA received some criticism on this point.¹⁹⁵ Captain J Morton Spearman's extensive knowledge of continental military education placed the academy on a par with the best European artillery and engineer schools, as far as the theoretical studies were concerned. However, he criticised the practical instruction of engineering and recommended it be continued at Chatham under the control of the academy.¹⁹⁶ Another author felt that new engineer officers had learnt nothing of architecture, drainage or building, and saw the ultimate remedy in the separate training of artillery and engineer cadets.¹⁹⁷

If the approval level for the academy was fairly high, it might be wondered why an enquiry was ordered into the education of artillery and engineer officers. The answer lay in what Spiers referred to as a watershed in the relations between the army and society,

¹⁹⁰ 'Our Military Colleges and the Staff', *United Service Magazine*, 2 (May 1856), 1-6 (p.1); see also 'Hints from the Crimea on the Organisation of the British Army', *United Service Magazine*, 1 (Feb 1855), 256-265 (p.259).

¹⁹¹ *Yolland Commission Report 1857*, evidence of Major-General GG Lewis, Lt Governor, RMA, p.384.

¹⁹² Auguste Lendy, *Treatise on Fortification* (London: W Mitchell, 1862); Auguste Lendy, *A Practical Course in Military Surveying* (London: Atchley & Co, 1869).

¹⁹³ 'Editor's Portfolio: The Senior Class at King's College', *United Service Magazine*, 1 (Feb 1857), 259-266 (p.266).

¹⁹⁴ 'End Matter', *United Service Institution Journal*, 1.1 (1857), (Request by Secretary Capt. B Burgess).

¹⁹⁵ Strachan, *Wellington's Legacy*, p.124.

¹⁹⁶ James Morton Spearman, *Notes on Military Education* (London: Parker, Furnivall & Parker, 1853), pp.35-36.

¹⁹⁷ *The Royal Military Academy and the Artillery and Engineer Services* (London: Simpkin, Marshall & Co., 1855), p.8.

where after 39 years of peace the army was suddenly a focal point of public concern.¹⁹⁸ The sufferings of the troops in the Crimean War brought about by maladministration at various levels shocked the public and resulted in a series of parliamentary enquiries. In the post-Crimean period civilian and military reformers wanted sweeping changes in the purchase system, standards of military education, and the organisation of the reserve forces. However, Strachan and others noted that reforms, including of military education, were either being introduced or discussed before the outbreak of the Crimean War, and that the storm of public opinion tended to take the credit for changes already in motion.¹⁹⁹ Spiers in some measure agreed, noting Sidney Herbert's achievements in reforming army schools whilst Secretary at War (1844-46) and embarking on officer education reform when back at the War Office in 1853. However, taking a longer period than Strachan, Spiers emphasised how the press and parliamentary criticisms of Lord Raglan's staff injected a fresh urgency into the educational debate. Lord Panmure accepted that incompetent staff work had bedevilled the organisation of supplies, transport and the auxiliary services in the Crimea, and so a select committee on the RMC presented a report on the 18th June 1855.²⁰⁰ Lord Panmure followed this by appointing a three man commission (known as the 'Yolland Commission' after its Chair, Colonel Yolland) to report on the best means of reorganising the training of artillery and engineers officers. It presented its findings in January 1857. The commission can be seen as part of a growing wider phenomenon of vigorous reform of civil government. This sought to remove inefficiency resulting from incompetent appointments, themselves arising from the abuse of patronage. The champions of this reform were Sir Stafford Northcote and Sir Charles Trevelyan, whose first victory was establishing competitive entrance exams for the Indian Civil Service in 1853. Competitive exams were seen as the means to remove patronage and open up possibilities for the sons of a growing middle class in a growing government administration.²⁰¹ The Yolland Commission also took a keen interest in their effectiveness during the Crimean War and sought to continue them.²⁰²

The Yolland Commission's report laid the blueprint to be implemented by the Council of Military Education (CME) when they took over the supervision of studies in

¹⁹⁸ Spiers, *Army and Society*, p.97.

¹⁹⁹ Strachan, *Wellington's Legacy*, pp.1-5, 41-3; John Sweetman, *War and Administration: the Significance of the Crimean War for the British Army* (Edinburgh: Scottish Academic Press, 1984), p.7; D P O'Connor, 'The RUSI, Imperial Defence and the Expansion of Empire, 1829-90', www.rusi.org/downloads/assets/OConnor_The_Influence_of_the_RUSI.pdf [access 6.12.2013].

²⁰⁰ Spiers, *Army and Society*, pp.150-151; 317, *Report from the Select Committee on Sandhurst Royal Military College; together with the proceedings of the committee, minutes of evidence, appendix and index* (House of Commons, 1855).

²⁰¹ Charles E Trevelyan, Edward Hughes and H O'Brien, 'Sir Charles Trevelyan and Civil Service Reform, 1853', *English Historical Review*, 64.250 (Jan 1949), 53-88 (pp.76-77); WJ Reader, *Professional Men: The Rise of the Professional Classes in Nineteenth Century England* (London: Weidenfeld and Nicolson, 1966), pp.78-80, 83-84, 96-99; JM Compton, 'Open Competition and the Indian Civil Service, 1854-1876', *English Historical Review*, 83.327 (Apr 1968), 265-284; *Report on the Organisation of the Permanent Civil Service* (London: HMSO, 1854), pp.19-16.

²⁰² *Yolland Commission Report 1857*, pp.lvi – lviii, p.301, Annex 2, Sections A, B, C and D.

1858. The CME's recommendations on the academy were similar to those in the report because the commission's investigation was the most rigorous assessment of the academy to date. Not only this, but unlike the report of the Sandhurst Select Committee, a thorough assessment was made of the military training establishments of certain continental powers (France, Prussia, Austria and Sardinia). The observations made during the visits by the commissioners to the foreign schools were then compared again by a repeat visit to Woolwich after which questions were circulated to a variety of engineer and artillery officers of rank and experience.²⁰³ Visits to the French *École Polytechnique* and School of Application for Artillery at Metz had the most influence on the commission's thinking. They noted how France had 'gradually but completely thrown aside the idea of juvenile military education' and that after a sound school education, candidates entered a military college by stiff competition.²⁰⁴ Competition was particularly intense for the *École Polytechnique*. This was, in a sense, a mathematical university which prepared graduates for various government departments, including the artillery and engineer schools. Here the 'excellent' teaching was deemed a 'skilful combination of two methods which have generally been thought of as incompatible [lectures and tutoring].'²⁰⁵ Such innovations, which also included the separation of teaching staff from the examination function, and a management board, originated from the French Revolution. Nevertheless, some former students found the 'transcendental mathematics' far too advanced for what was actually required.²⁰⁶

In summary, the committee found that the principal defects in the Woolwich system were: 1) the young age of admission, which had led to so much bullying, 2) the admission of unqualified candidates, 3) the great variation in the duration of residence, and, 4) the lack of a constituted body to deal with defects in the management and content of the course.²⁰⁷ Therefore, the commission recommended: restricting the admission age to between 16 and 19, an open competitive exam for admission, abolishing the probationary exam, and adopting written independent exams whereby a cadet could be removed at any half-yearly examination. The remedy for the variance in duration was simple; to adopt a fixed period during which all cadets must remain and none should exceed, except in the case of illness.²⁰⁸ By fixing the period of residence to two and a half years, or five half-yearly terms, the course structure would become more efficient as each term had defined content which built on the preceding one. The committee also suggested introducing Military History (after dropping History and Geography) and the 'Tactics of the

²⁰³ *Ibid.*, page iii-vi.

²⁰⁴ *Ibid.*, page. ix.

²⁰⁵ *Ibid.*, p.27.

²⁰⁶ Ivor Grattan-Guinness, 'The Ecole Polytechnique, 1794-1850: Differences over Educational Purpose and Teaching Practice', *American Mathematical Monthly*, 112.3 (Mar 2005), 233-250 (p.240).

²⁰⁷ *Yolland Commission Report 1857*, pp. I-lvi.

²⁰⁸ *Ibid.*, p.lv.

Three Arms', and changing the instruction style with greater use of lectures as the course progressed. Of equal significance to the fixed term policy was the proposal to abolish the separate Practical Class. By discontinuing Mathematics, Fortification and other subjects in the Practical Class, it was believed cadets' knowledge became dormant or rusty. Therefore, the final two terms were to incorporate theoretical and practical tuition so that they went 'hand-in-hand'.²⁰⁹

The CME could not implement these changes immediately, however, for several reasons. Firstly, their attention was mainly focused on revising the system of exams for direct commissions and setting up the new Staff College. Secondly, their initial plan was to amalgamate the RMA with Sandhurst, turning it into a School of Application where the best RMC cadets would train for the artillery and engineers.²¹⁰ Lastly, once the amalgamation scheme had been abandoned, the academy was left with a 'medley' of cadets which had been admitted under varying circumstances and therefore had a wide variety of ages and abilities. In 1858, for example, there were 65 cadets admitted under open competition, 19 under nomination from the abolished Ordnance School at Carshalton and 16 from Sandhurst.²¹¹ Until these had been commissioned the new five-term system could not be implemented.

Nevertheless, from taking over the superintendence of the academy in July 1858 the CME started to implement the proposals. So, on 4th August 1858 the CME's first action was to only conditionally accept the application for a replacement Mathematics master. In their idealist view, they argued that since the introduction of the competitive exams, candidates who were older and more advanced in mathematics would not require so much tuition. Further, given that the current masters were only required to give 14 hours per week, at some point it might be possible to gradually reduce the establishment, especially if their recommendation be followed that all future masters be required to give four hours per day to the public service. Such masters should also have 'devoted their attention to applied mathematics as that description of study is more especially connected with the requirements of professional science.'²¹² This latter point was a part of their intention of giving 'a more practical direction to studies [...] without checking the advance of the more highly gifted students.'²¹³ With a view to the reduction of Mathematics, when the Lieutenant Governor forwarded the proposed distribution of studies for the ensuing term, the CME suggested a more even distribution of the principal subjects of Mathematics and Fortification, which not only reduced the amount of Mathematics taught

²⁰⁹ Ibid., p.lxi.

²¹⁰ 2603, *Report of the Council of Military Education*, (London: HMSO, 1860) [hereafter *First CME Report 1860*], pp.3-5, 12-13, 16-22.

²¹¹ Guggisberg, *The Shop*, p.89.

²¹² WO150/44/ 50, CME to Horse Guards, copied to the Royal Military Academy, 4.8.1858.

²¹³ *First CME Report 1860*, p.22.

but allowed the ancillary subjects morning slots of study.²¹⁴ It was clear that the academy had lost its rather autonomous position it held under the MGO, but this was made up for by having two former Inspectors of Studies (Colonels Portlock and Elwyn) as CME members. Nevertheless, their academy knowledge did not fully obviate the need to scrutinise it; this was shown when the Lieutenant Governor wanted to introduce Natural Philosophy and Military History lectures. Although in the spirit of the commission's recommendations, the Lieutenant Governor still had to supply a complete timetable of both the Theoretical and Practical Classes before it would be considered.²¹⁵

In January 1859 the CME planned to introduce independent examiners and integrate the practical and theoretical courses. The latter measure would cause the academy to be '[...] considered a School of Application, theoretical and practical instruction being continuous and simultaneous from the beginning to the end of the course.'²¹⁶ However, this was complicated by a high demand for artillery officers in 1859, which caused abridged courses and accelerated class promotion. It was agreed that the independent examiners would examine in conjunction with the academy's, and that a mean of the returns would be taken to determine the order of merit at the periodical exam in June 1859.²¹⁷ The results showed both the independent and academy examiners placed cadets in broadly the same order of merit, but that the CME's examiners generally gave lower marks.²¹⁸ Also, the council found that, apart from Mathematics, cadets' achievements were quite low, particularly in Fortification and its constituent subjects but also in drawing and languages. They concluded this was not from a lack of intelligence, as the competitive exams had shown, but from hurried instruction.²¹⁹ The Lieutenant Governor agreed, responding that these subjects would improve if instruction was continued in the later classes (instead of being abandoned) and if qualifying minimum marks were either assigned or raised for each. These proposals were in line with the CME's vision and he followed this up with the official abandonment of the terms 'Practical Class' and 'Theoretical Class'; with the first division of the Practical Class becoming the first class, its second division becoming the second class, the first Theoretical Class becoming the third class, the second Theoretical Class becoming the fourth class and so on until there were six.²²⁰

²¹⁴ WO150/44/103, CME Memo forwarded to Royal Military Academy, 18.8.1858.

²¹⁵ WO150/44/126, CME Memo forwarded to Royal Military Academy, 23.9.1858.

²¹⁶ *First CME Report 1860*, p.22.

²¹⁷ WO150/45/117, CME Memo, 6.5.1859.

²¹⁸ WO150/45/191, CME Memo, 20.6.1859.

²¹⁹ *Ibid.*

²²⁰ SCA, RMA Governor's Letters Out, 1856-1861, No.191, to Military Secretary, Horse Guards, 24.6.1859.

At this time of change it was clear that the comparisons with the French, that had informed the Yolland Commission, influenced the academy's authorities too. Nevertheless, the Lieutenant Governor was not particularly sanguine about the changes:

It is difficult to conceive that the RMA can become purely a School of Application. It will singly, it is to be hoped, fulfil in a great degree in England the objects served in France, as regards the artillery and engineers by both the *École Polytechnique* at Paris and the *École d'Application* at Metz. It is scarcely to be expected that the bulk of the candidates who may gain admission to the Academy will be so versed in Pure Mathematics as to require no further instruction in that branch. Drawing in various forms, and Modern Languages must be pursued and can scarcely be characterised, at least in their elementary forms, as studies applied to artillery and engineering. The Academy will rather be a school of both theory and practical application, although undoubtedly the applications of science to artillery and engineering will become the leading object especially with the more advanced class.²²¹

The CME responded that in using the term of 'School of Application' it was never their intention to imply pure mathematics should be discontinued, but that it should be a level necessary for the application of theory to practice 'from the earliest moment possible to the latest.'²²² The CME's position was also endorsed by Secretary of State for War, Sidney Herbert.²²³

Similarly, a hint of the French teaching method was proposed by Colonel FA Yorke, the Inspector of Studies, in his overall course of permanent studies to be implemented in January 1860. He proposed that the Professor of Mathematics should give a weekly lecture to the first and second classes, whose notes would be written up under the supervision of staff who might question the cadets to check their knowledge.²²⁴ This emulated the system of 'répétiteurs' in the Polytechnique, whereby after a lecture these specialist tutors would explain and demonstrate to smaller groups the principles in the lecture.²²⁵ Colonel Yorke's proposed distribution became the basis of instruction throughout the 1860s.²²⁶ It bore similarities to the previous distribution of studies, for example with Artillery, Surveying and Field Works assigned to the first and second classes – the position assigned them in the Practical Class, but also accommodated the

²²¹ SCA, RMA Governor's Letters Out, 1856-1861, No.207, to Military Secretary, Horse Guards, 8.9.1859.

²²² WO150/45/29, CME Memo to RMA, 12.9.1859.

²²³ WO150/45/23, War Office letter to Military Secretary Horse Guards, 24.9.1859.

²²⁴ WO150/46/33, Colonel FA Yorke, Inspector of Studies to Colonel Wilford, Governor RMA, 29.10.1859.

²²⁵ *Yolland Commission Report 1857*, pp.9, 17 and 27.

²²⁶ See Appendix 1 Table 5.

new direction, with Fortification, Mathematics, Plan Drawing and French continuing in to these classes.

Not content with re-arranging subjects, the CME sought to change them, most notably, to render the Mathematics course more applied in nature. Despite the sensitivity of requesting one of their own members rather than the academy staff, the Reverend Canon Moseley was asked to draw up a course on the premise that the academy be considered a School of Application. The CME's report acknowledged that it was not possible to adopt the scheme in its entirety, but that its general principles had been acted upon – vaguely attributing the difficulty to a lack of mathematicians in the country who had worked on practical mechanical science.²²⁷ This tended to gloss over the fact that the competitive examinations were not yielding candidates sufficiently advanced in mathematics. Such a deficiency had been noted two years earlier before the CME superintended the Woolwich exams.²²⁸ Professor of Mathematics J J Sylvester and the senior masters altered Moseley's course to be more achievable and the result was endorsed by the Governor and Inspector of Studies. The CME bowed to the experience of the academy's mathematicians, expressing gratitude for their 'cordial support'.²²⁹

The second subject requiring alteration was Landscape Drawing which came under strong criticism by the CME's independent examiner. Essentially cadets were not being taught the fundamental principles of drawing from life and were instead encouraged to copy large and complicated works in colour.²³⁰ He denigrated this stating: 'The object of instruction given ought to be the enabling the cadets to draw intelligently and intelligibly common forms, not the trying to make artists of them.'²³¹ These points were forced strongly onto the Landscape Drawing masters, but taking action was postponed as both were assiduous in their duties and the cadets took great interest in their drawing.²³²

The 1860s were a period of consolidation of the changes made in 1859/1860. The principal change in terms of new subjects were the Military History lectures for the first and second classes. Their introduction was a part of the growth of military history in the nineteenth century. Initially it grew through the strong desire to understand the Napoleonic Wars. As Jeremy Black noted, this happened via popular writings, such as William Napier's works on the Peninsular War, and through the writings of military theorists such

²²⁷ 3502, *Second General Report of the Council of Military Education* (London: HMSO, 1865) [hereafter *Second CME Report 1865*], p.63.

²²⁸ SCA, RMA Governor's Letters Out, 1856-1861, 70, to Lord Panmure, Secretary of State for War, 18.9.1857.

²²⁹ WO150/46/129, CME Memo on Altered Maths Course, 30.1.1860.

²³⁰ WO150/45/191, CME Independent Examiners report, 20.6.1859.

²³¹ *Second CME Report 1865*, p.48.

²³² SCA, RMA Governor's Letters Out, 1856-1861, No. 258 to Military Secretary, Horse Guards, 3.9.1860.

as Clausewitz and Jomini. In Britain the most obvious effect of the latter was on Colonel Edward Bruce Hamley's *Operations of War*, which represented the growing trend of the professional study of military history as a part of military education.²³³ Military History lectures were introduced at the Staff College and the Royal Military College in the early 1860s. Despite their recommendation in the report of 1857, they were not sanctioned at Woolwich until November 1867.²³⁴ This was due to the large number of subjects being taught and it was only through dropping Geology that it could be introduced.²³⁵ The initial lectures by Lieutenant Colonel Frederick Miller were criticised by the CME and he resigned mid-way through in disgust.²³⁶ Fortunately, the academy had on hand Captain Henry Brackenbury. He had been Assistant Instructor of Artillery but expressed dissatisfaction with the monotonous nature of his duties which, upon requesting a more interesting share of the work, prompted the Professor of Artillery, Brevet Major Charles H Owen, to state 'the instruction of the cadets and not that of the instructor is the object.'²³⁷ Brackenbury had already established a strong publication record of military history articles and had the drive to take on the new subject.²³⁸ He was appointed to conclude Miller's lectures and became the Professor of Military History in May 1868. Seizing the opportunity with alacrity, he fought against a general lack of foresight by lobbying for his early appointment. He could then prepare the lectures and obtained large maps, including employing a civilian draughtsman at his own expense.²³⁹ Brackenbury quickly identified the need for a textbook and thought Hamley's the most suitable.²⁴⁰ Indeed, there is a similarity between the overall approach to his lectures and the contents of Hamley's book.²⁴¹

However, arguably another reason which delayed the introduction of Military History was that, in part, it was already taught under the subjects of Artillery and Fortification. Hitherto this point has not been recognised. In Artillery, the first lecture covered artillery's technical development and use; from classical and medieval times through to the invention of gunpowder and nineteenth-century warfare.²⁴² Even if this was generally descriptive, and did not fit into the *Operations of War* treatment of strategy, then certainly the lectures on the 'Organisation, Equipment and Application of Artillery'

²³³ Jeremy Black, *Rethinking Military History* (Abingdon: Routledge, 2004), pp.184-185.

²³⁴ WO150/59/188, Military Secretary letter, Horse Guards, to RMA, 18.11.1867.

²³⁵ 4153, *Third General Report of the Council of Military Education*, (London: HMSO, 1869) [hereafter *Third CME Report 1869*], p.16.

²³⁶ WO150/59/209, Lt Col F Miller, RA, to Lt Governor RMA 26.3.1868.

²³⁷ WO150/56/52, Bt Major Charles H Owen to Inspector of Studies, RMA, 25.9.1866.

²³⁸ Christopher Brice, *The Thinking Man's Soldier: The Life and Career of General Sir Henry Brackenbury* (Solihull: Helion and Co., 2013), pp.38-51.

²³⁹ WO150/59/275, Letter from H Brackenbury to Inspector of Studies, August 1868.

²⁴⁰ WO150/59/243 to Inspector of Studies from Captain Henry Brackenbury, 22.8.1868.

²⁴¹ Compare Appendix 1 Annex 1 with, Edward Bruce Hamley, *The Operations of War*, 2nd edn (London: Blackwood, 1869), Parts 1 and 3.

²⁴² C H Owen and T L Dames, *Elementary Lectures on Artillery, Prepared for the use of the Gentleman Cadets of the Royal Military Academy* 3rd edn, (London: Boddy, 1861), pp.1-13.

contained more recognisable military history. The battles of the River Lech (1632), Friedland (1807), Wagram (1809), Lützen (1813) and Hanau (1813) were all used to illustrate some aspect of the employment of artillery whether it was the passage of rivers or the concentration of artillery fire.²⁴³ Similarly, in Fortification, a descriptive element about the evolution of fortification techniques was given as a preamble, but the lectures on the 'Attack and Defence of Fortresses' were heavily laden with illustrative examples of siege warfare from the Peninsular War sieges and great continental sieges such as Namur in 1695.²⁴⁴

Towards the end of the 1860s any proposed changes to the course of instruction at Woolwich were put on hold until the completion of the findings of the Royal Commission inquiring into the state of military education in 1869. These will be discussed in the following chapter.

Conclusion

This chapter has shown a more complex, but it is hoped, also a more complete picture of the academy in this period. There were certainly deficiencies in the academy's system. The first point raised was the nature of the pre-Crimean entrance exam. The attainments required were obviously vague and the style of questions could also confound; the result must have been frustration for the candidates and examining professors alike. This should have been perfectly avoidable with more open and consistent guidance about the requirement. In addition to this, however, is that this characteristic vagueness meant the entrance standard could be lowered to meet the pressure for supplying additional officers. Both factors would obviously have a somewhat negative bearing when maintaining professional standards.

Another factor which affected professional standards was the character of the regulatory system of the course itself. Early in the chapter it was described as an elastic 'gentleman's agreement'. Presumably, this would not have focused the mind of certain cadets on serious study, and potentially weakened the sense of professionalism which could have otherwise developed under a more rigorous regime. These were features that the Yolland Commission reflected upon with justifiable incredulity. Furthermore, the persistence of bullying tended rather to confirm a general lack of discipline and/or a lack of academic pressure on cadets. Indeed, this bullying had become so intense it resulted in the committee and course changes of the late 1840s.

²⁴³ Ibid., pp.191, 201, 203-212.

²⁴⁴ *Papers on Geometrical Drawing etc. 1858*, pp.40-44, 68-76, 80, 88.

These points highlighted by the commission were picked up by Guggisberg and Harries-Jenkins. However, such judgements do not take the historical context into account outlined in the first section of this chapter. The RMA was in a somewhat invidious position in being a scientific and mathematical training establishment within a country where such subjects were not valued. The direction the RMA had to take was a much more 'learner centred' approach, in effect a kind of coaching and development of individuals. This meant the RMA could not impose a fixed term 'modular' structure where the beginning and end state of students' knowledge could be guaranteed. Indeed, far from being *laissez-faire*, the academy was 'bending over backwards' to regulate the course as the voluminous correspondence on this bears witness. It was also a task made more difficult by the separate location in the Arsenal of the final stage of the cadet course. Whilst it could be argued that the academy was 'making a rod for its own back', it is unlikely it had the authority to push for the reforms that the Yolland Commission did. The drive for written competitive exams brought in for the Civil Service would probably have been applied to the RMA eventually even without the Crimean War. It was arguably the shock of the war, and the growing trend for rigour in the public service generally, that suddenly made the academy's practices look anachronistic; but it was simply continuing a tried and trusted approach (with improvements made in 1835 and 1848) which it had taken over the previous decades.

Nevertheless, notwithstanding the potential pitfalls or advantages of such a regulatory system, the quality of teaching itself might vary. The difficulties in refining a suitable mathematical course, or the limited nature of some of the lectures in chemistry or physics, are examples of this. Perhaps, the main criticism of the teaching in these professional subjects was the separation of the practical aspect of the course into the very last phase. As has been shown, this was symptomatic of the organisation – the Practical Class having been setup as an ad hoc measure because there was no academy board to review and co-ordinate educational initiatives. Certainly, the lack of a management committee (a feature in overseas colleges) was a problem for attempts to co-ordinate a complex course and timetable. It might have been ameliorated through informal staff fraternisation but there seems to have been little opportunity or tendency for this. Still, in the 1840s attempts were made to improve and vary the tuition in the Practical Class, and although Harries-Jenkins criticised the lack of feedback between the two course components, there is little record of complaint on this head. Indeed, the benefits of having the following nearby: a functioning artillery garrison (including the Royal Artillery Institution), various manufacturing departments (guns, gunpowder and carriages), practice

ranges and the Repository; must be considered as a hitherto unacknowledged boon to the professional instruction.²⁴⁵

Whilst the degree to which these points affected the development of professional attitudes and skills is open to debate, the course at the RMA certainly contained subjects which were requisite for the professional education of artillery and engineer officers. A superficial glance gives the impression that there were too many to be instructed efficiently. However, some were either an offshoot of pure mathematics and were used for surveying and gunnery, whereas others followed successively in fortification studies. In this way there was considerable overlap. True, there was no common ground between Landscape Drawing, French and Artillery, but overall the course hung together in a logical way. In addition, contrary to the characterisation of an out-of-date syllabus, it kept abreast of new technology. In Fortification, rifled weapons and the Polygonal System were considered, and Owen's lectures on artillery dealt thoroughly with guns such as the new Armstrong 12 pdr. Such conclusions can only be arrived at by a detailed examination of the course, and this has thrown up other information which suggests some long-held assumptions about the content of instruction need to be reconsidered. Firstly, the way in which military history was already worked into the Artillery and Fortification courses is something that has not been fully appreciated, and similarly, with the elements of tactical doctrine incorporated into the Artillery course. The staff, too, appeared capable, with people such as Faraday, Rutherford, Crofton, and Hunter Christie on the civilian side, and Brackenbury, Owen and Harness on the military side. That there were exceptions such as Sylvester would probably ever be the case; but even Sylvester's eminence brought a gravitas to the academy.

Therefore, whatever problems the RMA had, there was still a general level of approval of it in the pre-Crimean period and even during the war. This may have lain in the disposition of the staff, for certainly, when the reforms were brought in, there seemed to have been a general willingness to adopt the French-inspired methods. These were to be consolidated throughout the 1860s, but there was barely enough time for them to really take hold before the second thorough investigation into the academy was conducted, just over a decade after the Yolland Commission.

²⁴⁵ For an overview of the district see, *The Royal Artillery, Woolwich: A Celebration*, ed. by Brigadier Ken Timbers (London: Third Millennium Publishing, 2008).

Chapter 2: RMA Woolwich Course of Studies 1870 - 1902

This chapter examines what happened to the course at Woolwich in the late Victorian era. The 15 years after the Crimea had seen the academy consolidate a number of changes; the introduction of open competition for entrance, the standardisation of cadets' duration of residence, the officering of the Indian army, and the gradual development of artillery science and technology generally. However, just as the compulsory course was stabilising, it was temporarily thrown into disarray in 1869 as conflicting and traditional attitudes as to what a gentleman's education generally should be, were brought to bear on the course. This was at a time when the educational system of the country at large was in considerable flux. With the Reform Act of 1867 enfranchising even more members of the middle class, their educational demands caused schools and society to adjust to the implications of the recent Public Schools Act (1868), the Endowed Schools Act (1869) and the Elementary Education Act (1870). All this was important for the quality of candidate for the RMA and the extent they could undergo instruction in it. Then there were the changes more directly affecting the army. At the beginning of the period covered in this chapter Edward Cardwell's reforms as Secretary of State for War were in the course of either implementation or preparation. Part of this pursuit for economy and reform was the Royal Commission of 1869, arguably the most extensive investigation in scope and depth carried out on army education in the nineteenth century. Its findings would set the course at Woolwich for almost the next two decades. However, the drive for efficiency created difficulties once the academy had to repeatedly supply officers over and above the established figure. Bridget Malcolm regarded this as a criticism of Woolwich.²⁴⁶ Yet, these issues were not a consequence of the academy's system *per se*, but rather the reticence of government to comprehend the effect of changes within the Adjutant General's sphere, the rapidly increasing commitment of colonial wars, and the consequent need to invest in increasing accommodation and staff.

To explain these changes the chapter starts with an overview of the state of education in the country and technical education in particular, situating the academy's place within it. Next it looks at the Royal Commission of 1869 in particular depth in order to see how its recommendations were formed. This is necessary as its findings formed the basis for the later Victorian course. It then reviews the commission's recommendations through an examination of the various subjects, ending with an assessment of how well these aims succeeded. Finally, the committee of 1885 and the introduction of the 'bifurcation system' are examined as a prelude to the final committee to examine the course in the period – the Akers-Douglas committee.

²⁴⁶ Malcolm, 'Educational Reform at the RMA and RMC', p.14.

1 Antecedent and Technical Education in Britain

The pattern of secondary and technical education set out in the previous chapter continued perhaps over half way into the late Victorian period. Matters were improving, however, albeit slightly. Although the Universities of Oxford and Cambridge had long neglected the teaching of modern subjects, a significant development eventually came in the 1870s. This was the foundation of the great laboratories – the Clarendon at Oxford (1872) and the Cavendish at Cambridge (1871).²⁴⁷ Michael Argles noted that these positive developments went a good way towards meeting the views expressed in the Third Report of the Devonshire Commission (1873), that is, of research being the primary duty of universities and producing highly educated teachers and professional men of science. However, matters changed slowly; with a contemporary commentator noting the contribution of Oxford and Cambridge was ‘almost negligible’ and that by 1900 they were still places for men who ‘were going to spend £1,000 a year rather than men who were going to earn £1,000 a year.’²⁴⁸ Argles observed, too, how many of the colleges that were to become ‘red-brick’ universities initially did not offer a science and technology education. Instead, they preferred a traditional curriculum of classics and literature which was deemed more respectable and useful in establishing them as universities.²⁴⁹

Unsurprisingly, when a committee of senior artillery officers was appointed to examine whether commissions in the Royal Artillery could be awarded directly to those from university, it was opposed to the measure. Whereas a limited number of direct commissions had been awarded during 1855-6 to both the engineers and artillery, it was felt in 1873 by the committee, that artillery science had advanced so rapidly that the technical knowledge required ‘cannot be secured by an University education as at present conducted, nor does it appear that even a knowledge of mathematics (that indispensable qualification) is insured by the possession of a degree.’²⁵⁰

The lack of technical instruction was not confined to universities either. For a large part of the nineteenth century, up to about the 1890s, the standard of secondary education for the upper and middle classes was initially poor. Furthermore, without a good secondary education it could scarcely be expected that the technical and scientific

²⁴⁷ Michael Argles, *South Kensington to Robbins: An Account of English Technical and Scientific Education since 1851* (London: Longmans, 1964), p.46.

²⁴⁸ *Ibid.* p.47.

²⁴⁹ *Ibid.*

²⁵⁰ C935 *Report of a Committee on the Admission of University Candidates to the Scientific Corps*, (London: HMSO, 1874), p.v.

education of the country would be any better.²⁵¹ After the Great Exhibition of 1851 highlighted the need to stay ahead of foreign competitors, the Science and Art Department (founded 1853) promoted the teaching of science through grants to all manner of education providers: schools (including primary schools with classes of older pupils), the Mechanics' Institutes (which provided training to artisans), colleges, universities and private teachers.²⁵² In 1860 the department subsidised 30 classes and 1,340 candidates, mostly in private and endowed schools. By 1873 there were 1,182 classes and 24,674 candidates. However, the classes were seen as too theoretical due to the reluctance of industry to engage with the teaching for fear that trade secrets might be exposed. Their preference for entry into the profession was through an apprenticeship.²⁵³ In this context, then, the Royal Military Academy was unique in being a place in which a young man learnt the theory in mathematics, geometry, mechanics and chemistry, but also saw the manufacturing process in the Royal Arsenal or Waltham Abbey Gunpowder Mills, and at the same time learnt to use the products of these factories on the ranges of Shoeburyness.

Despite improvements, the Paris Exhibition of 1867 revealed the inferiority of British products.²⁵⁴ Lyon Playfair (former head of the science branch of the Science and Art Department) and industrial authorities attributed this to the fact that Britain did not have good systems of education for factory and workshop masters and managers, whereas the French, Swiss, Prussians, Austrians, and Belgians did.²⁵⁵ However, insufficient technical education should not be viewed as the sole cause of the problem but also as a symptom of Britain's position in the world. J F C Harrison suggested that Britain was paying the price for being the first in the field of industrialisation, and when larger nations followed it was inevitable that they would surpass her in certain respects. He averted to entrenched attitudes too; such as the expediency of trusting to technology which, although old, was nevertheless productive, reliable and robust.²⁵⁶ The approach to educating engineers²⁵⁴ might also be seen as an entrenched attitude. Buchanan examined how nineteenth-century engineers cautiously changed their education from one which was essentially based on pupilage and apprenticeship in an engineering firm or factory, to one based on the initial acquisition of scientific knowledge.²⁵⁷ The reluctance to change was attributable to the strongly established system of apprenticeships and the vested interest

²⁵¹ Curtis, *History of Education*, p.140.

²⁵² *Ibid.*, pp.492-493.

²⁵³ Argles, *South Kensington to Robbins*, pp.21-22.

²⁵⁴ That said, British artillery materiel was deemed by industry and Lt Col CH Owen, RMA Professor of Artillery, to compare favourably with the other great powers. See Charles Henry Owen, 'Modern Artillery, as Exhibited at Paris in 1867', *Journal of the Royal United Services Institution*, 12 (1869), 90-103.

²⁵⁵ Argles, *South Kensington to Robbins*, p.26.

²⁵⁶ John Fletcher Clews Harrison, *Late Victorian Britain* (Abingdon: Routledge, 1991), p.17.

²⁵⁷ RA Buchanan, 'The Rise of Scientific Engineering in Britain', *British Journal for the History of Science*, 18.2 (July 1985), 218-233.

in pupilage fees. This was the situation well into the 1870s when change started with the unprecedented expansion of the profession in numbers and prestige brought about by the boom in railways, steam navigation and public works.²⁵⁸ A basis for this had started with the foundation of the School of Mines (1851) and the Royal College of Chemistry (1845). These later merged to become the Royal College of Science, and later still Imperial College.²⁵⁹ The Professor of Mechanics and Natural Philosophy at the RMA, Thomas Goodeve, held a lectureship at the college concurrently with his at Woolwich, so it could be assumed that the Woolwich teaching was on a par with that at the Royal College of Science. Likewise, Henry Cole, director of the Science and Art Department, requested Captain Martin at the RMA to be the Woolwich district inspector for his department.²⁶⁰ The academy staff were obviously well thought of and benefitted from being near the capital's institutions and societies. Nevertheless, it was suggested that these positive developments were attenuated by the emulation of aristocratic styles of life by the English middle classes. This was inimical to dynamic progress and was a factor in the reluctance to put Britain's scientific and technical training onto a stronger footing.²⁶¹ Hence, the types of curricula initially offered by the red-brick universities mentioned above.

Britain's attitude to scientific training is rendered clearer when contrasted with the situation in India. Having fewer manufacturers to provide apprenticeships, India looked to its technical colleges to provide its engineers. As the Indian Public Works Department grew, additional staff had to be recruited from Britain.²⁶² Yet, the pre-appointment training of those recruited by open competition compared poorly with that of the Indian colleges causing the department to complain: 'We cannot but feel anxiety as to the effect on the Department of the admission annually of so large a number of young men, so imperfectly educated as these evidently are.'²⁶³ In 1868 the India Office considered a scheme for a college in Britain to train civil engineers for India. The chief advocate was a previous president of Calcutta Engineering College and an Addiscombe trained engineer, Lieutenant Colonel George T Chesney, who became its first president when the Royal Indian Engineering College opened at Cooper's Hill, Egham, Surrey, in 1872. There were similarities between Cooper's Hill and the RMA in their aims of providing as complete and as well rounded an education as possible for their graduates' next appointment. The course at Cooper's Hill could be characterised as a combination of the RMA course and the military engineering course at Chatham. The students were slightly older at Cooper's Hill and the course was three years. Still, the admission requirements, the level of

²⁵⁸ Ibid., p.223.

²⁵⁹ Argles, *South Kensington to Robbins*, pp.51-53.

²⁶⁰ WO150/61, Letter 186, Henry Cole to Captain Martin, RE, 21.4.1868.

²⁶¹ Harrison, *Late Victorian Britain*, pp.19-20; see also Reader, *Professional Men*, pp.204-206.

²⁶² Anthony Farrington, *The Records of the East India College Haileybury and Other Institutions* (London: HMSO, 1976), pp.135-136.

²⁶³ Ibid., p.136.

mathematics and the structure of starting with foundation subjects which were dropped as students moved onto more applied subjects, had similarities with the RMA. So, too, was the incentive of competition for passing out – at the RMA the prize was an engineer's commission, whereas at Cooper's Hill it was the opportunity of a year's salaried placement in an eminent civil engineering firm.²⁶⁴ John Black equated the RMA, Cooper's Hill and the principal Indian college at Roorkee with one another and suggested that they were well in advance of the prevailing instruction provided in Britain's secondary and higher education system.²⁶⁵ Such was the similarity in the education that when the artillery and engineers required more officers than the academy could supply some commissions were competed for by Cooper's Hill graduates.²⁶⁶

The problem was echoed in the experiences of the authorities administering the Woolwich admission exams. The Council of Military Education (CME) initially conceived the examinations for direct commissioning and entry to the cadet colleges on the principle that the exam should not include any professional subjects and be based on prevailing educational standards. Fully alive to the deficiency in mathematical instruction in the country, they wrote to the headmasters of the prominent public schools for guidance as to what could be expected of a boy and framed their examination questions according to the responses received.²⁶⁷ During the early 1860s adjustments were made to the number of subjects and the weighting to prevent hunting for marks through diffuse and superficial study – a recurring battle. By 1865 the CME were satisfied with the entrance exam and especially the direct entrants from Cheltenham and Marlborough with their modern departments.²⁶⁸ However, the hope that well-prepared candidates would come direct from the public schools, if classics was included, was not realised and private tutors were commonly employed.²⁶⁹ Nevertheless, the Royal Commission of 1869 remained faithful to the policy of basing the entrance examination 'with a special reference to the curriculum adopted at the most advanced of our Public Schools.'²⁷⁰ In this case, 'most advanced', meant places like Cheltenham – a clear attempt to encourage modern developments in more schools. Still, some felt the commission members had too many classicists and were

²⁶⁴ *Report of the Committee on the Course of Study at the Royal Military Academy, Woolwich; with Minutes of Evidence* (London: HMSO, 1886) (hereafter *Report of the Morley Committee 1886*), evidence of Major General G Chesney, points 1664, 1678 and 1708.

²⁶⁵ John Black, 'The Military Influence on Engineering Education in Britain and India, 1848-1906' *Indian Economic Social History Review*, 46, (2009), 211-239.

²⁶⁶ Black, 'Military Influence on Engineering Education', p.234; C5793, *Fourth Report on the Education of Officers by the Director General of Military Education* [hereafter *Fourth DGME Report 1889*] (London: HMSO, 1889), p.16; C6859, *Fifth Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1893) [hereafter *Fifth DGME Report 1893*], p.5.

²⁶⁷ *First CME Report 1860*, p.5.

²⁶⁸ *Second CME Report 1865*, pp.51-62.

²⁶⁹ *Third CME Report 1869*, pp.13-14.

²⁷⁰ *First Report of the Royal Commission appointed to Inquire into the Present State of Military Education and into the Training of Candidates for Commissions in the Army* (London: HMSO, 1869) [hereafter *Dufferin Commission Report 1869*], p.38.

pandering too much to the old public schools with the continual prominence of classics in the entrance exam.²⁷¹ The tension between the proponents of science and those of classics (as typified by the Headmaster's Conference) continued into the 1880s. In the 1890s the battle was over the undue prominence of modern languages in the entrance exam for Woolwich, which, in conjunction with the system in force there, created controversy whereby cadets could obtain an engineer commission based on languages.²⁷² A memoir from the mid-1890s by an ex-Woolwich Governor decried the 'apathy of the public schools, in not teaching the boys who may desire to follow a military career the subjects which are held to be essential to the profession.'²⁷³ What this meant for the candidates was an inevitable recourse to a tutor or 'crammer'. For example, Sir Edward May recalled how Rugby taught little but classics so he went to a 'dreadful' establishment solely to learn mathematics, just at the time his classical education was blossoming.²⁷⁴ Ernest Swinton's rather disjointed schooling also required a couple of crammers. Charles Callwell, on the other hand, found Haileybury's modern side adequate – although other Haileyburians still had to resort to tutoring. Cheltenham and Clifton were more consistent in their instruction. Henry Austin transferred to the military and engineering side of Clifton in order to enter the RMA. Under the tuition of noted mathematics educationalists, Hall and Stevens, he passed into Woolwich first time.²⁷⁵

In this way it seemed the academy was still in the somewhat invidious position with respect to the country's education as it had been in, say, 1840 or earlier. Official CME and DGME reports expressed satisfaction with the improved assessment of a candidates' mathematical knowledge. However, they remained dissatisfied with the method of its acquisition, and neither was it so universally advanced among candidates that science and mathematical training could be abandoned once at the academy. In any case the principles of applied or 'mixed' mathematics would nevertheless have to be given their peculiar military bent once at the institution. The manner, details and the reasons for this development within the course of instruction are examined in the following sections.

²⁷¹ Worthington, 'Antecedent Education and Officer Recruitment', pp.144-146.

²⁷² Ibid., pp. 170-171, 178-179.

²⁷³ Adye, *Recollections of a Military Life*, pp.296-297.

²⁷⁴ Sir Edward May, *Changes and Chances of a Soldier's Life* (London: Philip Allan & Co, 1925), pp.17-19.

²⁷⁵ Ernest Swinton, *Over My Shoulder* (Oxford: George Ronald, 1951), pp.21-34; Charles Callwell, *Stray Recollections, Vol. 1* (London: Edward Arnold & Co, 1923), pp.22-23; Herbert Henry Austin, *Some Rambles of a Sapper* (London: Edward Arnold & Co, 1928), pp.26-28; see also Francis Stewart Gilderoy Piggott, *Broken Thread: an Autobiography* (Aldershot: Gale & Polden, 1950), pp.14-15; and Watkin Williams, *The Life of General Sir Charles Warren* (Oxford: Basil Blackwell, 1941), pp.23-24.

2 The Royal Commission of 1869 & the Shaping of the Late Victorian Course

Contemporary observers were aware that the country's education system needed improvement and a number of commissions were convened on the subject. The Clarendon Commission, which examined the great public schools in 1861, inspired Lord Eustace Cecil in 1866 to put a motion before the House of Commons asking the Queen for a Royal Commission to examine the cadet colleges. He felt this move necessary due to frequent outbreaks of insubordination which he attributed to the austere military conditions. He also questioned the difficulty of the RMA entrance examinations, the necessity of maintaining two colleges and a perceived excess of instructors.²⁷⁶ His initial attempt failed, but subsequent disturbances of a very public character at Sandhurst moved Lord Cecil to again put the same motion. This time he enumerated the defects more concisely and gave more specific examples which, when he was appointed to the Royal Commission, naturally became some of their lines of enquiry. These included: the wisdom of placing the enforcement of discipline in one set of hands and the imparting of instruction in another and that too many subjects had to be got up in too short a time. Lastly, perhaps most importantly – that no attempt was made to ascertain the talents of the individual cadet and turn them to his advantage.²⁷⁷ The motion was passed and on the 23rd June 1868 the commission was appointed with Lord Dufferin as chairman. The report was issued on 9th August 1869.

At the start of questioning, an important witness, Major General William CE Napier (vice president of the CME), stated: 'the RMA is at present working in a very satisfactory way, both as regards study and discipline, and I have come to the conclusion that the less it is interfered with the better.'²⁷⁸ The commission generally agreed, but it must be remembered that the CME's main concern was the regulation of exams, studies and timetables; the commission, however, had a broader perspective and remit, and was able to recognise certain organisational flaws that could be remedied. Although there remained a general satisfaction with the RMA, despite the indications of Lord Cecil, there were those with ideas to improve it.

The Professor of Artillery, Lieutenant Colonel Charles H Owen, formulated his ideas in a pamphlet circulated to key decision makers: the academy authorities, the Commander-in-Chief, the Deputy Adjutant General of Royal Artillery, the vice president of the CME and the chairman of the Royal Commission.²⁷⁹ Due to his sending it before the major tranche of RMA evidence was taken, it is worth exploring – as it seemed to have

²⁷⁶ Hansard, HC Debate, 16 March 1866, vol.82, cc423-40, 'Motion for a Royal Commission'.

²⁷⁷ Ibid., 5 May 1868, vol.191, cc1819-338, 'Resolution'.

²⁷⁸ *Dufferin Commission Minutes 1870*, point 1171, p.38.

²⁷⁹ WO150/62/219, Lt Col CH Owen to Col George T Field, Inspector of Studies, 4.11.1868.

played a part in the thinking of the Royal Commission and the framing of official questions put to the RMA witnesses. Owen observed that the RMA was neither a military school teaching general and professional subjects, nor a professional 'School of Application', but rather a compromise of the two. This meant there was a very large staff and a complicated division of time among numerous subjects causing few to be mastered thoroughly.²⁸⁰

To turn the academy into a School of Application, Owen suggested dispensing with the lower branches of pure mathematics and having a core of obligatory military and scientific subjects: Fortification, Artillery, Surveying and Topographical Drawing, Practical Geometry, Mechanics, Natural Philosophy, Chemistry and Military History. Additional voluntary ones of Pure Mathematics (higher branches), languages and Landscape Drawing, would count towards commissioning and have prizes. Although useful, these latter took up more than one-third of the course. Owen thought they were better taught at school and too talent dependent.²⁸¹ Crucially, these subjects only required 24 instead of 34 instructors and could be arranged into four terms, reducing the course to two years. The last two terms would consist of Artillery, Fortification and Military History which allowed either the continued joint education of engineer and artillery cadets or the separation in the last term – which Owen initially favoured.²⁸²

In his view of the evidence to the commission, Harries-Jenkins believed a divide existed between those who saw the RMA as a potential university with greater freedom of study, and those who saw it purely as a school for training cadets for their commissions:

Unfortunately, until a positive choice was made between the two possible patterns of development [i.e. university vs. cadet college], the innate incompatibilities of the two courses of action generated professional conflicts and dysfunctional consequences which retarded the full attainment of the potentialities of Woolwich instruction. This was a conflict between the theoretical and the practical, and between the objects of the primitive and competitive military organisation.²⁸³

However, there is very little evidence of this conflict, in fact there was a remarkable agreement on many points. The source of Harries-Jenkins's comment probably lay in the lack of consensus on whether artillery and engineer cadets should share the same course or be separated to receive tailored instruction. This naturally led to varying views as to which subjects (and their depth) were relevant to the respective corps. The notion of

²⁸⁰ Charles H Owen, *Remarks on the Education Given at the Royal Military Academy at Woolwich with a few Observations on the Training of Artillery Officers* (Woolwich: Boddy, 1868), pp. 8-10.

²⁸¹ *Ibid.*, pp.12-13.

²⁸² *Ibid.*, pp. 5, 15, 19.

²⁸³ Harries-Jenkins, *Army in Victorian Society*, pp.148-149.

university freedom was, in reality, just cited by witnesses as an example of how best to stimulate the cadets' minds to ease the acquisition of professional knowledge. There was never any doubt as to the ultimate object of the academy as evidenced by the Professor of Mathematics:

In the course of Mathematics and Mechanics of a scientific military school, it is clear that those sciences should be viewed as instruments indispensable to certain technical and practical applications [...] hence these courses have necessarily a professional and peculiar character different from colleges or university teaching.²⁸⁴

Captain Henry Brackenbury also advocated a School of Application teaching the same compulsory and voluntary subjects. However, whilst Owen changed his mind about the joint instruction of artillery and engineer cadets in his final evidence, Brackenbury believed they should be separated after one year, stating that, at present, Surveying and Fortification were carried too far for the artillery whilst the artillery studies were too detailed for an engineer.²⁸⁵ The only other military member of staff who advocated a School of Application was Major W J Stuart, who also suggested the separation of engineer and artillery cadets.²⁸⁶

Most instructional staff, however, did not refer to the School of Application model. Presumably this was because, whilst many witnesses urged a higher mathematics entry requirement to facilitate effective study on the course, they could never conceive of a time when the candidates' maths standard would be so high that its study could be abandoned after entry. This view was expressed by CME authorities such as Canon Henry Moseley.²⁸⁷ The objection to raising the maths standard was principally age. The CME mathematics examiner, Reverend Canon Heaviside, thought the youth of the candidates was such that enough was already expected of them.²⁸⁸ Additionally, as the CME vice president put it, the current entrance knowledge would not be sufficient for the engineers.²⁸⁹ It was inevitable, therefore, that any revised syllabus would contain Mathematics. The complication was that a balance had to be struck between the varying mathematical abilities of cadets and arguably differing maths standards for the engineers and artillery.

²⁸⁴ WO150/76 Letter 163, Morgan Crofton to Major General JLA Simmons, Governor, August 1873.

²⁸⁵ *Dufferin Commission Minutes 1870*, evidence of Captain H Brackenbury, points 6947, 6963-4.

²⁸⁶ *Ibid.*, Appendix III, '(v.) Answers received from Major WJ Stuart, RE, Instructor in Fortification', answers (III)(e) and (IV), pp.li-lii.

²⁸⁷ *Ibid.*, evidence of Reverend Canon Moseley, point 2112.

²⁸⁸ *Ibid.*, evidence of Reverend Canon Heaviside, point 2411.

²⁸⁹ *Ibid.*, evidence of Major General WCE Napier, point 1315-6.

In order to resolve conflicting views over the depth of Mathematics teaching, the concern of too many subjects and the perceived need to develop the individual talents of cadets; Owen's suggestion of obligatory and voluntary subjects was adopted. Of course, a cadet's abilities determined whether he entered the engineers or not, and so the question was also bound up with the degree to which the studies of engineer and artillery cadets should be separated. Although some staff supported separate education, the principal authorities of the academy; the Inspector of Studies (Colonel GT Field), the Assistant Inspector of Studies (Captain EJ Bruce), the Professor of Mathematics (Mr JJ Sylvester), and the Professors of Fortification (Lieutenant Colonel JJ Wilson) and Artillery (Lieutenant Colonel CH Owen), all agreed on joint education.²⁹⁰ The final comments of the Commander-in-Chief (also technically RMA Governor) presumably settled the matter:

I should be very sorry to see any change which should make a division in it [the RMA] between the artillery and engineers; I am quite sure that that would be the worst thing which could be done for Woolwich, and I hope that no such feeling will influence the minds of the Commissioners.²⁹¹

However, the academy authorities could not agree over the feasibility of splitting the course into obligatory and voluntary subjects.²⁹² Also, with regard to developing cadets' talents and tastes, there was an element within the commissioners, particularly the Reverend W Lake, who asked leading questions about introducing classics. This was perhaps unsurprising as Lake was a teacher and follower of Dr Arnold who saw classics as central to a liberal education.²⁹³ The conclusion of such questioning was that, whilst it would not be advisable to force all to study classics, the only way to introduce it was by making it voluntary.²⁹⁴ The other advantage which the advocates stressed was the beneficial by-product of the proposal, which was the reduction of the course to two years resulting in commissions obtained at a slightly younger age.

The Royal Commission concluded that the numerous subjects were in some branches occasionally carried too high and tended to be diffuse, yet the work became more severe at the end of the course. It recommended reducing the number of subjects, the prominence given to mathematics, and most importantly, established the policy of

²⁹⁰ *Dufferin Commission Minutes 1870*, Appendix III, (B) 'Memorandum by Colonel Field', pp.liv-lvii(lvii); evidence of Capt EJ Bruce, point 6769; Appendix III, '(i) Answers received from JJ Sylvester esq, Professor of Mathematics', pp.xlvii-xlvi(iii); Appendix III, '(ii) Answers received from Lt Colonel JJ Wilson, RE, Professor of Fortification', pp. xlviii- xlix(xlix); Appendix III, '(iii) Answers received from Lt Col CH Owen, RA, Professor of Artillery', pp.l-li(l).

²⁹¹ *Ibid.*, evidence of Field Marshal HRH Duke of Cambridge, point 9526.

²⁹² *Ibid.*, Appendix III, p.xlix & lvi, Statements of Lt Colonel John J Wilson and Colonel George T Field.

²⁹³ Newsome, *Godliness and Good Learning*, pp.57-58.

²⁹⁴ See for example the questioning *Dufferin Commission Minutes 1870*, evidence of Major General WCE Napier, points 1311-4; Lt F Nicolson, point 7826; Lt Col GA Milman, point 7642.

limiting the obligatory course to instruction useful to both artillery and engineers.²⁹⁵ The course became as follows:²⁹⁶

Obligatory	Voluntary (only 3 selected)
Mathematics to plane trigonometry (1 st term or year only)	Higher mathematics
Field and Permanent Fortification (Limited to that requisite for the Artillery, merely mechanical drawing to be diminished, only geometrical drawing strictly necessary to be included.)	Higher Fortification
Artillery (To be confined to such a moderate course suitable for engineer cadets.)	Latin
Military Drawing, Field Sketching and Reconnaissance	Greek
Military History and Geography	French
Practical Mechanics and application of mathematics to machinery	German
	Chemistry
	Freehand Drawing

The recommendations were a well-balanced synthesis of the evidence put before them; the use of voluntary subjects, for example, reconciled those witnesses who disagreed over separating artillery and engineer cadets. Regarding the optional subjects, however, the commission tended to behave in a rather contradictory manner. By adopting voluntary classics to 'afford every facility to those [...] possessing literary tastes or special ability' they were not keeping their self-declared object of a professional education in view, and the subordination to it of all other considerations.²⁹⁷ This tended to confirm Ian Worthington's observation of how the scientific lobby, epitomised by Lyon Playfair, criticised the classical leaning of the commission. Indeed, the commissioners were also being rather disingenuous about the evidence received in stating that their action was a result of witness statements. Not a single witness from the academy suggested classics should be taught. Three witnesses (Bruce, Owen and Milman) thought it sufficient that a cadet could carry on his classics marks from the entrance exam – but only to maintain his morale once slipping behind due to his relatively inferior maths attainments. Napier, Bruce and Milman, when asked directly, were categorically against its study. Further, when Reverend W Lake tried to lead Lieutenant F Nicolson by suggesting that cadets should go to Latin classes, the young lieutenant pluckily answered: 'That would be making the academy a place for the benefit of the cadets and not for the benefit of the service, would it not? I do not see what would be the advantage of it.'²⁹⁸

²⁹⁵ *Dufferin Commission Report 1869*, p.18

²⁹⁶ *Ibid.*, pp.20-21.

²⁹⁷ *Ibid.*, p.20.

²⁹⁸ *Dufferin Commission Minutes 1870*, evidence of Lt F Nicolson, point 7825.

In making their recommendations no allusion was made to the practice of foreign military systems of education – knowledge of which had been gathered and published in a comprehensive separate report.²⁹⁹ Although no conclusion or reason for this was given, it was probable that simply copying foreign systems into the British context would not have been possible – and perhaps not even desirable. Regarding the French system, those at Woolwich who advocated the School of Application model tended to overlook the comparatively advanced age at which graduates left the *École Polytechnique* and entered the School of Application for the artillery and engineers at Metz. Owen was in favour of modifying the admission age from 16-19 to 16-18 so as to reduce their age upon commissioning.³⁰⁰ Brackenbury, however, realised that increasing the age to 18-19 allowed the candidate to finish his liberal education, including the requisite mathematics, and begin his professional education.³⁰¹ However, both fell short of the average admission age at Metz of 21 (with a range of 19-24).³⁰² This was inevitable given that students in France had already spent two years at the *École Polytechnique* where they learnt mathematics to the extent that it need not be taught at Metz. The course at Metz was tailored respectively to the engineers and artillery with some subjects in common and others exclusive. However, the course was acknowledged, as at Woolwich, as being almost too extensive to cover all subjects thoroughly and that some were learnt very superficially.³⁰³

Similarly, in Prussia, the admission age was between 22 and 23. This later age was due to conscription. Like all army officers they joined their regiment, after being nominated by its colonel, from either a cadet school or from the 'gymnasium'. They passed the 'Sword-Knot Ensign's' exam, which was a test of general educational ability, and served with the regiment for about a year. Then they spent ten months at a 'war school' and upon passing the 'officers' exam' at the end and, subject to the approval of the regimental officers, were commissioned in the army with supernumerary status in the scientific corps.³⁰⁴ Those going into the engineers then returned to their regiment, served for a year and were admitted to an artillery and engineer school for two years. After an exam they were then finally commissioned as engineer officers. The potential artillery officer, on the other hand, after his officers' exam, spent two years at regimental duty and then studied for only a year at the artillery school. Thirty of the best remained at the school and undertook higher mathematical and scientific studies.³⁰⁵ Given such an education

²⁹⁹ C47 *Accounts of the Systems of Military Education in France, Prussia, Austria, Bavaria and the United States* (London: HMSO, 1870) [hereafter *Systems of Military Education*].

³⁰⁰ Owen, *Remarks on RMA Education 1868*, p.17.

³⁰¹ *Dufferin Commission Minutes 1870*, Appendix III, '(vii) Answers received from Captain H Brackenbury, RA, Professor of Military History', p.liii.

³⁰² *Systems of Military Education*, p.46.

³⁰³ *Ibid.*, p.62.

³⁰⁴ *Ibid.*, p.269.

³⁰⁵ *Ibid.*, pp.270-1.

system, peculiarly developed within the context of mass conscription, what were the commissioners to make of it? A lesson might have been drawn from the distinct course of study for the two arms – also a French feature. However, given that the RMA's authorities were opposed to this, and given that Britain had other post-commissioning training schools at Shoeburyness, Woolwich and Chatham, was this necessary in any case? The report concluded the Prussian section by stating that the Prussians thought their system superior to that in Britain and France, because, as theoretical instruction followed practical studies, knowledge and understanding could be more easily acquired.³⁰⁶ However, Steven Clemente noted the degree to which the Prussian officer corps was selected and inculcated with particular values agreeable to the established order.³⁰⁷ Therefore, it seems a point for consideration whether so much time should have been spent on filtering out undesirable officers and indoctrinating those with the appropriate values before imparting their professional education.

Neither could much inspiration be gained further afield from the United States Military Academy at West Point. Unlike the education systems of the Prussian, and to a lesser degree, the French, Ordnance Corps, West Point had changed little despite the Civil War. Since the departure of Superintendent Sylvanus Thayer in 1833, cadet life remained the same, and the academic board, guided by Dennis Mahan for over 40 years, resisted change (except in 1839 when riding was forced through).³⁰⁸ The board had to defend against repeated accusations of the undue prominence of science and mathematics in the course. Adjustments to this crowded curriculum were very complicated. So, when in 1854 the introduction of humanities and additional military training was put to the board, they hoped to obfuscate this by insisting a five-year course was necessary; a fact that they knew to be unpalatable to authorities in Washington. However, their bluff was called and it was introduced, lasting seven years until the Civil War began in 1861, whereupon it reverted to the four-year course.³⁰⁹ As before, it included subjects like Mathematics, Civil and Military Engineering, Physics and Chemistry, which were compulsory for officers regardless of whether they went into the cavalry and infantry, or the artillery and engineers. The accomplishments of West Point graduates in the war convinced its authorities to retain their emphasis on maths and science, which they believed developed mental discipline and was the key to success.³¹⁰ With the academic board retaining the same personnel until 1872, and a deterioration of discipline whereby 'hazing' had started to take on a more 'sinister character', there was probably

³⁰⁶ Ibid., p.299.

³⁰⁷ Steven E Clemente, *For King and Kaiser: The Making of the Prussian Army Officer, 1860-1914* (New York: Greenwood Press, 1992), pp.xi-xiv.

³⁰⁸ Theodore J Crackel, *West Point: A Bicentennial History* (Lawrence, Kansas: University Press of Kansas, 2002), pp.121-122, 124-127.

³⁰⁹ Ibid., pp.128-9.

³¹⁰ Ibid., p.137.

little about the system to recommend itself to the Royal Commission.³¹¹ The only option open to it were recommendations modifying the RMA's existing system and processes.

An organisational change recommended by the commission was re-styling the Lieutenant Governor as 'Governor' and granting increased local powers to the post. Previously, the Commander-in-Chief, the Duke of Cambridge, had been technically Governor which necessarily weakened the autonomy of the post.³¹² In 1869 Major General John L A Simmons was appointed Governor, proving an excellent choice.³¹³ Possessing extensive field and administrative service, he was one of the most important heads in the history of the establishment. Simmons formed part of a committee with Lord Northbrook (Under Secretary of State for War) and Major General William Napier (the newly formed Director General of Military Education) to implement the Royal Commission's recommendations. Two years later the academy was reported upon by a 'Board of Visitors' consisting of experienced administrators and educationalists: Major Generals Frederick Eardley Wilmot and Henry D Harness, and the Chaplain General George R Gleig. They remarked that the authorities possessed:

[...] a wise, genial and hearty desire to co-operate in producing in the cadet company a thoroughly good tone of moral and intellectual feeling. The influence of the Governor, as was intended by the Royal Commission, makes itself felt in every branch of the establishment, and is, in fact, the corner-stone of success.³¹⁴

Of course, the new Governor was assisted by that other innovation of the commission – the foundation of an academy board. Again, this was something which many of the RMA witnesses had called for. Up until 1870 the Inspector of Studies (known also as the Second Commandant) was the hub to which all communication on discipline and studies was directed. When dealing with one branch, such as Fortification or Mathematics, he would correspond with the professor as head who would co-ordinate matters with his staff. This system was unwieldy when an issue affected more than one branch – as there was no facility for the branches to communicate with each other. There was not even a staff room for instructors to relax between sessions until 1875.³¹⁵ James J Sylvester did not even recognise many instructors and felt they were 'very much in the light of day labourers; we have our work to do and are paid for it.'³¹⁶ For example, he never had any communication with Thomas M Goodeve, Professor of Mechanics, until

³¹¹ *Ibid.*, pp.142-143, 150-151.

³¹² *Dufferin Commission Report 1869*, pp.18, 39-40.

³¹³ See opinion of ES May in, May, *Changes and Chances*, pp.21-22.

³¹⁴ C621 *Report of the Board of Visitors for the Year 1872 to inspect the Royal Military Academy Woolwich*, (London: HMSO, 1872) p.9 [hereafter *RMA Board of Visitors 1872*].

³¹⁵ C1322 *Report of the Board of Visitors appointed for the year 1875, to inspect the Royal Military Academy, Woolwich* (London: HMSO, 1875), p.5.

³¹⁶ *Dufferin Commission Minutes 1870*, evidence of JJ Sylvester, points 7494-7.

remarks of the examiner prompted the necessity of the two professors harmonising their maths studies.³¹⁷ Similarly, the convoluted correspondence on the proposed revisions to the course of Practical Geometry, and its impact on Fortification and Surveying, would have been easily dispensed with by a board meeting.³¹⁸ The board, or sub-sets of it, met on average two or three times per year for the rest of the nineteenth century and there is little sign of the disagreement and discord mentioned in Harries-Jenkins's quote earlier. They tended to consider reports of the annual Boards of Visitors and propose action accordingly.³¹⁹ In fact, by operating as a consultative committee in the command chain beneath the Governor, it was considerably healthier than that at West Point. The board at West Point, as has been suggested above, was a powerful and largely autonomous entity, which on the one hand, maintained stability, but on the other, stifled change and disputed the authority of the superintendent.³²⁰

3 Subjects of Instruction

In this section the course of instruction will be discussed subject by subject from the new regulations in February 1870 until the Morley committee investigated the course in 1886 and revised it. Simmons immediately began proposals for the new course with a philosophy which matched the commission. The CME, on the whole, agreed with his views.³²¹ His observations confirmed an overly ambitious course imparting unsound knowledge, which consisted '[...] too much of the nature of hard cramming from its very commencement.'³²² Simmons believed voluntary and obligatory subjects could give a more even distribution between the classes, relieving the higher classes of many subjects, some of which were studied concurrently and at a high level.

Regarding Mathematics, he thought that the academy system was at fault. He found cadets did come with the necessary mathematical knowledge to study at the academy; but this was not so much the fault of the cadets, their antecedent education, or the entrance exam, as it was with the depth and arrangement of the course itself. He felt it was simply attempting too much, especially in view of what was actually required:

I attach the more importance to a thorough knowledge of what is requisite, rather than to a smattering of a more extended course, because unless their knowledge

³¹⁷ WO150/55/235, JJ Sylvester to Colonel GT Field, Inspector of Studies, 11.9.1866.

³¹⁸ WO150/60/181, "Remarks on the 'Reports' on the Course of Practical Geometry made by Professors and Instructors at the RMA" by Thomas Bradley, to Inspector of Studies, 19.3.1868.

³¹⁹ See SCA, 'Proceedings of Academy Boards' and 'Special Boards', 1870-1900.

³²⁰ Crackel, *West Point*, pp.127, 150-153, and Sidney Forman, *West Point: A History of the United States Military Academy* (New York: Columbia University Press, 1950), pp.135-136.

³²¹ WO150/66, Council of Military Education to Lt Governor RMA, 10.11.1869.

³²² SCA, A18-312/2759, JLA Simmons to the Council of Military Education, 27.8.1869.

be thoroughly obtained it will be of comparatively little use to them in their future careers as officers, when from the nature of their profession they are as a rule called upon to apply their knowledge with only a very limited use of books of reference and often with none at all. The main object of this institution should be to convert all who pass through it into good useful practical officers and not to single out a limited number possessed of high classed mathematics attainments who can pass a most brilliant examination.³²³

Although he thought the mathematics in the entrance exam was pitched at the level consistent with 'classical schools' and should not be extended, he did think that a higher minimum proportion of not less than two-thirds of the marks should be exacted.³²⁴

Simmons was the first to articulate that the compulsory course should contain only those subjects which were essential for artillery and engineers, and which could be acquired in the time. The course needed to be subdivided into the academy's class system and no cadet was to move to the next class until properly qualified. Still, he considered good mathematicians needed to be encouraged and recommended great credit should be given for the voluntary 'Higher Mathematics'.³²⁵

Further, he recommended the course of Practical Mechanics be incorporated into Mathematics which should be taught henceforth with a more practical emphasis. The instructors would use models and consult with the Professors of Fortification and Artillery to show the practical application of mathematical knowledge. Importantly, more time should be allotted for this reconstituted course.³²⁶ This change meant ousting the eminent but troublesome mathematician, James J Sylvester, as Professor of Mathematics and his replacement with the more junior Morgan Crofton who came highly recommended by Simmons.³²⁷ This was possible because of the new regulation that 55 was the age limit for staff except in special circumstances – a caveat allowing the academy to keep on valued staff. Crofton's teaching was said to be the antithesis of Sylvester's, being 'terse and lucid', and far more appropriate to the needs of trainee engineer and artillery officers.³²⁸ Furthermore, Crofton's research interests started focusing more on Statics and Mechanics, which was in line with his teaching responsibilities.³²⁹ His tendency toward

³²³ SCA, A18-312/2759, JLA Simmons to the Council of Military Education, 27.8.1869.

³²⁴ SCA, A18-334, JLA Simmons to the Council of Military Education, 30.9.1869.

³²⁵ Ibid.

³²⁶ Ibid.

³²⁷ SCA, A18-465, JLA Simmons to the War Office, 23.2.1870.

³²⁸ Adrian Rice, 'Mathematics in the Metropolis: A Survey of Victorian London', in *Mathematics in Victorian Britain*, ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.53-73 (p.65).

³²⁹ Irene N Johnson and Eugene Seneta, 'Crofton, Morgan William (1826-1915)', *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/54490> [accessed 5 Mar 2018].

applied teaching was shown by his early lobbying to increase cadets' knowledge in Pure Geometry upon entrance. This was 'often injurious to their [cadets] progress in Mechanics, especially in applying the method of geometrical construction to problems – now so generally employed by practical men.'³³⁰ Like Sylvester, he subscribed to the wider movement in Britain rejecting Euclid as a means to learn geometry. This was apparently a sound approach; a cadet who had been taught at French and German schools found the German system of teaching geometry 'very simple and attractive', and using that 'ancient geometrician's method' to pass into the RMA was a painful experience.'³³¹ Citing the examinations of the Science and Art Department, Crofton persistently called for alternatives in the entrance examination and thus enabled the full application of mathematics to machinery as specified by the Royal Commission.³³² Adrian Rice concluded that Crofton laid the foundation of a course that was shifting from one of being analytical to a more graphically and geometrically inclined one. Also, Harry Hart, Crofton's successor in 1884, set a syllabus in 1892 which consolidated this trend and was akin to studies at University College London.³³³

In common with the Mathematics course, the Fortification course also became focused on practical need. Henceforth, it was to include nothing more advanced than what was deemed necessary for both artillery and engineers. The professor, Lieutenant Colonel JJ Wilson, requested leave from instructional duties to finish revising the textbook and incorporate a treatise on Field Fortification – replacing the separate one long in use by Captain Macaulay.³³⁴ The course was allocated 10,000 marks (obligatory 7,000 and voluntary 3,000). As before, the cadets started in the fifth class with Plane Geometry (drawing instruments, elementary problems relating to straight lines, circles, polygons etc.) and Solid Geometry (representation of points, lines and figures projected in 'three-dimensional space' on a plane surface, i.e. on paper). This was what the commission deemed absolutely necessary to pursue the course. If cadets completed this they could take a part of the voluntary course which included: i) geometrical constructions of a more advanced character, ii) a contoured plan of a simple field work and iii) isometrical projection.³³⁵ The studies in the subsequent classes were as follows:

4th Class: Field Fortification and General Principles of Permanent Fortification;

³³⁰ WO150/70/25, Morgan Crofton to JLA Simmons, 20.3.1871.

³³¹ Welscourt Hely-Hutchinson Waters, *"Private and Personal": Further Experiences of a Military Attaché* (London: John Murray, 1928), p.38.

³³² WO150/76/163, Morgan Crofton to JLA Simmons, August 1873.

³³³ Rice, 'Mathematics in the Metropolis', p.65; see also, *Report of the Morley Committee 1886*, evidence of Harry Hart, points 4763-4774.

³³⁴ WO150/68/191, Lt Col JJ Wilson to JLA Simmons, 31.5.1870.

³³⁵ WO150/68/106, 'Memorandum of the Course of Study in Geometrical Drawing of the 5th Class, being the Elementary portion of the Course of Fortification, as laid down in Paras 41 and 42 of the General Regulations of the Academy, February 1870', 18.3.1870.

3rd Class: Vauban, Cormontaigne and Modern French System, Polygonal System, Attack of Fortresses to Third Parallel, Attack of Fortresses to Conclusion;

2nd Class: Defence of Fortresses, Siege Works.

In content, initially, it was little different from the course of the 1860s but adjusted to those cadets progressing rapidly and able to take up the voluntary portions. These were; Coast Defences, Occupation of Irregular Sites, Outworks and Detached Works, Fortification of Wet Sites, Improved Bastioned System and Mining.³³⁶ The following year the course was embodied in the new textbook conforming to that in use at the School of Military Engineering in Chatham. It continued to include the latest developments in rifled artillery, modified the traditional siege doctrine accordingly and incorporated fortress innovations such as iron shields.³³⁷ Self-conscious about the inclusion of historical bastion systems given the ongoing advances in modern artillery, it was justified thus:

The principles underlying the works of the military architect of every age are unchangeable. Every age has been in this respect more or less transitional. It is from a knowledge of what has been done that we can best keep pace with the requirements of the present, and strive to divine what is about to happen in the future.³³⁸

Although the author regretted not being able to incorporate the recent lessons of the Franco-Prussian War as fully as possible, there were occasional references, however. For example, the long range of the Prussian guns in the attack, and their abandonment of a first parallel in the siege, seemed to indicate that mere military posts and rifle pits might be sufficient cover at the distance of 2,000-4,000 yards.³³⁹ In addition, within the conclusion on the chapter on the attack, there was caution expressed over any inferences gained from the impressive Prussian success in capturing so many fortresses.³⁴⁰

The two-volume textbook of 1877 incorporated the lessons of the war at greater length, particularly with regard to detached works of Paris and Belfort and field fortification used in the blockade of Metz.³⁴¹ It was also a rather stripped-down work, more 'handbook' in format, with lithographed plates appearing for the first time. It also omitted the arms in use (hitherto always included) and, due to changes in fortification theory, greatly curtailed

³³⁶ WO150/68/107, 'Memorandum of the Course of Geometrical Drawing and Fortification', 25.7.1870.

³³⁷ *Instruction in Fortification, Military Engineering and Geometrical Drawing at the Royal Military Academy, Woolwich* (London: HMSO, 1871), pp.212-213 on siege artillery.

³³⁸ *Ibid.*, preface.

³³⁹ *Ibid.*, pp.48, 53, 217, 291, 307.

³⁴⁰ *Ibid.*, pp.290-291.

³⁴¹ *Textbook of Fortification and Military Engineering, for use at the Royal Military Academy Woolwich, Part I* (London: HMSO, 1877), pp.179-184 and Appendix C respectively.

historical systems (now voluntary subjects) and focused on modern construction.³⁴² The book's second volume constituted the Attack and Defence of Fortresses and was saturated with examples from 1870; the siege of Vionville and Belfort being just two examples.³⁴³ In addition, these subjects were arranged so that each was treated within the term of one class without dividing them.³⁴⁴ Like the Franco-Prussian War, the Russo-Turkish conflict brought its own lessons, most notably the importance of overhead protection. This, and the general value of field fortification, was reflected in the examination questions of the time.³⁴⁵

In Artillery Simmons believed more time should be allocated but cautioned against too much, as he thought:

By endeavouring to make perfect artillerists at the academy there is a danger that the lectures are merely committed to memory for the purpose of passing the requisite examinations, in which case they are as readily forgotten [...] such a mass of details can only be acquired by familiar acquaintance with the articles treated of, and as there cannot be time for such an acquaintance the knowledge acquired must be more or less superficial and therefore easily forgotten.³⁴⁶

Whilst there was a great profusion of equipment in garrison and field artillery (ordnance, carriages and ammunition), examination questions do suggest that it was not simply learning by rote.³⁴⁷ The Professor of Artillery defended the amount of detail, stating: 'It is of little use to complain [about it] [...]' and that '[it] must be faced and mastered to render an artillery service thoroughly efficient.' He conceded that 'careful instruction over a long period, is the only way out of the difficulty' but added that the principles of gunnery required little modification.³⁴⁸ Owen's book combined his 1860s 'Lectures on Artillery' and other treatises into one work to form the textbook from 1871 to 1875.³⁴⁹ Robert H Scales criticised Owen's work as too technical with little on the tactics and application of artillery.³⁵⁰ This down played how a third of the book covered the history, organisation and equipment of artillery; and was updated with considerable footnotes alluding to the current

³⁴² Ibid., preface.

³⁴³ *Textbook of Fortification Pt II*, 1877, pp.21-23 and pp.61-64 respectively.

³⁴⁴ WO150/84/255, 'Geometrical Drawing and Fortification', 13.10.1876.

³⁴⁵ Nicholas Murray, *The Rocky Road to the Great War: The Evolution of Trench Warfare to 1914* (Dulles, Virginia: Potomac Books, 2013), pp.71-72; SCA, RMA Commissioning Exam Papers, 1857-1902, papers for 1878-1880.

³⁴⁶ SCA, A18-334, JLA Simmons to the Council of Military Education, 30.9.1869.

³⁴⁷ SCA, RMA Commissioning Exam Papers, 1857-1902, exam paper 'Artillery: First Afternoon Paper', February 1875, exam question numbers 18 and 32.

³⁴⁸ Charles Henry Owen, *The Principles and Practice of Modern Artillery* (London: J Murray, London, 1873), Preface to the First Edition (1871) [hereafter Owen, *Modern Artillery*, 1873].

³⁴⁹ Compare WO150/68/225 'Memorandum of the Course in Artillery', dated August 1870 and WO 150/84/229 Memorandum 'Artillery', 30.3.1875.

³⁵⁰ Scales, 'Artillery in Small Wars', p.63.

debates on artillery doctrine at home and abroad. Indeed, Owen acknowledged the input of fellow artillery officers and mentioned Captain Henry Brackenbury's valuable suggestions on the third part.³⁵¹ His philosophy was continued from his lectures of the 1860s, thus:

Although cavalry or infantry may by dash and bravery make up in some measure for faulty organisation and inferior equipment, such is not the case with respect to artillery; everything depends upon the armament and equipment of the latter being in good order and skilfully employed. Hence an artillery officer should consider it one of his first and most important duties to study carefully the nature and power of the arm he commands [...].³⁵²

Rather than becoming somewhat besotted with Prussian artillery, in a way that members of the 'continental school' had and would become, such as Charles Booth Brackenbury; Owen was more level-headed.³⁵³ For example, he advocated that the new mobility of field artillery should not be abused by constantly changing the position during action as it was useless when limbered up.³⁵⁴ He also entered upon questions of logistics, particularly the consumption and supply of ammunition, the transport of artillery into action and so on.³⁵⁵

Furthermore, with the 'Organisation and Use of Artillery' as part of the artillery course, the high marks and qualification required meant attention was bestowed upon the topic's exam questions. For example:

Although no fixed rules can be laid down with regard to the distance at which Field Artillery should come into action, what considerations would ordinarily determine its position in this respect? Give any example with which you may be acquainted, showing the great objection to bringing Artillery too close to the enemy's infantry.³⁵⁶

Similarly, another exam question related to the order of the Duke of Cambridge freeing battery commanders to take up their own tactical positions – thus making the cadets fully alive to the tactical revolution happening in the artillery.³⁵⁷ Answers to this paper were

³⁵¹ Owen, *Modern Artillery*, 1873, Preface to the Third Edition (1873), also, for example, footnote 5 on p.394.

³⁵² *Ibid.*, p.368.

³⁵³ Spiers, *Late Victorian Army*, p.245.

³⁵⁴ Owen, *Modern Artillery*, 1873, p.38, citing Sir Garnet Wolseley.

³⁵⁵ *Ibid.*, pp.382-393.

³⁵⁶ SCA, RMA Commissioning Exam Papers, 1857-1902, exam paper 'Artillery First Class: Organisation and Use of Artillery: Second Afternoon Paper', February 1874, exam question 31.

³⁵⁷ SCA, RMA Commissioning Exam Papers, 1857-1902, exam paper 'Artillery: First Afternoon Paper', February 1875, exam question number 26; Spiers, *Late Victorian Army*, p.252, Charles

assessed as 'most satisfactory' with a large number completing 'exceedingly good papers'.³⁵⁸ The 'Employment of Artillery' papers of 1875 have further questions of this type and received high praise from the examiners.³⁵⁹

Owen's approach might be deemed balanced and sensible but a succeeding professor recommended the discontinuance of his book due to its higher cost to the cadets. Also, its constant amendment was avoidable through using War Office publications which were updated by central government. In addition, and perhaps oddly given the aversion to detail, he recommended removing the 'Organisation and Employment of Artillery' (subjects dealing more with principles than details) into Military History as it belonged 'more naturally to that subject'.³⁶⁰ Unfortunately this was an act of relegation, as Military History was not an obligatory subject for a commission and was valued less in the proportion of marks. Certainly, the difficulty was that in 1875 there was no official War Office publication on the organisation and tactical employment of artillery; if there had, presumably it would have been kept in the course. Nevertheless, despite this set back it would be disingenuous to suggest, as Scales did, that the Royal Artillery had no interest in tactical doctrine. In any case the British were not unlike the French in the respect that the army had no doctrine, only talented officers who wrote about tactics.³⁶¹ Scales concentrated heavily on the papers published by the Royal Artillery Institution, ignoring the fact that only the members were exposed to the papers' content. It may also be that officers might be disinclined to read them – this was the case for papers which officers had not the mathematical knowledge to understand.³⁶² However, at the academy, *all* cadets gained some knowledge of tactics from the Artillery, Fortification, Military Topography and Military History courses and this has been overlooked. Scales asserted that 'almost two decades elapsed before the lessons of the Franco-Prussian War had any significant effect on the doctrine and equipment of the Royal Artillery'.³⁶³ However, it is apparent that all future artillery officers had at least some exposure to the lessons of the conflict.

Yet, despite an increase in the time allotted to Artillery, and the fact that between two-thirds and three-quarters of the cadets went into the corps, the proportion of marks

Callwell and John Headlam, *The History of the Royal Artillery Vol. 1 1860-1899* (Woolwich: Royal Artillery Institution, 1931), p.226.

³⁵⁸ SCA, Report of Examiners Book, 1870-1885, remarks of Major A Ford on 1st Class, February 1874, p.159.

³⁵⁹ SCA, Report of Examiners Book, 1870-1885, remarks of Major A Ford and Major JP Morgan on 1st Class, July 1875, p.159. Morgan praises the Employment of Artillery papers as being 'exceedingly good' and in many cases showing a thorough application of the subjects.

³⁶⁰ WO150/83/224, Captain J Sladen to Governor, 6.7.1876.

³⁶¹ Douglas Porch, *The March to the Marne: The French Army 1871-1914* (Cambridge: Cambridge University Press, 1981), p.214.

³⁶² *Report of the Morley Committee 1886*, evidence of Major Edgar Kensington, points 993-4.

³⁶³ Scales, 'Artillery in Small Wars', p.55.

recommended by the commission was two 'shares' less than Fortification and one less than Military Topography.³⁶⁴ This remained true into the 1880s.³⁶⁵ There was also no voluntary higher component as there was in Fortification, which was surprising as it was really the improvements in artillery capability which drove changes in the passive, or reactive, technology that was fortification. So, unsurprisingly when the course was reviewed in 1885, many academy staff believed the course should be extended.³⁶⁶ Some expressed this view so cadets could join their batteries direct from the academy without further instruction at Woolwich. The Secretary and Treasurer regarded it as 'objectionable' that large groups of recently commissioned cadets remained at Woolwich to continue their studies – possibly for disciplinary reasons.³⁶⁷ Further to this, were continued urgent demands for officers which caused the further education of officers at Woolwich to be curtailed or omitted altogether. This fact would lead to stronger calls for teaching tactics at the academy; a point returned to below.

Finally, before leaving the topic of Artillery, in an effort to increase cadets' attention to their artillery and riding, it was decided to allocate marks to the drills and exercises. These were now to be taught by the military officers of the establishment rather than the artillery professor and instructors.³⁶⁸ Encompassing also gymnastics and riding, these were deemed to be taught systematically and with success.³⁶⁹

Improvements were also made in topographical drawing. The name was altered by the commission to 'Military Drawing with Field Sketching and Reconnaissance' – a move which rendered it more applicable to service conditions. Previously, when he was director of the School of Military Engineering at Chatham, Simmons suggested modifications in the academy course. Noting that triangulation and surveying with the theodolite was a duty of engineers only, he suggested that the few hours spent on it would be more profitably employed sketching ground with hand instruments and pacing – a skill useful to both corps.³⁷⁰ The professor responded that his aim was to provide a course 'complete in itself' – after all this was an improvement upon when the course had been divided into the

³⁶⁴ *Dufferin Commission Report 1869*, p.42.

³⁶⁵ C2697, *Report of the Board of Visitors appointed for the year 1880 to inspect the Royal Military Academy Woolwich* (London: HMSO, 1880), p.5, Annex A, 'General Regulations for the Government of the Royal Military Academy Woolwich', paragraph 42.

³⁶⁶ *Report of the Morley Committee 1886*, evidence of Major SC Pratt, points 755-7; evidence of Major E Kensington points 861-3, 882; evidence of MacKinlay, points 1049-1052.

³⁶⁷ *Report of the Morley Committee 1886*, evidence of Colonel Arthur Harness, points 405-7; evidence of Colonel Noble, point 3728; Alfred Wilkes Drayson, *Experiences of a Woolwich Professor: During Fifteen Years at the Royal Military Academy*, (London: Chapman & Hall, 1886), p.37.

³⁶⁸ WO150/68/224, 'Memorandum of the Course in Artillery Exercises'; for proportion of drill marks see C.1889, *Report of the Board of Visitors Appointed for the Year 1877 to Inspect the Royal Military Academy, Woolwich* (London: HMSO, 1877) [hereafter *RMA Board of Visitors 1877*], p.9, Table E, paragraph 42.

³⁶⁹ *RMA Board of Visitors 1872*, p.6.

³⁷⁰ WO150/55/2, Colonel JLA Simmons to DAG RE, 21.2.1866.

separate subjects of Plan Drawing and Surveying under different heads of authority.³⁷¹ Consequently the matter went into abeyance. After the alteration in 1870, the course remained largely unaltered until the early 1880s when it was decided that a committee should establish a standard textbook or course for all centres of military education. The difficulty had been that the Staff College, the RMC, the RMA, the School of Military Engineering and garrison centres of instruction had different ways of teaching the subject. At the academy, for example, the CME attempted to reconcile the differing scales of shade used by their examiner and that of the academy.³⁷² This happened because Simmons complained of officers joining Chatham after being instructed in a different system of representing ground to that at Chatham and Sandhurst. He warned of the serious effects which might arise on active service if country was expressed differently and pushed for a uniform system.³⁷³ However, whilst standardisation was achieved in some areas (e.g. the CME examiner's scale of shade was adopted), it was not until the 1880s, after the textbook in 'Military Topography' was issued, that cadets' drawings from both the RMC and RMA bear the appearance of common instruction and appear interchangeable.³⁷⁴

The studies in Military History on the other hand had the potential to fluctuate according to who taught it. Captain Henry Brackenbury, whose lectures fuelled his military writing career, worked hard to establish the course.³⁷⁵ The first Board of Visitors noted he taught it well, that the cadets enjoyed it, but that the treatment of the subject was essentially dependent upon his experience and knowledge.³⁷⁶ This was due to there being no textbook for Military History. As noted in the last chapter, Hamley's book influenced teaching to a certain extent but it was not used as a textbook. Travers suggested this work used the typical Victorian method of deriving laws of nature from facts, and applied them to Military History to derive a principle – termed the 'analytic-utilitarian' tradition.³⁷⁷ However, commissioning exam questions tended to look at the narratives of wars and

³⁷¹ WO150/55/20, Captain CR Binney, Professor of Surveying & Military Drawing, to Lt Governor, 27.3.1866.

³⁷² WO150/55/92, Lt Col EB Hamley, CME, to Major-General Sandham, Lt Governor, RMA, 28.5.1866 and WO150/56/177, Major General W Napier, CME, to Major-General Sandham, Lt Governor RMA, 25.10.1866.

³⁷³ WO150/55/7, Colonel JLA Simmons, RE Chatham, to DAG RE, 21.2.1866.

³⁷⁴ See for example works by cadets from RMA: SCA, CAYMA: 2015.17, Topographical course work of GC John EW Headlam, 1881-1883; SCA, CAYMA: 2015.23, Topographical course work of GC W H Kay, 1889-1890; SCA, CAYMA: 2015.26, Topographical course work of GC W J Blythell, 1880-1881; SCA, CAYMA: 76.386, 76.388 – 76.392, Topographical course work of GC EM Burn, 1884-1886; And cadets from RMC: SCA, CAYMA: 2005.253, Topographical course work of GC J Grattan, 1893; SCA, CAYMA: 94.410 - 94.419, Topographical course work of GC GAC Crichton, 1893; SCA, [no. ref.], Topographical course work of GC A H Marindin, 1890-1891.

³⁷⁵ Brice, *Life of General Sir Henry Brackenbury*, pp.75, 98, 102-5.

³⁷⁶ *RMA Board of Visitors 1872*, p.5.

³⁷⁷ Tim Travers, 'The Development of British Military Historical Writing and Thought from the Eighteenth Century to the Present', in *Military History and the Military Profession*, ed. by David A Charters, Marc Milner, and J Brent Wilson, (Westport, CT, USA: Praeger Publishers, 1992), pp.23-42 (p.30).

battles, to assess why decisions were taken and the advantages, or otherwise, of a course of action. They did not require the application of laws to these events.

Also, Military History was something of a misnomer because the syllabus invariably covered the recent campaigns of 1859 and the wars of German unification, as well as those from the smooth bore era. It also became a lot more contemporary with the advent of the Franco-Prussian War. Brackenbury's enthusiasm continued with his tenure into the early 1870s, and the Franco-Prussian War gave him ample opportunities to vent this passion. Initially, he gave some introductory lectures on the war's background – as suggested by the cadets.³⁷⁸ He was then granted special leave to organise relief to the sick and wounded in the war and, when this was extended, he wrote from Brussels explaining the progress of his class so an alternative lecturer could be found.³⁷⁹ Characteristically, he forfeited his pay in order to fund a replacement.³⁸⁰ It was agreed he would start back for the 1871 term and, writing from Metz, stated he could only forward a lecture plan if told what had been taught in his absence. He also described his work at the front reflecting:

I have learnt more about the 'System of Requisitions' than I ever knew before – and have seen such sights as it is given to few men to see in their lives. Would that this weary war were over – and I shall indeed welcome the day when my leave expires and I can return – for the great battles seem past – and it is among the debris only that my task lies.³⁸¹

From Metz he forwarded details of next term's lectures which were to include 'The Recent Prussian Tactics at the Battle of Spicheren'.³⁸² The lectures were split as usual between strategy and tactics, with the recent campaign only in the tactical section (including Spicheren) and the tactical use of the fortresses at Metz and Paris. The following term the strategy of the campaign up to the Battle of Sedan was more thoroughly studied by both the senior classes; tactical examples from Woerth, Spicheren and the investment of Paris were studied only in the first class.³⁸³ Naturally with a lecturer who had first hand experience of the conflict, the cadets could not fail to be enthused by the subject. This was shown when Brackenbury found he needed additional time to lecture on the

³⁷⁸ WO150/68, Letter 250, Captain H Brackenbury to Lt Col EJ Bruce, Secretary and Treasurer RMA, 13.8.1870.

³⁷⁹ WO150/69, Letter 33, Captain H Brackenbury to Lt Col EJ Bruce, Secretary and Treasurer RMA, 16.10.1870.

³⁸⁰ Brice, *Life of General Sir Henry Brackenbury*, p.86.

³⁸¹ WO150/69/ 92, Captain H Brackenbury to Lt Col EJ Bruce, Secretary and Treasurer RMA, 23.11.1870.

³⁸² WO150/69/178, Captain H Brackenbury to Lt Col Bruce, Secretary/Treasurer RMA, 9.12.1870.

³⁸³ WO150/70/210-211, 'Course of Lectures on Military History' Second Term 1871, First and Second Class, 23.8.1871.

campaign. The cadets themselves took a vote and requested an extra lecture – even though Brackenbury warned them the amount of work it would entail.³⁸⁴

Brackenbury left the academy on the 11th September 1873 to take an appointment on Colonel (temporary Major General) Sir Garnet Wolseley's Gold Coast expedition.³⁸⁵ He had been on the instructional staff for 11 years and expressed the hope before leaving that Military History,

[...] may continue to be taught in that manner which 5 years of tentative teaching have led me to believe the most valuable – and the least dangerous – namely with the endeavour to avoid dogmatising, and to encourage to the fullest possible extent the habit of independent thought.³⁸⁶

However, this was probably highly optimistic even when Brackenbury was in post. The Board of Visitors noted how the cadets had little time to read on the subject and felt a danger that, despite Brackenbury's warnings, the cadets might accept his opinions as if they were absolute laws.³⁸⁷ These observations were borne out by the examination reports which revealed that answers, while often correct, tended to be rather uniform and occasionally evinced light reading.³⁸⁸

Lieutenant Emilius Clayton, RA, was appointed as successor in January 1874, and it appears from exam questions that his course followed the same overall direction as his predecessor. That is, it dealt with strategy and the organisation of armies in the second class (the first to take up the study) and more emphasis on the tactics of battles in the first class. He appeared to have been a worthy successor, having seen active service in Canada against the Fenian raids and received a Gold Medal from the Royal Artillery Institution and a Gold Medal from RUSI for his prize essay.³⁸⁹ Although the examiner's remarks continued to be satisfactory, it is possible Clayton's inclination was not as strong as Brackenbury's as he left after five years to be appointed Consul in Kurdistan where he was involved in diplomacy and amateur archaeology.³⁹⁰ This might be borne out by the fact that his replacement, Major Sisson Cooper Pratt, RA, who had previously taught

³⁸⁴ WO150/71/101, Capt H Brackenbury to Lt Col EJ Bruce, Secretary/Treasurer RMA, 27.11.1871.

³⁸⁵ SCA, A19-550, Letter from Major-General JLA Simmons to Director General of Military Education, 5.9.1873.

³⁸⁶ WO150/75/236, Captain H Brackenbury to Major-General JLA Simmons, Governor RMA, 29.8.1873.

³⁸⁷ *RMA Board of Visitors 1872*, p.6.

³⁸⁸ SCA, Report of Examiners Book, 1870-1885, Remarks of Major George Colley, February 1872.

³⁸⁹ *List of Officers of the Royal Regiment of Artillery 1716-1899* (RAI: Woolwich, 1890), p.78; Emilius Clayton, 'The Military Prize Essay, 1879. Field Intrenching: its Application on the Battlefield and its Bearing on Tactics', *Journal of the Royal United Services Institution*, 23 (Jan 1880), 281-338.

³⁹⁰ See 'Emilius Clayton (Biographical Details)' at www.britishmuseum.org/research/searchthecollectiondatabase.asp, [accessed 14/04/2014].

Military History at Sandhurst, was in post for longer and dedicated more of his work to military history, education and doctrine.³⁹¹ He was also thought of as 'first rate.'³⁹²

In the same year Pratt was appointed, 1879, the Director of Artillery Studies attempted to implement the recommendations of the 1870 'Committee on the Education of Artillery Officers', one of which included the tactical instruction of young officers.³⁹³ In evidence, Brackenbury stated his lectures aimed to provide a foundation for further study and that time constraints precluded tactical training at the academy.³⁹⁴ Therefore, it was concluded tactics should be learned afterwards. However, the demand for artillery officers meant tactics was dropped from their further training. To rectify this, additional subalterns would need to be paid for whilst others went under instruction. Due to financial restrictions, the DGME felt the academy course had to be modified to include tactics.³⁹⁵ The Governor, however, demurred. He felt that, with an outline of strategy and tactics already in Military History, and given the youth of the cadets and the demands of other subjects, tactics could not be studied 'with advantage.'³⁹⁶ Moreover, he felt it pointless to 'teach [cadets] to be colonels and generals before they have had any experience of the army in its subordinate ranks and duties.'³⁹⁷

Still, the Governor asked the Professor of Military History for a report. Pratt compared tactical training at Sandhurst and Woolwich and noted, the former had two textbooks, supplemented by outdoor tactical 'schemes' which touched little upon strategy. The RMA, on the other hand, had no textbook, and cadets were lectured on a campaign, prefaced by some strategy and enough tactics to be able to follow the battle. Pratt suggested: 'If considered necessary the minor operations of war might at Woolwich be dealt with more in detail.'³⁹⁸ This seemed to point in the direction of more tactical instruction at the academy.

The appointment of a new examiner produced some very unfavourable remarks; he suggested that if more time could not be given, the subject might as well be dropped.³⁹⁹ The Governor retorted that even if more time could not be allocated, he felt it 'important that young men about to enter the army should have their attention turned at an

³⁹¹ See list of works in Appendix 4.

³⁹² Graham Nicol, *Uncle George: Field Marshal Lord Milne of Salonika and Rubislaw* (London: Redminster Publications, 1976), p.8.

³⁹³ *Report of a Committee on the Education of Artillery Officers*, (London: HMSO, 1871), p.xiii.

³⁹⁴ *Ibid.*, Minutes of Evidence, points 234-237.

³⁹⁵ WO150/94/113, From Lt General Beachamp Walker to DAG RA, 8.5.1879.

³⁹⁶ WO150/94/113, From Major-General John Adye, Governor RMA, to DAG RA, 27.5.1879.

³⁹⁷ *Ibid.*

³⁹⁸ WO150/94/118, Captain SC Pratt to Governor RMA, 22.5.1879.

³⁹⁹ SCA, Report of Examiners Book, 1870-1885, remarks of Colonel A Montgomerie on 2nd Class, April 1879, and 2nd Class, July 1879, p.256.

early age to the general subject of Military History and Tactics.⁴⁰⁰ He also suggested that the examiner's questions tended to expect too much from the cadets (previously confirmed by Clayton) and believed a less ambitious course should be adopted. Although the Duke of Cambridge did not think a change was needed, the DGME felt that the term 'Military History and Geography' was sufficiently vague to permit the Governor to modify the course in the direction of tactics rather than strategy.⁴⁰¹ This guidance was welcome, as Pratt wanted to know the extent to which he could use his discretion given that the lectures on tactics had been so varied in character.⁴⁰² He retained Hamley's book, not as a textbook, but as a work of reference for the course.⁴⁰³ Later on, he suggested his own, *Field Artillery: Its Equipment, Organisation and Tactics* (2nd edition), be added as a work of reference.⁴⁰⁴ This showed Pratt to be more of the 'continental school', his book incorporating as it did lessons from the Franco-Prussian War.⁴⁰⁵ It appears that the subject did take on a more tactical leaning as evidenced by examples of examination papers.⁴⁰⁶

It was probable that Major Pratt was pushing for a change towards tactical instruction in a classic case of 'upward management'. When the Governor, Major General J Browne, confirmed that Pratt was to become the Professor of Tactics he annotated the record, 'My opinion was never asked all this was brought about by interview and private notes, I always opposed the proposals, as it included the abolition of the Arsenal course as well as Military History.'⁴⁰⁷ Pratt's views seemingly coincided with the DAGs of RA and RE who had pushed for this.⁴⁰⁸ The Governor consulted his professors of Fortification, Military Topography and Military History with the object of showing:

[...] how far in both a theoretical and practical manner we now educate without the imposition of Colonel Clery's book [on tactics] etc. and whether by some slight alterations we could not bring tactical knowledge sufficient for a newly appointed officer of RA or RE within our usual course without the disturbances foreshadowed

⁴⁰⁰ SCA, A21-344, Letter from RMA Governor to Director General of Military Education, 8.10.1879.

⁴⁰¹ WO150/94/140, Lt General Beauchamp Walker to Governor RMA, 22.10.1879.

⁴⁰² WO150/92/114, Captain SC Pratt to Governor RMA, 8.7.1879.

⁴⁰³ WO150/95/9, 'List of Textbooks and Books of Reference', and WO 150/92, Letter 114, Captain SC Pratt to Governor RMA, 8.7.1879.

⁴⁰⁴ WO150/91/187, Major SC Pratt to Governor RMA, 24.9.1883.

⁴⁰⁵ For example, Sisson Cooper Pratt, *Field Artillery, Its Equipment, Organisation and Tactics* (London: Kegan, Paul, Trench & Co., 1883), Ch.9 'The Battery of the Advanced Guard', and particularly pp.137-9.

⁴⁰⁶ See Appendix 2, Military History Papers: July 1882 (A), Questions 4, 5, and 6; July 1882 (B), Questions 5, 6, and 7; February 1883 2nd Class (A), Questions 4, 5 and 6; February 1883 (A) 1st Class, Questions 3-7; February 1883 (B), 1st Class, mixture of Military History and tactical questions; See also, SCA, 'Printed Notes of Lectures Recently Delivered at the Royal Military Academy' by Major Sisson C Pratt, RA. Particularly lectures 11-13, 'Employment of Infantry' and 14-16, 'Employment of Artillery', 1882.

⁴⁰⁷ SCA, A22-356, Letter from RMA Governor to DGME, 3.7.1884.

⁴⁰⁸ WO150/103/191, Military Education Division to Governor RMA, 24.12.1884.

in the letter of the 24th November 1884. [...] I wish all our endeavours directed to the proper education of the cadets, and not that of a Lieutenant of Artillery and Engineers for his promotional examination.⁴⁰⁹

However, their responses did not conform to his wishes, but he summarised them fairly when responding to the DGME. If he was indignant about having to do the job which he felt the Director of Artillery Studies should have been doing, at the same time he revealed a slightly backward looking character when referring to his own experiences as a cadet in the 1840s Practical Class in the Arsenal.⁴¹⁰ In fairness to the Governor, there were certainly the printed Military History notes that dealt in a modern tactical way with how a modern army marched, halted and fought, which were good enough to be asked for by staff officers and others.⁴¹¹ Indeed, the Fortification course included a portion on the attack and defence of outposts, villages and fieldworks taught theoretically and practically on the ground.⁴¹² However, overall Pratt concluded that if the Tactics he taught was combined with that in the Fortification course, it was quite small, especially compared with that in leading continental schools. He felt that no modification of the existing course was possible and that 'Military History presents exceptional difficulties to a Woolwich cadet. Lectures on tactics would I think be found easier.'⁴¹³ The difficulties Pratt referred to were mentioned by the examiners. The root cause was both the low proportion of marks allocated to Military History, which failed to secure cadets' attention, and the fact that it was rather an extended course.⁴¹⁴ It also did not help matters that the examination itself came at the end of ten days of examinations and cadets were frequently too exhausted to do their best. Despite this there were exceptions, the comments on one cadet were 'his [marks] were excellent, evincing great intelligence, and a thorough grasp and knowledge of his subject. He obtained nearly full marks.'⁴¹⁵ That cadet was J Edmonds, the author of the official history of the First World War. Similarly, the exam paper of J Headlam was worthy of commendation and he went on to write the history of the Royal Artillery.⁴¹⁶ In 1885 the Tactics course was finally established just at the time a committee under Lord Morley sat and reviewed the course. The problems in teaching Tactics were complained of by the truculent Governor Major General Browne, who repeatedly stressed it was a

⁴⁰⁹ SCA, A22-457, Memo to Professors of Fortification, Military Topography and Military History, 8.1.1885.

⁴¹⁰ SCA, A22-455, Letter to DGME from Governor RMA, 22.1.1885.

⁴¹¹ SCA, A22-356, Letter from RMA Governor to DGME, 3.7.1884.

⁴¹² WO150/103/197, Major Ross, Professor of Fortification to Governor RMA, 14.1.1885.

⁴¹³ WO150/103/208, Major SC Pratt to Governor RMA, 12.1.1885 [Date incorrect on original letter, marked as 12.1.1884 – change of year error].

⁴¹⁴ SCA, Report of Examiners' Book, 1870-1885, remarks of Captain FCH Clarke RA, February 1880, p.259-60; Colonel A Montgomerie on 1st Class, February 1881, p.263.

⁴¹⁵ SCA, Report of Examiners' Book, 1870-1885, remarks of Colonel A Montgomerie on 1st Class, July 1881, p.265.

⁴¹⁶ SCA, Report of Examiners' Book, 1870-1885, remarks of Colonel A Montgomerie on 1st Class, July 1883, no page number.

regiment's duty to teach officers tactics for promotion.⁴¹⁷ However, Browne was clearly swimming against the tide, for Tactics was to remain a subject in the course for a considerable time.

Before leaving the subjects at the academy, and considering how the system progressed over the next nineteen years, the last subjects worth mentioning are those of Chemistry and Natural Philosophy (Physics). The position and importance of these were not discussed at any great length by the Royal Commission of 1869; certainly, the Professor of Chemistry was not invited to give evidence. Most officers mentioned Chemistry being important and, to a lesser degree, Physics. The commission recommended that only Chemistry be taken up as voluntary subject but gave no explanation.⁴¹⁸ Simmons thought it useful, the most popular with the cadets, and should have its allotted time increased. Just as Mechanics was transferred to Mathematics, so Physics was transferred to the Professor of Chemistry, Charles L Bloxam.⁴¹⁹ Although Bloxam's abilities were highly thought of, the strain of merging two professorships into one and deteriorating class discipline, meant he became ill and declined re-appointment.⁴²⁰

4 Cadet Course Changes 1870 - 1899: Problems, Bifurcation & the Boer War

By and large the academy authorities, staff and Boards of Visitors were content with the changes introduced by the Royal Commission. However, as the system bedded in and improvements were incorporated, features which could not be readily changed proved increasingly irksome. Additionally, although the academy authorities did not specifically complain or aver to it, there was a palpable sense of financial stringency affecting the academy. In accordance with Cardwell's plans to reduce military expenditure various aspects of the RMA's operation were scrutinised in terms of their cost. The messing, the servant establishment, the use of water and building works were all examined. Concerning the course of study, it could be affected in minor details such as when hopes to improve the Fortification course by visiting siege operations at Chatham were stymied. The Governor endorsed the professors' recommendation but the travelling expenses of £50 were deemed inexpedient.⁴²¹ The amount of artillery matériel kept on the academy books was also questioned, and it was suggested that cadets do their artillery drills at the Royal Military Repository to avoid this.⁴²² There was also a distinct slowness in the provision of suitable cadet accommodation, despite continual representation to the

⁴¹⁷ *Report of the Morley Committee 1886*, evidence of Lt General JFM Browne RMA Governor, points 178-180.

⁴¹⁸ *Dufferin Commission Report 1869*, p.41.

⁴¹⁹ SCA, A18-334, Letter from Major General JLA Simmons, RMA Governor, to DGME, 30.9.1869.

⁴²⁰ Charles Loudan Bloxam, *On the Present Condition of the Royal Military Academy Woolwich by an Ex-Professor* (London: Ballantyne, 1882), pp.6-10.

⁴²¹ SCA, A20-491, Letter from Governor RMA to DGME, 21.11.1876.

⁴²² SCA, A18-398, Letter from Governor RMA to DGME, 28.12.1869.

Boards of Visitors. This caused cadets to share rooms and reputedly reduced the opportunities and success of private study.⁴²³

However, the greatest impact was the reduction of staff consequent on the adoption of voluntary subjects which gave an annual saving of £6,124.⁴²⁴ This in theory would not have been a problem, but the repeated calls on the academy to provide officers over and above that which the commission had set as the establishment, meant that the strain on cadets and staff resulted in desultory instruction (see below). This feature of financial retrenchment, and lack of long-term planning, is part of the context of the failure of Cardwell's reforms as a whole – that is, they failed to assess Britain's long-term strategic needs, resulting in hastily formed and despatched colonial expeditionary forces.⁴²⁵ The imposition of Tactics, Military Administration and Law onto the academy can be seen in a similar light. This was brought about, as mentioned earlier, from the failure to provide newly commissioned artillery officers with training due to financial constraints.

It is difficult to disentangle the improvements the authorities attempted to make from the constant re-arrangements required to provide additional officers. To meet the requirement various methods were adopted, the first was to use three shorter terms per year, as in 1872-3 and 1877-8.⁴²⁶ The second, used in 1880, was 'acceleration'. This involved promotion of each of the five classes, the senior losing a term and a half's study, with the remainder being moved up without examination.⁴²⁷ To make up for this sudden exit, 80 cadets were admitted in October 1880 to form the fourth and fifth classes.⁴²⁸ Any commentary about the quality of Woolwich instruction must take these truncated courses into consideration. The system adopted in 1872-3 attempted to retain the syllabus unaltered – but the result of so many failures meant dropping the qualification standard. The failures were particularly keen in Mathematics and Fortification. In the latter subject the most numerous failures were in the Attack of Fortresses which the examiner attributed to the short terms.⁴²⁹ This was hardly surprising as deliberate study was required to master the inter-relating details required to understand the attack of fortresses – which really was the ultimate synthesis of the course. During the second attempt at the three-term system in 1877-8, it was deemed preferable to reduce the syllabus by omitting

⁴²³ C1093, *Report of the Board of Visitors Appointed for the Year 1874, to Inspect the Royal Military Academy, Woolwich*, (London: HMSO, 1874), p.5.

⁴²⁴ *Dufferin Commission Report 1869*, p.42.

⁴²⁵ Spiers, *Late Victorian Army*, p.24.

⁴²⁶ C875, *First Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1873) [hereafter *First DGME Report 1873*], p.12; *Third DGME Report 1883*, p.9.

⁴²⁷ C2697, *Report of the Board of Visitors Appointed for the Year 1880, to Inspect the Royal Military Academy, Woolwich* (London: HMSO, 1880), p.3.

⁴²⁸ *Third DGME Report 1883*, p.9.

⁴²⁹ SCA, *Report of Examiners Book, 1870-1885*, remarks of Lt Col CS Hutchinson RE, October 1872.

sections but adhering to the qualification standard.⁴³⁰ A subsequent academy board minute remarked: 'that, so far as the results of the recent examinations went, this was working well.'⁴³¹

However, when the academy was called upon to furnish more officers in 1880, the Governor offered a longer-term solution. He noted that the average residence of the 19 batches since 1870 was about two years. He suggested a two-year course with four terms, and four classes of 50 cadets (instead of 40). This would provide 100 cadets per year, an average requirement suggested by recent evidence.⁴³² Shortly afterwards, out of the 80 cadets admitted in October 1880 to make up for the accelerations of 1877-8, 14 of the fourth class failed to obtain class promotion – essentially because they had not gone through the work of the fifth class.⁴³³ This heightened the issue, but nothing was done until 1882. With a similar process of acceleration being undertaken in 1882 due to the war in Egypt, the Secretary of State finally authorised the proposal of a two-year course.⁴³⁴

In addition to the pressure of officer supply, there were a number of other minor problems which mitigated the instruction from being as efficient as it could be. Initially, there was a drop in the numbers competing for entry to Woolwich. This was because Sandhurst closed as a cadet training establishment between 1870 and 1877, which meant officer candidates went directly into the infantry and cavalry after passing an examination. Thus, they skipped college training and received instruction upon joining their regiments. The advantages to the candidate were: no college training fees, obtaining a commission sooner and at a younger age, and lastly, the opportunity to forego arduous training at a college such as Woolwich. The incentive to attend the RMA had gone and the problem was raised repeatedly by the RMA Governor. However, there was nothing that could be done until Sandhurst re-opened as a cadet college in 1877.⁴³⁵ The more persistent problems, however, were: the practice of carrying on marks from class to class and the undue prominence which languages assumed.

The principle of carrying forward marks for the final qualification had been established in the 1860s. It continued so that a final examination would neither place too much strain on the cadets nor cause them to neglect their work until the last term. A cadet had to obtain at least half marks in the obligatory courses of Mathematics, Fortification and Artillery, and one half of the total aggregate of the marks allotted to all the obligatory

⁴³⁰ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 18.9.1877.

⁴³¹ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 18.2.1878, point 5.

⁴³² SCA, Proceedings of Academy Boards, Entry for Board Meeting, 9.2.1880.

⁴³³ C3439, *Report of the Board of Visitors Appointed for the Year 1882, to Inspect the Royal Military Academy, Woolwich* (London: HMSO, 1882), p.3.

⁴³⁴ SCA, Proceedings of Academy Boards, Entry for Board Meeting 5.10.1882.

⁴³⁵ SCA, A20-370, Letter from Governor RMA to Director General of Military Education, 4.12.1875.

subjects (the above mentioned but also Military Topography, French or German, Military History, Elementary Chemistry and Physics, and Drills). In order for a cadet to gain credits from any obligatory subject, he had to obtain a minimum of half marks in it.⁴³⁶ Outside of the 'big three' of Mathematics, Fortification and Artillery, this meant that a cadet had the option of concentrating on certain subjects at the expense of others so long as the marks they got were sufficiently high to make up for the neglected subject.

The disadvantage of carrying forward marks was raised by a Mathematics instructor; in that many cadets in the second class were obligated to obtain only a few extra marks to qualify. They consequently slacked off just as the course was becoming most useful for an artillery officer.⁴³⁷ However, the Governor noted the course was considerably in excess of that recommended by the Royal Commission and felt making the standard higher would divert cadets' attention from other subjects.⁴³⁸ Yet, the same problem was noted by an instructor in Military Topography, who suggested redistributing the marks to be higher in the first class where he detected apathy and idleness.⁴³⁹ It seemed the system was creating an injurious effect on the Royal Artillery. The DAG RA complained how those unable to compete for the engineers were content to qualifying with the marks carried forward.⁴⁴⁰ The academy board struggled to recommend a solution.⁴⁴¹ Although a higher obligatory minimum could have been adopted, perhaps it was difficult to overturn the minimum qualification laid down by the searching Royal Commission. Moreover, in the main, the overall results caused the Governor to remark that the vast majority of cadets since 1870 had received a sound education.⁴⁴²

Related to the above question was the adoption of further voluntary languages by Governor JLA Simmons, who felt 'it only seems right that a gentleman who had been educated in the south of Europe should be placed on a par in this respect with one who might have been educated in the north.'⁴⁴³ This was in keeping with the spirit of the commission's recommendation on allowing a young man's talents and abilities to be used to his advantage. However, the introduction of Italian, Spanish, Russian and Hindustani as voluntary subjects, resulted in complaints from cadets and professors to the effect that the important professional subjects were placed at a disadvantage by the undue ease with

⁴³⁶ *RMA Board of Visitors 1877*, Table E, 'General Regulations for the Government of the Royal Military Academy at Woolwich', paragraphs 44-45.

⁴³⁷ WO150/94/148, Captain GC Wynne, RA, Maths Instructor, to Secretary, with Professor Morgan Crofton's remarks thereon, 22.1.1880.

⁴³⁸ WO150/94/154, Memorandum on Wynne's Letter by Governor Major General John Adye, 22.1.1880.

⁴³⁹ WO150/94/167, Captain A G Walker to Captain F Roberts, Professor of Military Topography, 20.2.1880.

⁴⁴⁰ WO150/91/190, Director General of Military Education to Governor RMA, 24.9.1883.

⁴⁴¹ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 3.5.1881.

⁴⁴² SCA, A22-194, Letter from Major General JFM Browne, Governor RMA, to Director General of Military Education, 1.5.1883.

⁴⁴³ SCA, A20-252, Letter from JLA Simmons, Governor RMA to DGME, 6.2.1875.

which marks were attained through 'a very slight and easily attained acquaintance' of these languages.⁴⁴⁴ At an academy board the Professors of Mathematics, Artillery and Fortification all agreed that attention was diverted, and the board recommended reducing the number of languages taken up, increasing the qualification standard and reducing their mark allocation.⁴⁴⁵ Yet, the only change adopted was to reduce the number of voluntary languages to two. The problem persisted, resulting in rather embarrassing observations in the DGME's report being brought to the notice of the Duke of Cambridge. To avert the system becoming a 'scandal', the Governor suggested introducing 'Advanced French/German' as a language option and reducing voluntary languages further to one. The intention was that a cadet with a foreign background would qualify in obligatory French or German, but could still take up the language where he grew up; the British educated cadet on the other hand would preferably take French and German as obligatory and as an advanced study – because this would earn him more marks.⁴⁴⁶

Although the assumption was that cadets abused the language loophole, it did have the potential to lead on to other things. For example, Lieutenant General James Moncrieff Grierson took up Russian and won a prize in Italian. After commissioning, he contributed articles to the RA Institution on the military importance of Italy (1882) and Russian related subjects. Also, by furnishing a copy of his Russian language certificate from the RMA he obtained an appointment on the intelligence staff in India.⁴⁴⁷

The perception by the DGME at the time, however, was that voluntary languages, and by extension voluntary subjects generally, produced only a smattering of knowledge in those subjects (Higher Mathematics, Higher Fortification, Higher Chemistry, Advanced French and German, Freehand Drawing). Certainly, it was true that the marks gained in them were not necessary for a commission. They were simply added to the obligatory marks, so long as one-third of the marks had been attained in each, and this determined the cadets' overall place.⁴⁴⁸ The Governor strongly resisted any attempt by the DGME to increase the minimum required to two-thirds. Essentially, he felt that the type of cadet unlikely to get into the engineers, and indifferent to their place, would be deterred by the measure. The large amount of voluntary study, which was in no way antagonistic to the

⁴⁴⁴ SCA, A20-544, Letter from Governor RMA to DGME, 27.3.1877.

⁴⁴⁵ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 10.4.1877.

⁴⁴⁶ See both letters, SCA, A22-128 and A22-174, Letters from Governor RMA to DGME, dated 23.10.1882 and 26.2.1884 respectively.

⁴⁴⁷ Duncan Stewart Macdiarmid, *The Life of Lieut. General Sir James Moncrieff Grierson* (London: Constable and Co., 1923), pp.19-21, 30, 32.

⁴⁴⁸ *RMA Board of Visitors 1877*, Table E, General Regulations for the Government of the Royal Military Academy at Woolwich, paragraph 46.

obligatory portion, and deemed of benefit, would consequently be sacrificed without any corresponding advantage.⁴⁴⁹

When the Board of Visitors inspected the academy on 27th June 1884 they remarked upon the pale and jaded appearance of the cadets.⁴⁵⁰ As these reports were presented to Parliament, it prompted the Secretary of State to ask for a committee under Lord Morley to look into this matter particularly but also the course of studies generally. The cause of the cadets' appearance was easily dealt with; being temporarily brought about by exertions during exam time and dispensed with using timetable improvements.⁴⁵¹ The course of studies required a far more searching investigation. It suggested mathematical teaching was particularly poor; there were too few instructors, and cadets worked through their textbooks under indifferent instructors which caused cadets to be idle. Also, under the voluntary system a cadet could sit the Higher Mathematics examination without reference to the professor.⁴⁵² However, these points were disputed by the Professor of Mathematics at a second committee, who put the opinions of several witnesses into perspective.⁴⁵³ In addition, it tended to confirm the course was satisfactory as it was not dissimilar to that pursued at the Royal Military College of Canada. The overall concept of this recently created college was similar to West Point, in that the undeveloped state of Canadian secondary and higher engineering education required a four-year course.⁴⁵⁴ With the majority of staff being British artillery or engineer personnel, the course was very similar. When the Canadian government asked for a small number of commissions from Britain for its new Canadian graduates, the academy authorities were asked to comment.⁴⁵⁵ Naturally, the RMA authorities felt the course was of a similar standard to the academy and agreed that commissions should be given to Canadians.⁴⁵⁶

Nevertheless, overall, the Morley committee felt the criticisms of the Royal Commission in 1869 still applied with equal force; that instruction was too diffuse and was carried too far in certain instances, and pressure of work at the end of the course was too great.⁴⁵⁷ The Morley committee concluded that the best solution was to abandon the voluntary system and adopt a compulsory course which 'bifurcated' or split the cadets into

⁴⁴⁹ SCA, A22-194, Letter from Major General JFM Browne, Governor RMA, to Director General of Military Education, 1.5.1883.

⁴⁵⁰ C4146, *Report of the Board of Visitors Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy, Woolwich* (London: HMSO, 1884), p.3.

⁴⁵¹ *Report of the Morley Committee 1886*, evidence of Colonel A Harness, Secretary and Treasurer, 6th November 1885, points 313-325.

⁴⁵² *Ibid.*, p.ix.

⁴⁵³ *Report of the Committee on Military Educational Establishments*, 20th March 1888, (London: War Office) [hereafter *Harris Committee 1888*], evidence of Mr Harry Hart, points 2971-2972, 3041.

⁴⁵⁴ Richard Arthur Preston, *Canada's RMC: A History of the Royal Military College* (Toronto: University of Toronto Press, 1969), pp.16-19.

⁴⁵⁵ *Ibid.*, p.67.

⁴⁵⁶ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 17.3.1879.

⁴⁵⁷ *Report of the Morley Committee 1886*, p.viii.

artillery and engineers after one year. They were to study subjects in common in all four terms except the second year which differed like so:⁴⁵⁸

First and Second Terms

	Marks
Mathematics	3,000
Field Fortification	2,000
Military Topography	2,000
French or German	1,000
Chemistry and Physics	1,000
Model Drawing	300

Third and Fourth Terms

Common to Engineers and Artillery	Marks
Military Topography	1,000
Tactics	1,000
Military Administration	500
Military Law	500
Chemistry and Physics	1,000
Special to Artillery Division	
Artillery Studies	2,000
Fortification	1,000
Special to Engineer Division	
Fortification	2,000
Artillery Studies	1,000
Mathematics	2,000
Freehand Drawing	1,000

This was similar to the French course at Metz, but it was a complete reversal of the principle from the commission of 1869 relative to cadets pursuing subjects according to their tastes or strengths. There were two exceptions; a cadet could voluntarily take up French or German (depending on which he had already taken), and Landscape Drawing,

⁴⁵⁸ Ibid., pp.xi-xiv.

during the first and second terms. The course came into effect when the first batch joined in March 1889.⁴⁵⁹

The Governor, however, was much opposed to abandoning the voluntary system, noting that those who became engineers already took up Higher Mathematics and Fortification, and that there was no higher Artillery in any case.⁴⁶⁰ So, in actual fact, it could be argued there was a bifurcating system in place already in all but name; but it was self-selecting, only the cadets did not realise this. The advantage of this was in Browne's answer:

Because an artilleryman is always pushing to be an engineer; down to the very last day of the examination they are pushing for it; and if he knew he could not be he would be disheartened.⁴⁶¹

Browne understood the importance of competition working throughout the course. When this was abolished, the professors were unanimous that the bifurcation system was not conducive to industry, because the cadets tended not to study more than they had to after they were separated.⁴⁶²

On the other hand, there was a complaint that bifurcation had not been carried far enough – into the Military Topography course.⁴⁶³ In 1887 complaints were made that Woolwich cadets compared unfavourably in military topography with officers from the Royal Indian Engineering College at Cooper's Hill or the RMC Canada. Neither was their knowledge of architectural drawing and construction as high.⁴⁶⁴ The Inspector General of Fortification suggested the low admission standard and number of subjects were mitigating factors but they did not explain the want of 'the knowledge of elementary principles'. The Governor pointed out that Cooper's Hill was purely an engineering college and that cadets at Kingston had a four-year course and added that the bifurcation should reduce this.⁴⁶⁵ However, bifurcation was not introduced into the topography course.

Despite the misgivings, the DGME reported that the system did not encourage idleness and that the qualification exam at the end of each term ensured competence. He felt, however, the proliferation of subjects adversely affected thorough instruction and retaining modern languages (where it was easiest to gain marks) tended to emphasise the

⁴⁵⁹ *Fourth DGME Report 1889*, pp.12-13, and Guggisberg, *The Shop*, p.168.

⁴⁶⁰ *Report of the Morley Committee 1886*, evidence of Lt General JFM Browne, point 240.

⁴⁶¹ *Ibid.*, evidence of Lt General JFM Browne, point 243.

⁴⁶² SCA, Proceedings of Academy Boards, Entry for Board Meeting, 15.7.1889.

⁴⁶³ SCA, Proceedings of Academy Boards, Entry for Board Meeting, 2.12.1889.

⁴⁶⁴ WO150/112/84, Extract from the Report of the Inspector General of Fortification, Chatham District, 11.6.1887.

⁴⁶⁵ WO150/112/84, Major General RJ Hay, RMA Governor, to DGME, 20.6.1887.

point.⁴⁶⁶ Indeed, it could be argued that the requirement for French and German for every officer was now less than it had been a lot earlier in the century when many military publications were in French. By the 1890s the War Office were issuing manuals and translations of notable continental works.

The problem was, however, that with the increasing complexity of garrison artillery, this branch needed officers nearly as proficient as the candidates for the engineers. The 1869 commission assumed that a young artillery officer continued his education at Woolwich and Shoeburyness. As mentioned previously, financial constraints meant this had not been realised, and so the bifurcation system sought to maximize the time spent at the academy to allow artillery officers to join their regiments direct. However, as General CG Arbuthnot put it:

With the vast and increasing improvements in our coast armaments the Garrison and Fortress Engineers are becoming more and more closely connected and [...] the Garrison Artillery should, [...] to maintain its position [and] for the proper performance of its duties, be supplied with officers quite on a par in ability and attainments with those of the Engineers.⁴⁶⁷

These comments appeared in a report which compared the length of time artillery and engineer cadets underwent instruction in France, Germany and Austria, where artillery cadets trained for between three and four years. This added weight to the repeated calls of the Boards of Visitors to abolish the bifurcation system.⁴⁶⁸ The system was eventually abandoned in June 1896.⁴⁶⁹ The system returned to an obligatory course with Mathematics having a voluntary component.⁴⁷⁰

This was how the course had developed by the time of the next committee to investigate the academy – the Akers-Douglas committee of 1902. In the closing stages of

⁴⁶⁶ *Fifth DGME Report 1893*, p.4.

⁴⁶⁷ *C7177 Report of the Board of Visitors Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1893*, (London: HMSO, 1893), pp.5-6 [hereafter *RMA Board of Visitors 1893*].

⁴⁶⁸ C6464, *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1891* (London: HMSO, 1891), p.4; C6875 *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1892* (London: HMSO, 1892), p.4; *RMA Board of Visitors 1893*, p.5; C7484 *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1894* (London: HMSO, 1894), p.3-4; C7839 *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1895* (London: HMSO, 1895), p.3.

⁴⁶⁹ Guggisberg, *The Shop*, pp.168-9.

⁴⁷⁰ Cd. 982, *Report of the Committee Appointed to Consider the Education and Training of Officers of the Army* (London: HMSO, 1902), [henceforth *Akers-Douglas Report 1902*], Appendix XXIII, 'Syllabus of the Course of Instruction at the Royal Military Academy, 1899'.

the controversial Boer War, it was appointed to consider the changes desirable in the system of training officers for the army, and whether Sandhurst and Woolwich be maintained. In this context particularly, 'whether the instruction at these institutions should be purely Military and Technical, or whether it should be to some extent general, with a strong military tinge.'⁴⁷¹ It began taking evidence in May 1901, publishing the report in March 1902. Compared with the reports of 1856, 1869 and 1886, the Akers-Douglas committee was, in the main, far less critical of the academy. Indeed, explicit evidence was given by a number of witnesses as to the successful performance of junior artillery and engineer officers in the field.⁴⁷² Still, the views expressed by witnesses covered the same old ground as before; with some for and others against the depth to which certain subjects should be taught. These views were naturally based on personal experience and predilection and there was probably no definitive answer one way or the other. The committee's recommendations in reference to the course were that firstly, with 'no adequate reason' for studying general subjects after admission, French and German should be discontinued. Those of Mathematics and Experimental Sciences (the successor to Chemistry and Physics) should be more applied to the technical studies of artillery and engineers and be less academic. The committee felt the teaching of Tactics and Military History were unduly neglected and that Tactics should be co-ordinated with Fortification and Topography. Military History, which was included on the Sandhurst course, should be re-introduced. In Fortification, Permanent Fortification and the drawing of elaborate plates 'might be reduced.'⁴⁷³ Additionally, it was thought anomalous that, with so many cadets commissioning into the artillery, that its relative allocation of marks should be so low.⁴⁷⁴

Some of these criticisms seemed fair. As far back as 1869, Lieutenant Colonel Owen had complained of the low marks for Artillery relative to Topography. Regarding Tactics, the examiners in the 1880s had criticised the relatively few marks allocated to it. Then in 1893, the DGME remarked on the undue prominence of modern languages, and yet apparently took no steps to change it. However, it was disingenuous of the committee to baldly state as evidence the Mathematics marks without acknowledging the fact that 2,500 marks were for a voluntary portion. Also, it ignored the growing arguments for the encouragement of high mathematical ability for garrison artillery and engineers. It also hid the fact that there was a need to consolidate the mathematical abilities of the cadets. At the 1886 Morley committee the Governor referred to the entrance exam as 'nothing', it merely qualified them for admission; in his view it was not a test of genuine competence

⁴⁷¹ *Akers-Douglas Report 1902*, 'Terms of Reference'.

⁴⁷² Cd.983, *Minutes of Evidence Taken before the Committee Appointed to Consider the Education and Training of Officers of the Army* (London: HMSO, 1902) [hereafter *Akers-Douglas Report Minutes*], evidence of Lt General NG Lyttelton, points 1023, 1027; evidence of Colonel TC Porter, points 1496-1502; evidence of Major General Sir Ian Hamilton, points 774-5, 780-1; evidence of Field Marshal Earl Roberts, points 8460, 8567.

⁴⁷³ *Akers-Douglas Report 1902*, pp.16-17.

⁴⁷⁴ *Ibid.*, p.18.

but a proof that they had the potential to undergo instruction. He stated: 'Then I begin with them, and work with them, and at the end of the two years I guarantee them.'⁴⁷⁵ Also, there remained the point made in the previous chapter of mathematics being the 'engine' for calculation and reasoning in Artillery (including Mechanism), Fortification, Military Topography, and the Experimental Sciences. In fact, the perception of mathematics and the generally critical view of the undue academic emphasis, probably originated in the rather partisan line of questioning of one of the members of the committee, Captain Lee RA MP. In his questioning of the witnesses he constantly referred to his own experience at the academy and strongly deprecated his perceived dominance of its theory.⁴⁷⁶ Also, from this vein probably originated the criticism, albeit minor, of the Fortification course. The notion it consisted of drawing plates of obsolete systems was probably more impressionistic. This is apparent when comparing the textbook of 1877 and the syllabus and textbook of 1899. This showed the greater preponderance of Field Fortification, with the defence of outposts and villages, than had ever been the case before.⁴⁷⁷

The comments regarding Tactics were certainly fair as it was never co-ordinated with Fortification or Military Topography – both of these subjects were taken up in the junior classes with Tactics only covered in the two senior classes. Strangely, there was no explicit criticism of it not being practically instructed despite some questioning along these lines.⁴⁷⁸ Instruction was always by lecture due to lack of time to develop outdoor schemes.⁴⁷⁹ Attempts were made to combine the subjects but this was stymied because of time pressure.⁴⁸⁰ However, the academy environs were often referred to in the course of instruction as shown by the questions in the exam papers – areas intimately familiar to the cadets via their Military Topography course.⁴⁸¹ Some limited instruction was carried out in the form of 'field days'; one which represented a raid on the Arsenal, culminating in a fierce struggle for the possession of the Plumstead crest line, and the other involving an advance on an entrenched position on Dartford Heath.⁴⁸² However, this branch could not fully blossom until official support was given by the Akers-Douglas committee for an annual camp, which it was fully justified in recommending – after all an annual camp had

⁴⁷⁵ *Report of the Morley Committee 1886*, evidence of Lt General JFM Browne, points 259-261.

⁴⁷⁶ See for example questions and evidence in *Akers-Douglas Report Minutes*, evidence of Col AM Delavoye points 360, 437-446; evidence of Major General C Grove, points 603-607; and evidence of Col GP Challoner, points 2026, 2033, 2035, 2037-9.

⁴⁷⁷ Compare *Textbook of Fortification and Military Engineering, for use at the Royal Military Academy Woolwich, Part I & II* (London: HMSO, 1877), with Colonel George Philips, *Textbook on Fortification, etc.*, 6th edn. (London: Pardon & Sons, 1899), and *Akers-Douglas Report 1902*, Appendix XXIII, Syllabus of the Course of Instruction at the Royal Military Academy, 1899.

⁴⁷⁸ *Akers-Douglas Report Minutes*, evidence of Major Beamish St J Barter, points 5150-5164.

⁴⁷⁹ *Harris Committee 1888*, evidence of Major SC Pratt, points 3226-3228.

⁴⁸⁰ *Akers-Douglas Report Minutes*, evidence of Major B R Ward, points 4974-4947.

⁴⁸¹ For examples of questions using local features see questions three and four, SCA, RMA Commissioning Exam Papers, 1857-1902, exam paper, 'Tactics: Fourth Class', June 1898.

⁴⁸² 'Notes and Notices', *RMA Magazine*, 2.6 (Jul 1901), 51-53 (p.53).

been a feature of the West Point calendar for a great number of years. The annual camp was carried out the following year and deemed a success.⁴⁸³

Finally, it could be argued the recommendation to reintroduce Military History was a retrograde step. The criticism of it as 'too big a subject' for the cadets did not really change and its metamorphosis into Tactics was probably logical given the time constraints. The confusion arose from conflating modern tactics, as illustrated by recent historical examples, with the military history of older campaigns and grand strategy, as was sometimes taught by Brackenbury, Clayton, and for a while, Pratt. What remained unchanged, however, was the trend of the academy to keep abreast of conflicts as evidenced by the response to the Boer War. Just as Brackenbury had followed the Franco-Prussian War, the progress of the Boer War was followed keenly with the formation of a 'War Map Committee' by the Professor of Tactics and four cadets with the object 'to keep maps of the seat of war up to date, together with charts showing the composition of the various columns, and a diary of the war for reference.'⁴⁸⁴ Also, there were articles by the Professor of Tactics and a lecture in the gymnasium on field fortification as practised in South Africa.⁴⁸⁵ However, despite introducing a few general exam questions, which fostered attention and critical thought of the war, full incorporation into the syllabus had to wait until its lessons could be fully assessed.⁴⁸⁶

Conclusion

This chapter has attempted to show that, as in the earlier part of the century, the RMA was still situated within a context of mediocre, although steadily improving, technical and scientific education. Some schools had developed 'modern sides' able to pass candidates direct in to the RMA, others such as Cheltenham or Clifton were orientated this way already. However, the continued desire of the army for the public schoolboy as an officer, meant army exams had to take account of the classical orientation of such schools. Therefore, the boys invariably had to attend a tutor for entry into the RMA. In

⁴⁸³ 'Summer Camp: The Royal Military Academy Camp on Salisbury Plain', *RMA Magazine*, 3.11 (Jul 1901), 110-130.

⁴⁸⁴ 'Notes and Notices', *RMA Magazine*, 1 (May 1900), 26-29 (p.27).

⁴⁸⁵ Major Beamish St John Barter, 'Lord Roberts' March to Bloemfontein' in *RMA Magazine*, 1.1 (May 1900), 14-20; B St J Barter, 'Outline Sketch of the War' in *RMA Magazine*, 1.2 (August 1900), 66-72; Lt Colonel W D Conner, 'Entrenchments in the War in South Africa', in *RMA Magazine*, 2.5 (April 1901), 21.

⁴⁸⁶ For Field Fortification, see evidence of Major BR Ward, points 5062-5066, for Tactics see evidence of Major B St J Barter, points 5129-5130, in *Akers-Douglas Report Minutes*; For sample examination papers see, SCA, RMA Commissioning Exam Papers, 1857-1902, exam paper, 'Tactics: Fourth Class', June 1900; 'Tactics: Fourth Class', December 1901; 'Tactics: Fourth Class', June 1902.

spite of this, Woolwich still managed to obtain candidates of a good calibre resulting in the institution being well regarded as a centre for technical professional teaching.

The second part of the chapter showed the influence of the Royal Commission of 1869 on the course and management of the academy. It highlighted how some of the country's preference for a literary education had started to creep into the views and recommendations of the commission. Nevertheless, the commission did go some way in reconciling the debate over the differing learning needs of future artillery and engineer officers in the same institution – most notably by adopting voluntary subjects. This obviated the need to split the cadets into separate batches. In airing their views some witnesses still referred to the French idea of a 'School of Application', but after about a decade of this concept floating about within the context of the country's secondary education, this ideal seemed to no longer have the same currency. Instead, the commission were more practical, keeping certain general subjects and introducing management changes such as bolstering the Governor's position, establishing the academy board and the Boards of Visitors.

The chapter's third section examined the subjects of instruction. As with the previous chapter, there was no real dissension as to what the 'Scientific Corps' should be taught – it was more to do with the relative depth in the time available, and with particular reference to the differing needs of engineers and artillery. In Mathematics it has been shown the course was rationalised to what was seen as absolutely requisite for both. Also, it was to be superintended by professors who were better attuned to the practical needs of these officers. The same philosophy was applied in Fortification, Artillery and Topography whereby the compulsory subjects would not extend beyond what was required for both corps. It has also been demonstrated that the course content kept abreast of current thinking and practice. This was particularly notable with regard to Military History which often covered very recent campaigns. However, the teaching of Military History was problematic despite having capable instructors. Its relative weighting compared to other subjects and the broad reading required to critically examine the strategy of campaigns, served to mitigate the attention which cadets could meaningfully give to it. In that sense the time it took for it to transform into Tactics is surprisingly long, but is understandable when the role of the Governor in obfuscating it is considered. Coupled with this is the fact that there were relevant tactical and doctrinal elements within it already, which may also have delayed the change.

The fourth and final section charted what happened to the management of the course over the late Victorian era. It showed how there were intrinsic problems after the 1869 commission such as carrying forward marks, but also new ones, such as increasing

the contribution of languages, that brought about dissatisfaction. The mood now swung away from having voluntary as well as obligatory subjects and in the late 1880s it was decided that a compulsory course was the answer. The exception was that, after a year, cadets were separated to receive instruction tailored to their future careers as either artillery or engineer officers. Languages, which initially ballooned out of control, by the 1880s were cut back and classics had been abandoned. However, the bifurcation system was also to prove unworkable, so the course reverted back to an adjusted version of that recommended in 1869.

There were other difficulties, too, such as the financial restrictions which reduced the number of instructors, delayed accommodation provision, and pressurised the RMA to teach Tactics, Military Administration and Law. The extra demands for officers also wrought havoc in the methodical course rhythm, requiring a reduction in the course from two and a half years to two. With the academy unable to furnish all the officers required, some commissions were offered to the militia artillery, the RMC Canada and by direct appointment – often to university and RIEC graduates. However, despite these various routes, the RMA's output was the preferred product. For example, by the end of the century university candidates might have reasonable mathematics and science, but were less amenable to discipline and were completely ignorant of military duties.⁴⁸⁷

Reviewing the academy in 1901, the Akers-Douglas committee essentially seemed satisfied with it. Of course, a constant complaint was that once drills, and the time available were factored in, too many subjects were under instruction. Sir George Sydenham Clarke remarked, however, that whilst it appeared formidable 'a great deal does not amount to very much.'⁴⁸⁸ Clarke was also an instructor at the RIEC Cooper's Hill, which was analogous as it taught all the various subjects needed by Indian civil engineers. His experience of both systems lent credence to his recommendations for retaining the various subjects. Thus, the RMA effectively provided a kind of 'liberal military' education upon which the young officer could build his further training. If he followed a route which did not require a certain portion of it, then he naturally would feel that this portion of his academy education was superfluous. Yet, a campaign or a certain posting might call upon him to apply knowledge in unexpected conditions on service. The irony is that when thorough training was required during time of war the courses had to be truncated.

⁴⁸⁷ *Akers-Douglas Report Minutes*, evidence of Major General FG Slade, points 1838-1850, 1868-1872.

⁴⁸⁸ *Ibid.*, evidence of Col Sir GS Clarke, point 859.

Chapter 3 The Course of Studies at the Royal Military College 1840 - 1870

This chapter assesses the course of studies at the Royal Military College prior to the Crimean War and the decade or so after. An apparent lack of military professionalism and officer education took considerable blame for failure in the war.⁴⁸⁹ Naturally, the RMC was caught up in this and was subjected to government and public scrutiny; the resulting negative view was certainly not questioned by subsequent twentieth-century historians.

Hew Strachan compared the RMA to the RMC and stated that the former provided a 'thoroughgoing military education' and was 'undeniably efficient as a theoretical training'. 'Sandhurst', he stated, 'was most certainly none of these things, and [...] virtually no effort was made to render it effective.'⁴⁹⁰ He suggested it was nothing more than a wartime expedient and had an 'emasculated role in the army.'⁴⁹¹ In support of this, Strachan noted how the prohibitive cost of fees to poorer officers reduced support from the army, as did the steady withdrawal of government funds – a point with which Spiers concurred and suggested the college languished in this era.⁴⁹² Evidence from Harries-Jenkins agreed, in that, in the four years between 1834 and 1838, the college provided less than one-fifth of all entrants into the army.⁴⁹³ Strachan felt this lack of importance was further buttressed by the principle of having the RMC Board of Commissioners subordinated to the Secretary at War instead of the Commander-in-Chief.⁴⁹⁴ Presumably, this lack of demand meant a low entrance standard was necessary. Regarding this, Strachan noted even the RMC Governor thought it was 'ridiculously simple.'⁴⁹⁵ A related point, identified by both Strachan and Harries-Jenkins, was the young admission age, which meant time was spent on 'remedial education' rather than military subjects, which in any case were of insufficient value and poorly regulated.⁴⁹⁶

The product of the college appeared to confirm these defects. Hugh Thomas noted that, between 1838 and 1848, 'a surprisingly large proportion' of cadets (200) failed to pass out and bought commissions in the regular way.⁴⁹⁷ The condition of the college was presumably why Strachan observed that few distinguished names passed through it. Also, if the standards were low and the product lacked currency, 'little importance could be

⁴⁸⁹ Hon. John W Fortescue, *A History of the British Army*, 13 vols. (London: MacMillan & Co., 1930), XIII (1930), pp.166-173, 228-233, 559-560; Barnett, *Britain and Her Army, 1509-1970*, pp.283-298 (291); Bond, *Army and the Staff College*, pp.57-59; Spiers, *Army and Society*, pp.12-13, 154-155.

⁴⁹⁰ Strachan, *Wellington's Legacy*, p.125.

⁴⁹¹ *Ibid.*, p.126.

⁴⁹² Spiers, *Army and Society*, p.12.

⁴⁹³ Harries-Jenkins, *Army in Victorian Society*, p.124.

⁴⁹⁴ Strachan, *Wellington's Legacy*, p.126.

⁴⁹⁵ *Ibid.*

⁴⁹⁶ Strachan, *Wellington's Legacy*, p.127; Harries-Jenkins, *Army in Victorian Society*, p.122.

⁴⁹⁷ Thomas, *Story of Sandhurst*, p.97.

attached to a Sandhurst training as a qualification for recruitment and subsequent promotion.⁴⁹⁸

In order to understand why these assessments were made it is necessary to consider the context and origin of the college. The general approach adopted in this chapter is similar to that of Michael Welch for the same period in his study of the early history of the United Services Institution and its relationship with the army. Welch rejected the historiographic view of Basil Liddell Hart and JFC Fuller which promulgated a caricature of the nineteenth-century British army as psychologically blinkered. Instead, he situated the institution within the prevailing progress of science in the early nineteenth century.⁴⁹⁹ Similarly, for the RMC, the context needs to be appreciated for what was taught, the way it was taught and why. This chapter suggests that the work of the college prior to the war is not fully understood and, although there were faults, there were positive aspects that have not been fully apprehended.

The first section in this chapter examines the course origins with particular reference to the college founder's papers, and explains how it was adapted to the era of financial stringency after the battle of Waterloo. For the second section, which covers the subjects of instruction between 1820 and 1857, alternative sources are used as little correspondence survives for this period. By using the cadet register, half-yearly reports and published lists of the RMC, it has been possible to compile definitive statistics on the numbers of cadets taking up subjects and their progress. Cadets' letters and memoirs are used to illustrate the personal impact of the exam system and the experience of the course generally. Then it will be possible to offer some conclusions as to the overall working of the college and how it was perceived within the army. Through establishing a picture of the course as it operated from about 1820 to 1856, an appreciation of the period of fitful change between 1857 and 1863 can be understood in the third and final section. This also means that the workings of the final hybrid system in the late 1860s can be examined.

⁴⁹⁸ Harries-Jenkins, *Army in Victorian Society*, p.124.

⁴⁹⁹ Michael D Welch, *Science and the British Officer: the Early Days of the Royal United Service Institute for Defence Studies* (London: Royal United Services Institute for Defence Studies, 1998).

i. Origin and Regulation of the RMC Course of Studies, 1818 - 1856

The course of instruction for a military officer of the infantry or cavalry was more open to debate than that for the artillery and engineers. The instructional course for the latter was aligned to obvious tasks and focussed on mathematics, physics and chemistry; together with training to attack fortresses and position batteries. Regarding infantry, however, Brian Bond noted how, when the first military schools were established, there was chronic debate over what military education should be beyond regimental drill. From 1751 onwards, the French 'laid great stress on mathematics, beyond any practical needs of future infantry officers, for its effect in developing and sharpening the intellect.'⁵⁰⁰ The Prussians agreed, and, as will be shown below, mathematics also regulated progress in the RMC. As Bond rightly observed, the problem was that there was a great uncertainty about the nature of military expertise and how it was to be acquired, especially when compared with the body of expert knowledge requisite for other professions.⁵⁰¹

The officer, then, was a peculiar hybrid of a profession; needing physical fitness, courage, leadership and management skills on the one hand, and technical knowledge of weapon systems, bridge or fortress building, map making and reading (to name a few) on the other. However, unlike a teacher or a medical doctor, what was expected from an officer diversified with promotion – and yet to complicate matters, a junior officer might be thrown into particular situations where greater knowledge was required. Nevertheless, as Bond and Spiers noted, in Britain the advantage was with the 'neo-feudalists' – those who prized the qualities of honour, courage, the active habits derived from sport or hunting, and the liberal education of a gentleman. This explained why the examination for a direct commission, which was to test a general education, was not introduced until as late as 1849.⁵⁰² However, the military press felt a more extensive education was really needed: 'It is a pitiful merit to be only able to keep pace with the common jog-trot duties of a military life.'⁵⁰³ The RMC was established to raise the standard of officer education during the Napoleonic Wars, and so was born into the context of the purchase route to a commission. Perhaps this is why it combined an instructional course that took into consideration both the views of the military professionals and the 'neo-feudalists'. After all, to a great extent these views were not in fact mutually exclusive. This is revealed when the original proposal by John Gaspard Le Marchant for a national establishment is considered.

⁵⁰⁰ Bond, *Army and the Staff College*, p.11.

⁵⁰¹ *Ibid.*, p.14.

⁵⁰² Bond, *Army and the Staff College*, p.21; Harries-Jenkins, *Army in Victorian Society*, pp.103-105, 124-125; Spiers, *Army and Society*, pp.2, 19-20.

⁵⁰³ 'Hints to Young Officers', *Naval & Military Magazine*, 2 (1827), 8-23 (p.23).

The RMC was to consist of three separate departments; the 'First Department', was to be a staff school for officers already in the service; the 'Second Department', was for young men who, having bought their commission, were trained pending their appointment; and the 'Third Department', was for boys prior to receiving a commission. The key is to understand the crucial differences and similarities between the intentions of these departments. Harries-Jenkins suggested the RMC's weakness lay in the fact that the Second Department was never created, and consequently when the Third was established, it was a flawed amalgam of the Second and Third.⁵⁰⁴ However, this is to retrospectively superimpose a conception of the college's function which it was never intended to have. This point can be understood by elaborating further.

The studies of the Second Department were to be 'elementary in point of science'; consisting only of plane geometry and mensuration, field sketching, words of command, drill and the interior economy of a company.⁵⁰⁵ The proposal for the Third Department was more elaborate, it was for '[...] those who are from an early life intended for the military profession; and who by becoming students in this department may be well grounded in science [...].'⁵⁰⁶ Le Marchant further suggested:

Although [...] military [cadets] enter into a finished education equally, whether men are designed for military or civil stations; the regulations of the department should therefore not operate to the exclusion of those, whose rank and circumstances entitle them to aspire to elevated stations.⁵⁰⁷

The cadets' military subordination was meant to 'instill [sic] early impressions of military duty in the minds of those whom it may be supposed will eventually form the staff of the army and arrive at the highest rank and responsibility in the service.'⁵⁰⁸

Therefore, the Junior Department was not to train solely for the duties upon first appointment as an ensign or cornet. Taking the whole proposal, it was never the intention that it would supply all the officers of the army (this was the purpose of the Second Department), but that it would provide a subset exposed to military science capable of taking on higher appointments. This is more readily appreciated when the First (later the 'Senior') Department course is compared with it. The Senior Department course similarly included substantial Mathematics, Surveying and Fortification; but extended into higher subjects of Geodesy and Astronomy, Marches, Encampments and Tactics. Indeed, these

⁵⁰⁴ Harries-Jenkins, *Army in Victorian Society*, p.123.

⁵⁰⁵ RMAS Library, Le Marchant Papers, Bundle 7, 'Outline of a Plan for a Regular Course of Military Education, 1799' by John Gaspard Le Marchant.

⁵⁰⁶ Ibid.

⁵⁰⁷ Ibid.

⁵⁰⁸ Ibid.

latter subjects were later combined into one textbook in use by both departments.⁵⁰⁹ It was therefore natural for some former Junior Department cadets to return as students in the Senior Department.

In this way, Le Marchant aimed to provide the higher training for an army staff but without dispensing with the 'finished education' he mentioned; or in the parlance of the time a 'liberal education'. This latter term referred to the type of education suited to what was known as the 'liberal professions', such as the Church, Law and Medicine. It was based on Latin and Greek, to develop literary taste and the use of language, and mathematics - particularly geometrical reasoning associated with Euclid. As Reader suggested, the 'mental gymnastics' that this education required was supposed to equip a gentleman to pick up any sort of knowledge.⁵¹⁰ However, whereas physicians and barristers might continue their professional education after their liberal education, the RMC cadets, being admitted between 13 and 15, continued theirs in the early part of their residence at the college. Nevertheless, the point was to ensure a broad as well as specialist education, which would have prepared them for higher appointments, as Bond pointed out:

Above all, broad and deep general knowledge is not just a bonus useful for a top level commander; it is an integral professional qualification since the organisation and application of armed force is closely related to the whole cultural pattern of society.⁵¹¹

By 1805 the subjects of study in the Junior Department were Mathematics, Fortification, Modern Languages (including Arabic and Persian), Writing, Landscape Drawing & Perspective, Military Drawing, Geography & History, and Classics. The Junior Department was divided into two 'schools' the elementary one being the 'Lower School', and the more advanced, the 'Upper School'. Each was separated into three classes, based on general competence, which were in turn sub-divided into an upper and lower remove. Progression depended primarily on mathematical attainment, but also a level of progress in all subjects too.⁵¹² Between 1818 and 1857, however, the system in force resulted from the recommendations of a parliamentary finance committee. These were, principally, to decrease the numbers in the gratuitous and subsidized classes, and to increase the subscriptions and numbers of gentlemen's sons. The Treasury thought this

⁵⁰⁹ *Outlines of a Course of Lectures on Fortification, Military Tactics and Perspective, with the Attack and Defence of Fortresses* (London, [n. pub.], 1845; repr. 1852 3rd edn).

⁵¹⁰ Reader, *Professional Men*, p.10.

⁵¹¹ Bond, *Army and the Staff College*, p.14.

⁵¹² WO99/2, RMC Junior Department Regulations, 1805.

latter measure required a more general and less specifically military education.⁵¹³

However, the RMC Governor, Sir Alexander Hope, replied that the current royal warrant permitted the scheme of studies to be modified but the subjects studied need not be changed. Essentially, he proposed giving the cadets options, and his philosophy, which appeared genuine, was as follows:

[T]hat attaching the reward exclusively to mathematics without reference to natural genius, is found to damp the ardour of all other branches, and frequently to constrain the student [...] to abandon studies in which he might excel, to follow one which with difficulty he can attain mediocrity – and I venture [...] that it is of more importance to approach excellence in different branches – and to send into the army a variety of acquirements – than to make all bend to a course in which many cannot succeed.⁵¹⁴

This formed the basis of a course whereby a recommendation for a free, or ‘without purchase’, commission was based upon qualification in three obligatory subjects (Euclid’s Geometry, Fortification and Surveying) and in three elective subjects. Of these the latter could be from amongst: Higher Mathematics, the Attack and Defence of Fortresses, Latin, French, German, and Modern & Ancient General History. At other times a separate qualification could also be attained in Conic Sections, or, Co-ordinate Geometry and the Differential & Integral Calculus.

It is often taken by writers on this period of Sandhurst’s history that these qualification ‘steps’ were the principal requirement. However, in addition, all cadets were expected to reach a certain proficiency in French and German, and to pass through the short Geography course.⁵¹⁵ Moreover, although not specifically examined as one of the six subjects, their mathematical abilities were developed by constant examinations between removes and classes. Strachan described this practice of qualification as a ‘major fault’ in the system. He suggested that a cadet took up subjects, but was continually dropping them and not taking them up to the final examination.⁵¹⁶ However, cadets were expected to maintain their knowledge in subjects they had qualified in; and whilst they did not undergo the qualification exam again, they needed to demonstrate continued application

⁵¹³ WO99/8, Minutes of the Supreme Board of RMC Commissioners, Horse Guards, 23.12.1817, enclosing letter from RMC Governor, Sir Alexander Hope, to Adjutant General, General H Torrens, 13.11.1817, p.7.

⁵¹⁴ *Ibid.*, pp.25-26.

⁵¹⁵ 317, *Report from the Select Committee on Sandhurst Royal Military College; together with the proceedings of the committee, minutes of evidence, appendix and index* (House of Commons, 1855) [hereafter *Sandhurst Select Committee 1855*], evidence of GW Prosser, points 150-152, 236-246; *Complete Guide to the Junior and Senior Departments of the Royal Military College, Sandhurst, By an Experienced Officer*, (CH Law; London, 1849), p.58 [hereafter *RMC Guide 1849*].

⁵¹⁶ Strachan, *Wellington’s Legacy*, p.127.

at the final exam.⁵¹⁷ Also, from qualification dates recorded in the register and in half-yearly exam reports, it appeared cadets laid a foundation in mathematics, French and drawing, and only went up for qualification in subjects when they felt reasonably confident in passing. Presumably, this was based on their prior education and/or natural ability, and meant subjects such as Latin, History or French could be qualified in initially. Also, rather than a haphazard 'cherry-picking' of subjects, the course structure bore a resemblance to the RMA course. That is, in the way that Fortification and Surveying could not commence until a reasonable proficiency had been attained in mathematics and geometry (i.e. cadets had reached the Upper School). Thus, although Harries-Jenkins thought the teaching of 'school subjects' created a 'dichotomy of purpose', in actual fact, these school subjects were tackled first – moreover with a view to their professional application – before the military subjects began.⁵¹⁸ Therefore, this belief in the principle of an inherent incompatibility between teaching boys school subjects, while concurrently trying to impart professional knowledge (which really under-pinned Harries-Jenkins' critique), does not sit with the evidence of cadets' progress through the course.

Spiers suggested that the RMC failed in both becoming a centre of professional instruction, and in overcoming the reservations some officers held about the value of specialist training in a military academy.⁵¹⁹ This might have been true, and retaining the liberal aspect and introducing options certainly seemed to support this. However, this was not reflected in the military press. Correspondents and the editorial either supported the college directly, or they championed an instructional course for all officers which was already taught at the college; what they lamented was the college's limited scale.⁵²⁰ This latter point was referred to in connection with instituting examinations for officers after the disaster in Afghanistan in 1842.⁵²¹ Further, it was not just the military press which lauded the college; in Scotland the RMC formed a model for the Scottish Military Academy.⁵²² Elsewhere, other institutions similarly taught non-professional subjects: Addiscombe

⁵¹⁷ WO99/8, Minutes of the Proceedings of the Supreme Board of the RMC, 3.3.1818, p.7.

⁵¹⁸ Harries-Jenkins, *Army in Victorian Society*, p.123.

⁵¹⁹ Spiers, *Army and Society*, pp.13, 154.

⁵²⁰ 'Hints to Young Officers' *The Naval & Military Magazine*, 2 (1827), 8-23; 'The Edinburgh Review on Military Education', *United Service Journal*, 2 (1829), 602-614; 'Royal Military College Sandhurst', *Colburn's United Service Magazine*, 1 (1830), 76-83 (pp.82-83); 'Editor's Portfolio', *United Service Journal*, 3 (1832), 558; 'Military Education', *United Service Journal*, 1 (1834), 40-50; 'Military Education: The Royal Visit to Sandhurst', *United Service Journal*, 2 (1834), 145-153; 'On Naval and Military Education, a letter by 'Navalis'', *United Service Journal*, 1 (1837), 105-106; 'Editor's Portfolio', *United Service Journal*, 2 (1837), 277; 'Defects in our Military System', *United Service Journal*, 1(1840), 3-8 (5); 'Editor's Portfolio' *United Service Journal*, 1 (1840), 272-276; 'The British Army Past, Present and Future' *United Service Journal*, 1 (1842), 15-31 (p.19).

⁵²¹ 'Suggestions for Improving the Military System, Letter dated 19th April 1842, *United Service Journal*, 2 (1842), 111-113; 'Rewards for Gallant Services at Jellalabad to Officers and Men of the Queen's 13th Light Infantry etc., Letter by 'Miles'', *United Service Journal*, 3 (1842), 114-115; 'A Few Hints on the Education of Candidates for the British Army', *United Service Journal*, 3 (1842), 588-591.

⁵²² 'Scottish Military Education', *Edinburgh Magazine and Literary Miscellany*, 15 (August 1824), 214-218.

included Latin, Landscape Drawing and Religious Instruction; the RMA included Landscape Drawing and History & Geography; and when, in 1808, the Royal Naval College was re-opened, it too had a strong focus on mathematics and classics until it closed in 1837.⁵²³

Whilst there was this acknowledgement of the college's utility, there were elements that were questionable. Strachan particularly criticized the low entry standard which clearly had become a problem. The RMC Governor, Sir George Scovell, raised the standard in April 1851 to ensure candidates entering were both industrious and capable. Without it they were indolent and took longer to teach. The key changes were: removing the option to qualify with strong classics rather than with better arithmetic, the inclusion of algebra and geographical knowledge, and the facility in 'printing' Roman characters.⁵²⁴ Lieutenant Colonel W H Adams stated that the entrance examination would be sufficient (a point concurred with by Sir Howard Douglas), but that it was 'relaxed very injudiciously' out of kindness.⁵²⁵ The Lieutenant Governor confirmed this, believing it was not very strict and stated: '[...] it is a very reasonable examination, I think more leaning to indulgence than the contrary.'⁵²⁶ The ease of the exam was confirmed by cadets in memoirs.⁵²⁷

Strachan thought the fees prohibitive to poor officers and pointed to an emasculated role for the college, but it seemed the college was trying to uphold its charitable function by relaxing the standard to allow these sons' admittance.⁵²⁸ Indeed, there was concern that the standard could not be raised any higher (to include modern languages) as officers on service in the colonies found it difficult to educate their families.⁵²⁹ Similarly, the low standard prior to 1851 was adopted in 1818 due to high failure rates owing to a 'want of previous education' arising from candidates' different backgrounds (i.e. either classically schooled or poorly educated orphans).⁵³⁰ The problem was not unique to the RMC; at Addiscombe in 1809, cadets only needed: '[...] a fair knowledge of arithmetic, write a good hand, and possess a competent knowledge of

⁵²³ *Report of the Commissioners Appointed to Consider the Best Mode of Re-Organising the System for Training Officers for the Scientific Corps; Together with an Account of Foreign and other Military Education* (London: HMSO, 1857) [hereafter *Yolland Commission Report 1857*], pp.265-267, 294-295; Dickinson, *Educating the Royal Navy*, p.49.

⁵²⁴ WO99/19, Letter and Memorandum from Sir George Scovell to RMC Commissioners, 3.4.1851.

⁵²⁵ *Sandhurst Select Committee 1855*, evidence of Lt Col WH Adams, point 990; Sir Howard Douglas, point 2216.

⁵²⁶ *Ibid.*, evidence of Colonel GW Prosser, point 147.

⁵²⁷ John Alexander Ewart, *The Story of a Soldier's Life*, 2 vols. (London: Sampson Low & Co., 1881), I (1881), p.19; Catherine Moorehead, *The K2 Man (and his molluscs): The Extraordinary Life of Haversham Godwin-Austen* (Castle Douglas, Scotland, UK: Neil Wilson Publishing, 2013), p.38; Alexander Bruce Tulloch, *Recollections of Forty Years' Service* (Edinburgh and London: W Blackwood & Sons, 1903), p.7.

⁵²⁸ *Sandhurst Select Committee 1855*, evidence of Major JA Addison, point 877.

⁵²⁹ WO99/19, Letter to Sir George Scovell from Adjutant General George Brown, 10.3.1853.

⁵³⁰ WO99/8, Minutes of the Supreme Board of RMC Commissioners, Horse Guards, 23.12.1817, enclosing letter from RMC Governor, Sir Alexander Hope, to Adjutant General, General H Torrens, 13.11.1817.

English and Latin grammar.⁵³¹ Unlike the RMC, however, new requirements were added in 1821 and 1837.⁵³² By 1851 the arithmetic standard at Addiscombe was higher and better defined.⁵³³ In contrast, the RMC retained the standard from 1818, and had not kept pace with the gradual increase in education provision outlined in previous chapters. If the standard was reasonable earlier, then probably by the 1840s (with the advent of such schools as Cheltenham and Marlborough) it had begun to lag. So, in 1855, Lieutenant Colonel WH Adams could justly state: ‘the examination is so easy that any boy from a British school in any country village would pass the examination.’⁵³⁴ Also, of course, by this time, and particularly from the 1840s, many village schools had been built or expanded.⁵³⁵ Adams’s comment should be treated with caution, however, as it might pertain to the watered-down version of the standard, which Adams conceded was a good standard, and the select committee did not see the necessity of changing. Indeed, they thought it ‘rather severe’ to expect a 13-year old to be ‘well up’ with vulgar fractions and decimals, a view concurred with by the Lieutenant Governor.⁵³⁶

The last-mentioned comment demonstrated that the entrance standard was intrinsically linked with the admission age, and at the select committee some thought it should be raised. Major JA Addison thought it should not be less than 16, so that youths could sit a stiffer entrance exam and undertake the studies better. Major General GA Wetherall thought it should not be less than 15, and Adams thought not less than 14. However, Sir Howard Douglas and the Lieutenant Governor preferred the existing entrance age, and the select committee recommended its retention too.⁵³⁷ There were probably several reasons for why such a view was adopted. Firstly, although 13 was the minimum, 436 out of 628 cadets, or 68%, entered over the age of 14.⁵³⁸ Secondly, from January 1818 to some point in the early 1840s, the upper admission age limit was extended *to 16*, so that parents could keep their sons at public schools for longer. Thirdly, whilst the emphasis remained on a juvenile admission age (despite the above points), in 1818 a further change adopted was lengthening the course to four years.⁵³⁹ This allowed any defects to be addressed and progress adequately monitored.

⁵³¹ Henry Meredith Vibart, *Addiscombe: Its Heroes and Men of Note* (London: Constable & Co., 1894), p.25.

⁵³² Bourne, ‘The Civil and Military Patronage of the East India Company’, pp. 269, 273.

⁵³³ *Yolland Commission Report 1857*, p.266.

⁵³⁴ *Sandhurst Select Committee 1855*, evidence of Lt Colonel WH Adams, point 1152.

⁵³⁵ Anthony Russell, *The Clerical Profession* (London: SPCK, 1980), pp.191-193.

⁵³⁶ *Sandhurst Select Committee 1855*, evidence of Colonel GW Prosser, point 149.

⁵³⁷ *Ibid.*, p.vi; Evidence of: Major JA Addison, point 848; Major General GA Wetherall, point 1721; Lt Colonel WH Adams, points 987, 1213; Sir Howard Douglas, points 2273-4; Colonel GW Prosser, points 128-129.

⁵³⁸ Figures compiled from RMC Cadet Register 1806-1864, entries for cadets entering between 1840 and leaving before 1854.

⁵³⁹ WO99/19, Minutes of the Proceedings of the Supreme Board of the RMC, 23.12.1817, p.29.

With a low entrance standard, or at least one enforced inconsistently, it was clear the institution needed to work harder to instruct the cadets. To this end the course had to be more in the nature of continuous assessment and support. This is evidenced in cadets' letters to their relatives which revealed the interest of the authorities in the cadets' progress, and the students' dedication and anxiety in getting through the exams. The system worked as follows. To advance to another remove within the same class, only the recommendation of the master was required. To move up a class, a monthly examination by the senior master in question had to be passed. Next, examinations were held by a professor and/or the Superintendent of Studies in the presence of the Lieutenant Governor, and then in front of the Governor. Overcoming this ordeal gave the authorities confidence in sending the cadet for final public examination before the board.⁵⁴⁰

There are a number of examples which showed the cadets' experience of this system. Robert Portal, wrote to his sister, expressing thanks for help in German, the examination for which was soon:

I am living in fear and trembling as the last Lt Governor's examination is on Friday, at which they take off all the bad ones! The Governor's examination is about the 28th of this month, and then all will be well.⁵⁴¹

Another anxious cadet felt it necessary to obtain help from a tutor in Euclid (often the case during vacations):

[...] but I shall not do any history with him as I shall have little enough time to do Euclid which I am very anxious about, but I shall do history with you. I don't think that I shall go up for anything this month, if I do I shall very likely be spun. I was speaking on going up for Under Fourth and the Roman History but I am afraid I shall not be able to do either of them but I shall be certain to go up for both of them the month after.⁵⁴²

Parents were equally concerned about their sons' progress, as shown in Gentleman Cadet Ewen's letters, 'for Papa and as to his question about taking steps I am certain that

⁵⁴⁰ For summary of examination system see, *RMC Guide 1849*, pp.56-56; *Sandhurst Select Committee 1855*, evidence of Colonel Prosser, points 26, 41, 160; *Dufferin Commission Minutes 1870*, Appendix II (E) Historical Notice of the Royal Military College, p.xvi, description by Mr Twisden; Reports of the Half Yearly Examinations at RMC in 'Editor's Portfolio' in the *United Service Magazine*, 1832, 1835, 1837, 1839, etc.

⁵⁴¹ Hampshire Record Office, 6A08/A1/13, Robert Portal Letter to his sister, 1839.

⁵⁴² Wiltshire and Swindon Archive, 1915/255, Robert Poore Letter to his mother, 14th August 1849. 'Spun' was contemporary slang for failing an examination.

I cannot pass in anything this time as the Lt Governor told me; so I shall get Under Third or Fourth in everything this Half if I can and so be ready for the next examination.⁵⁴³ Also:

I passed an examination in French the other day so I am almost certain to be on that step next Half. Tomorrow I undergo another examination in Latin before the Lt Governor and on Friday next an examination in German before the same personage. If I get through both I shall be safe to take them both up this Half but as yet I am in a considerable state of flaver-gastation as to the issue of next Friday's examination as the subjects are not very easy.⁵⁴⁴

Finally:

My Dear Mother, Hurrah – Hurrah – hurrah. The Governor's examinations in Latin and German are just over after standing in the Board Room for four hours. We have all passed and have only one more exam before the Board next Thursday.⁵⁴⁵

Aside from enlisting help from relatives and tutors in preparing for examinations, cadets would break the lights-out rules by draping blankets etc. over their beds' sides so they could conceal lights while studying into the early hours.⁵⁴⁶

Probably the main contributory factor to the cadets' anxiety was the nature of the exam itself. Being almost entirely *viva voce*, they could be a searching and valuable means to judge the attainments of the cadets. In 1855 the witnesses, admittedly staff, at the select committee praised the system. The Professor of Military Science, who was one of the witnesses most critical of aspects of Sandhurst, conceded 'I think the examinations themselves are very good in that part [for qualification].'⁵⁴⁷ The Chaplain elucidated further, explaining the style of probing and adaptive questioning necessary 'to try and find out what a person really knows.'⁵⁴⁸ Some even felt it was a better system than the written exams by external examiners introduced in the 1860s. For example, Captain Griffiths thought this new system was not sufficiently exhaustive and induced cramming: 'marks rather than knowledge become the aim of the cadet'.⁵⁴⁹ He preferred 'the old system' as a cadet could not advance until he had perfected himself in the lower portions of a subject.

⁵⁴³ Berkshire Record Office, D/EE/C2/1, Letter from GC AJA Ewen to his mother, 19th July 1851.

⁵⁴⁴ Ibid., D/EE/C2/2, Arthur J Ewen's Letter to his mother, 3rd October 1852.

⁵⁴⁵ Ibid., D/EE/C2/2, Arthur J Ewen's Letter to his mother, November 1852.

⁵⁴⁶ SCA, CAYMA:2000-1039, 'Recollections of the Royal Military College, Sandhurst', by Sir Arthur Hallam Elton, Bt, unpublished typescript, c.1877, p.2 [hereafter, SCA, Elton, 'Recollections of Sandhurst']; Ewart, *Story of a Soldier's Life*, pp.24, 27.

⁵⁴⁷ *Sandhurst Select Committee 1855*, evidence of Lt Colonel WH Adams, point 1089.

⁵⁴⁸ Ibid., evidence of Revd H Le M Chepmell, points 1583-4.

⁵⁴⁹ *Dufferin Commission Minutes 1870*, Appendix II(A), p.ix, 'Answers received from Captain Griffiths, Instructor in Fortification'.

Another master stated that, although *viva voce* exams were not suitable for all subjects, he regarded their 'total disuse since the year 1858 as a very serious error.'⁵⁵⁰

The *viva* method was not unique to the RMC, it was used for examination in the civilian professions.⁵⁵¹ It was also in use at Addiscombe, but here it was suggested that the examination was, 'a performance carefully prepared and rehearsed beforehand. Its object was to make a favourable impression on a carefully selected audience.'⁵⁵² There may have been an element of truth about this in that continuous examinations at Addiscombe would have ensured, as at Sandhurst, the public examinations were simply a 'rubber stamp' and descended into charade. However, the editor of the *United Service Magazine* believed the RMC exams superior; particularly the way that the Commissioners selected material for examination which prevented collusion between the examiner and pupil, 'this method, then, as much forbids the concealment of error as it rejects mere display.'⁵⁵³ Regarding Addiscombe he recommended:

[...] the suppression of the improper practice of *prompting*, prevalent amongst the cadets under examination, and easily detected by a close observer. The open and bona fide ordeal witnessed at Sandhurst throughout its whole course deserves imitation at this otherwise excellent seminary.⁵⁵⁴

Of course, the success of this system depended very much on the integrity, impartiality and the knowledge of those running it. The system of subject qualification, colloquially known as 'steps', was credited to Captain George Procter. Originally the Adjutant (1817), but also some time Master of Fortification and later the Superintendent of Studies (1836), he is described as being 'an extremely clever, scientifically as well as classically educated man' and moreover a 'thorough gentleman' who 'blends with superior acquirements the unassuming deportment characteristic of good sense and feeling'.⁵⁵⁵ Personal characteristics were important for the Superintendent of Studies, who oversaw the instruction and examined the cadets in many of the subjects. However, it is possible

⁵⁵⁰ Ibid., Appendix II(E), 'Historical Notice of the Royal Military College by the Secretary', pp.xiv-xix(xvi).

⁵⁵¹ Reader, *Professional Men*, pp.19, 45-46; See account of exam in 'College for Civil Engineers', *The Times*, 30 July 1841, p.6.

⁵⁵² For example descriptions of the role of the Addiscombe examiner see 'Editor's Portfolio: East India Company's Military Seminary, Addiscombe', *United Service Journal*, 1 (1838), 125-134 (pp.128-131); 'Editor's Portfolio: East India Company's Military Seminary', *United Service Journal*, 2 (1839), 553-570 (p.567); for the account of the exam see, Vibart, *Addiscombe*, pp.231-233.

⁵⁵³ 'Editor's Portfolio', *United Service Journal*, 2 (1840), 265-281 (p.272).

⁵⁵⁴ 'Editor's Portfolio', *United Service Journal*, 2 (1840), 413-424 (p.417).

⁵⁵⁵ *Dufferin Commission Minutes 1870*, Appendix II(A), p.viii, 'Answers received from Colonel WH Adams, Professor of Fortification'; 'Editor's Portfolio', *United Service Journal*, 2 (1842), 257-275 (p.269); 'Editor's Portfolio', *United Service Journal*, 2 (1840), 265-281 (p.280); Procter's intellect is also referred to in Ewart, *Story of a Soldier's Life*, p.22; and reflected in works such as: George Procter, *The History of Italy from the Fall of the Western Empire to the Commencement of the Wars of the French Revolution*, (London: G B Whittaker, 1825).

Procter's work was undermined by Colonel James Butler, the Lieutenant Governor in the early years of Sandhurst's existence. Butler, previously a thorn in the side of Le Marchant, was accused of advancing inadequately prepared cadets whilst holding back others who were more competent; and all for reasons of fostering good relations with wealthy and influential parents.⁵⁵⁶ Although eventually acquitted of the charges, which also included appropriating college property and accepting gifts, he was censured by the college authorities.

It was no surprise that for Butler's replacement the Governor, Sir Edward Paget, sought a second-in-command who was:

[...] a perfect gentleman in manners and in mind, a man of liberal education, of knowledge of the world, a man of sound judgment and discretion, of temper and equanimity, of conciliation and of firmness, and withal a man of activity and diligence.⁵⁵⁷

The man chosen was Colonel Sir George Scovell (Lieutenant Governor, 1829-1836, and Governor, 1837-1855). It was suggested the post was offered as a sinecure and reward for his former services.⁵⁵⁸ This may be true, but it does preclude an effective tenure. For example, at the 1855 select committee the Lieutenant Governor stated how Scovell visited the studies often, and, 'wherever he thinks anything may be improved; he comes frequently to me, and talks over these matters, and sometimes suggests improvements and orders them to be made.'⁵⁵⁹ It was also suggested that Scovell, and the other Peninsular generals before him, had to be men of distinction to add weight to their decisions in dealing with cadets, and their guardians, on matters of discipline.⁵⁶⁰ His correspondence attempting to raise the admission standard certainly suggested he continued to advocate the college's interests.

Colonel Thomas W Taylor succeeded Scovell as Lieutenant Governor and came highly recommended from Lord Minto: 'His temper and tact are perfect, his disposition lively and cheerful and he is without exception the most unaffectedly disinterested and honourable man I have ever known.'⁵⁶¹ Before Waterloo, Taylor held various staff appointments, and at the battle personally conveyed news of Blücher's arrival to

⁵⁵⁶ See Peter Thwaites 'Military Justice in the Georgian Army: The Trial of Colonel James Butler, 1828', *Sandhurst Occasional Papers*, 2 (2010), pp.7-9.

⁵⁵⁷ WO99/22, Letter from Sir Edward Paget, RMC Governor, to Lt General Herbert Taylor, 6.2.1829.

⁵⁵⁸ Mark Urban, *The Man Who Broke Napoleon's Codes: The Story of George Scovell*, (London: Faber & Faber, 2001), p.284; Thomas, *Story of Sandhurst*, p.82.

⁵⁵⁹ *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, points 32, 53.

⁵⁶⁰ *Ibid.*, Evidence of: Colonel GW Prosser, points 47, 48; Lt Colonel WH Adams, points 1098-9, 1102.

⁵⁶¹ WO99/22, Letter from Lord Minto to RMC Governor Sir Alexander Hope, 16.11.1824.

Wellington. Later he was appointed commandant of the Cavalry Riding Establishment, a responsibility he appeared to take seriously, before finally appointed the Lieutenant Governor between 1837 and 1853.⁵⁶² A cadet of the time remembered him combining 'great firmness of character with remarkable clearness of judgment.'⁵⁶³

Nevertheless, the masters themselves also had to exhibit these characteristics. Inevitably there would be instances where this was not the case. For example, the Professor of Fortification took a dislike to a cadet, who recorded the episode in a letter:

I went up to Col Adams on Thursday for examination [...] and missing 3 questions running he sent me away as spun and then said behind my back 'that I did not know anything about fortification', 'that I should never pass' and to crown all 'that he would never pass me'. All this time he was in a great state of excitement.⁵⁶⁴

The professor's prickly attitude was echoed in the tenor and expression of his opinions at the two committees on Sandhurst. Yet, where such a discrepancy might arise from the character of a professor it was ironed out through the regular examinations and the involvement of the Superintendent of Studies, Lieutenant Governor and Governor – as was the case with the cadet in the example above.⁵⁶⁵

The other advantage of this system, particularly if contrasted with anonymous written exams by external examiners, was that it allowed the board to take an immediate view of a cadet's particular circumstances. The collegiate board reports bore testimony to this ability to weigh the cadets' achievements and worth. For example, when Gentleman Cadet Richard D Kelly, was deemed weak in only the drawing part of Surveying but had passed six qualifications, the board referred the case favourably to the Commander-in-Chief who granted a free commission. Similar concessions were made for cadets William McMurdo and Arthur J Otway; all three of these cadets went on to have illustrious careers.⁵⁶⁶

⁵⁶² Robert Spencer Liddell, *Memoirs of the 10th Royal Hussars*, (London: Longmans, 1891), pp.185-186; Thomas W Taylor, 'Remarks on the System of Equitation', *United Service Journal*, 2 (1835), 227-237.

⁵⁶³ Ewart, *Story of a Soldier's Life*, p.33.

⁵⁶⁴ Berkshire Record Office, D/EE/C2/5, Arthur J Ewen letter to his mother, 15th May 1854.

⁵⁶⁵ *Ibid.*, D/EE/C2/3-5, Arthur J Ewen's Letters; to his Father, 27th September 1853, 12th May 1854, 15th May 1854, one undated probably March 1854; to his mother 1st October 1853, 15th May 1854; to his Brother L'Estrange Ewen, 29th July 1854; from L'Estrange Ewen to Mrs Ewen, 12th March 1854.

⁵⁶⁶ WO99/20, RMC Collegiate Reports; 5th-7th November 1833 (GC Richard D Kelly), 3rd -5th November 1836 (GC William McMurdo), 16th-18th May 1839 (Arthur J Otway); For Richard D Kelly, 'Kelly, Richard Denis, Sir (1815-1897) The O'Kelly Mor, General (Retired)', *Who's Who & Who Was Who*, online edn, December 2007 (Oxford: Oxford University Press, 2007), <<http://www.ukwhoswho.com/view/article/187750>> [accessed 8 Mar 2018], and 'Obituary', *The Times*, 6 July 1897, p.12; For W McMurdo see E M Lloyd, 'McMurdo, Sir William Montagu Scott (1819-1894)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford

It seemed that the types of subjects taught and the way the examinations were regulated met with approval from various quarters. After all, it was not at odds with what was taught elsewhere. However, the disadvantages were similar to those identified with the RMA in 1857, in that, whilst the standard might be good, the system was inefficient. That is, unless additional teachers were employed, a longer residence simply meant the number of cadets that could be 'processed' by the college was not as many as it could be. It is necessary now to look in detail at what was actually taught to obtain a more complete picture as to the standard produced.

University Press, 2004) <<http://www.oxforddnb.com/view/article/17698>> [accessed 8 Mar 2018]; For Arthur J Otway see *Who Was Who 1897-1916* (Black: London, 1920), p.541. Other examples of cadets in collegiate reports include Henry Smith (16th - 19th May 1834), Robert Carter, Charles St John and August F Smith (18th May 1847). Also, instance of 12 sick cadets unable to be present at Half-Yearly Board Exam granted a qualification step, WO99/9, Supreme Board Minutes, No. 83, 13.5.1852.

ii. Subjects of Instruction

This section will explore most of the subjects of instruction, but for reasons of space omits Latin, Geography, History, Drill and Riding. Starting with Mathematics, this might be argued to be a 'school subject', but with its extensive nature the picture is more complicated. Up to 1817, Mathematics held an almost pre-eminent position in the course; and up until 1809, with the cessation of training artillery and engineer cadets for the King's and East India Company's service, this certainly made sense. From 1818 the course was re-shaped and its importance reduced. Still, it remained a yardstick for progress at the college, not least because it was perceived to have the general benefit of developing a 'firm texture of mind' but practical applications too, even for a line officer.⁵⁶⁷ However, the question arises to what degree it was taught well and which branches of it were pursued which had an application.

In taking the Mathematics staff first, it will be seen that many of the mathematicians were eminent men, some with a clear bent toward fostering mathematical knowledge. There has been some historiographical interest in the early mathematicians, particularly on those involved in research and introducing the continental version of calculus into Britain. These were Scotsmen, William Wallace (RMC 1803-1819) and James Ivory (RMC 1804-1819). Two further mathematicians, who straddled the Georgian and early Victorian period, were Thomas Leybourn (RMC 1802-1839 and eventual senior Junior Department professor) and John Lowry (RMC 1804-1840). Leybourn edited the *Gentleman's Diary* from 1806 to 1840, and the *Mathematical and Philosophical Repository* between 1795 and 1835. These periodicals were important in the promotion of mathematical knowledge and research. The *Repository* was similar to the *Diary* in that it consisted of problems-for-answer, but it also contained original papers, translations and abstracts; indeed, many contributions were made by Leybourn's colleagues at the RMC, such as Wallace and Ivory, with whom he shared a critical view of the insularity of British mathematics.⁵⁶⁸

⁵⁶⁷ WO99/8, Minutes of the Supreme Board of RMC Commissioners, Horse Guards, 23.12.1817, enclosing letter from RMC Governor, Sir Alexander Hope, to Adjutant General, General H Torrens, 13.11.1817.

⁵⁶⁸ George Stronach, 'Wallace, William (1768-1843)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/28545>> [accessed 8 Mar 2018]; RE Anderson, 'Ivory, James (1765-1842)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/14506>> [accessed 8 Mar 2018]; Niccolo Guicciardini, 'Leybourn, Thomas (c.1760-1840)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/16622>> [accessed 8 Mar 2018]; Sloan Evans Despeaux, 'A Voice for Mathematics: Victorian Mathematical Journals and Societies', in *Mathematics in*

The course they taught, however, was based on Isaac Dalby's – the first Professor of Mathematics appointed to the RMC. It was thought of as 'simple', 'sensible' and had 'the great merit of a clear style, methodical arrangement, and the utmost simplicity of demonstration that was consistent with logical accuracy.'⁵⁶⁹ In his mid-50s when appointed, the bulk of Dalby's work had been with the Ordnance Survey. This suited the practical application of mathematics to Surveying taught in the Senior Department. He published his two-volume course in 1805, which went through six editions, being still in use into the 1830s.⁵⁷⁰ The general structure of the course as set out in 1805, and between 1838 and c.1850, is set out in tables 1 and 2 respectively.

Victorian Britain ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.155-174.

⁵⁶⁹ 'Sandhurst College and its Mathematics', *New Edinburgh Review*, 1 (Oct-Dec 1844), 139-149 (p.142).

⁵⁷⁰ Elizabeth Baignet, 'Dalby, Isaac (1744-1824)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/7011>> [accessed 2 Mar 2018].

Table 1: Allocation of Mathematical Subjects to RMC Classes, 1805

Lower School	First Class	Arithmetic, including fractions in general, both vulgar and decimal
	Second Class	Rules of Proportion in General
	Third Class	The Square and Cube Roots and Logarithms
Upper School	Forth Class	Geometry in its various branches
	Fifth Class	Algebra
	Sixth Class	Application of Algebra, Conic Sections, Projectiles and Mechanics

[WO99/2, 'Report of the Committee RMC, 14.2.1805', Approved Mathematics syllabus, pp.126-7.]

Table 2: Allocation of Mathematical Subjects to RMC Classes, 1838

Lower School	First Class	Under 1 st	Vulgar and Decimal Fractions
		Upper 1 st	Reductions, Aliquot Parts and Duodecimals
	Second Class	Under 2 nd	Proportions, Interest etc.
		Upper 2 nd	Involution, Evolution and Progression
	Third Class	Under 3 rd	The Elements of Algebra
		Upper 3 rd	Quadratic Equations and Algebraic Problems
Upper School	Fourth Class	Under 4 th	First 6 Books of Euclid
		Upper 4 th	Trigonometry
	Fifth Class	Under 5 th	Differential Calculus and its application
		Upper 5 th	Integral Calculus
	Sixth Class	Under 6 th	Dynamics & Statics
		Upper 6 th	Practical Astronomy

[Source: *A List of the Royal Military College at Sandhurst Corrected to 1st May 1837* (London: W Clowes, 1837; *RMC Guide 1849*, p.55.)

The main difference between the courses was the increased importance of the higher subjects of applied mathematics. That is, subjects which dealt with the application of mathematics to physical objects and processes; such as, the Integral and Differential Calculus, Dynamics, Statics and Practical Astronomy. This was part of the wider trend led by the University of Cambridge to modernise British mathematics, in which by the early 1830s up-to-date textbooks in English had been published on the differential and integral calculus.⁵⁷¹ It seems surprising that these additions were not made under Leybourn, given his position on British mathematics and his ‘distinguished ability and zeal.’⁵⁷² However, with Leybourn’s infirmity, before his death in 1840, it appeared that William Scott (RMC 1827-1854) introduced these modernisations in the course, which were commented on from 1837 onwards in the half-yearly examination reports recorded in the *United Service Magazine*. In the most noteworthy report, Sir Howard Douglas gave,

[...] an animated and well-merited eulogium on the exertions by which Professor Scott has so signally improved the mathematical instruction in his department. [...] Sir Howard Douglas declared that he knew no single work, English or foreign, in which so admirable a mathematical course could be found as that which professor Scott appeared to have prepared.⁵⁷³

Scott, who was recorded as having been ‘valuably employed to promote the views of the college authorities’, seemed to have been encouraged by Scovell, Procter or Taylor, or all three.⁵⁷⁴ Eventually Scott’s efforts, along with those of John Narrien (Professor of Mathematics in the Senior Department) were published as a comprehensive course for the college.⁵⁷⁵ Opinions of cadets on their masters are hard to find but one mentioned Scott favourably: ‘For mathematics I was under Scott during the whole of my college days, and a most excellent master he proved to be. He got me on well in that branch of

⁵⁷¹ ADD Craik, ‘Victorian ‘applied mathematics’’, in *Mathematics in Victorian Britain*, ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.177-198 (p.179).

⁵⁷² ‘Editor’s Portfolio: Half Yearly Public Examinations at Sandhurst’, *United Service Journal*, 2 (1839), 419-423 (pp.419-420); see obituary in ‘Births, Marriages, Deaths’, *United Service Journal*, 1 (1840), 575-576.

⁵⁷³ For praise given by Sir H Douglas see ‘Editor’s Portfolio’, *United Service Journal*, 3 (1841), 555-573 (p.563); for particular mention of Scott’s changes see ‘Editor’s Portfolio’, *United Service Journal*, 3 (1837), 553-569 (p.555); ‘Editor’s Portfolio’, *United Service Journal*, 3 (1840), 539-572 (pp.564-565).

⁵⁷⁴ ‘Editor’s Portfolio’, *United Service Journal*, 3 (1840), 539-572 (p.564).

⁵⁷⁵ John Narrien, *Elements of Geometry: Consisting of the First Four and the Sixth Books of Euclid ... for the use of the Royal Military College* (London: Longman, Brown, Green and Longmans, 1842); William Scott, *Elements of Arithmetic and Algebra for the Use of the Royal Military College* (London: [n.pub.], 1844); John Narrien, *Practical Astronomy and Geodesy: Including the Projections of the Sphere and Spherical Trigonometry: For the Use of the Royal Military College* (London: Longman, Brown, Green and Longmans, 1845); William Scott, *Plane Trigonometry and Mensuration, for the Use of the Royal Military College* (London: [n.pub.], 1845); John Narrien, *Analytical Geometry: With the Properties of Conic Sections, and an Appendix Constituting a Tract on Descriptive Geometry. For the Use of the Royal Military College* (London: Longman, Brown, Green and Longmans, 1846).

study.⁵⁷⁶ Another cadet regarded mathematics as ‘very well taught.’⁵⁷⁷ Another mentioned the geometrical teaching during Scott’s time:

They [...] teach Euclid here well for you have to say the propositions with different letters to those which are commonly used and you cannot help understanding them because you are asked several questions at the end of each proposition – and I really think I am beginning to like it.⁵⁷⁸

Indeed, it appeared that part of the geometrical teaching was practical, with the professors tracing problems on the ground to prepare cadets for its ultimate application in the tracing of field works and surveying.⁵⁷⁹

After the retirement of Lowry, a number of masters were appointed, some of whom either retired, died young or moved to another establishment. Those active in research and publication included Thomas Weddle, John F Twisden and George W Hearn; whereas Charles H Barton seemed to have been satisfied as a teacher. The RMC also employed several military officers as maths masters, the most notable was Lieutenant Robert Petley.⁵⁸⁰

The question remains however; how did this course work in practice and what were the actual results? It will be recalled that attainment in Mathematics was measured in two ways. Firstly, in the continual monitoring of progress in order to enter the Upper School and commence the military studies, and secondly, through public examination in a particular mathematical branch, of which Euclid was mandatory. With respect to the first, Gentleman Cadet Arthur Ewen described how the course worked in the early stages:

In the first place you are just back in the first part of the arithmetic, and when you have done as far as fractions you are set up for Under First, if you do not pass that

⁵⁷⁶ SCA, J F Mann, unpublished TS, ‘Sandhurst, Royal Military College in the Thirties’, 1901, p.10.

⁵⁷⁷ Tulloch, *Recollections of Forty Years’ Service*, p.10.

⁵⁷⁸ Berkshire Record Office, D/EE/C2/2, Letter from Arthur JA Ewen to his father, Undated but probably July 1852.

⁵⁷⁹ For the ground problems that were traced see Narrien, *Elements of Geometry*, pp.181-195; and for evidence this was carried out see *Sandhurst Select Committee 1855*, Evidence of Colonel Prosser, point 154.

⁵⁸⁰ See for example George Whitehead Hearn, *Researches on Curves of the Second Order* (London: George Bell, 1846); G W Hearn, ‘Investigation of an Extensive Class of Partial Differential Equations of the Second Order, in which the Equation of Laplace’s Functions is Included’, *Philosophical Transactions of the Royal Society of London*, 136 (1846), 133-136; GW Hearn, ‘On the Cause of the Discrepancies observed by Mr Baily with the Cavendish Apparatus for Determining the Mean Density of the Earth [abstract]’, *Abstract of the Papers Communicated to the Royal Society of London*, 5 (1843-1840), 668-669; Thomas Weddle, ‘A New Method of Solving Numerical Equations [abstract]’, *Abstracts of the Papers Printed in the Philosophical Transactions of the Royal Society of London*, 4 (1837-1843), 300-301; ‘A Revived Baronetcy’, *The Times*, 8 December 1914, p.11 [Obit. Of John F Twisden]; SCA, RMC Staff Register, 1806-1939, Entry for Robert Petley.

your First Half you are sent away; but if you do, they put you into the compound numbers for passing Under Second.⁵⁸¹

This revealed that failure in the probationary year was strongly based on the failure in arithmetic. 17 cadets (or 2.7%) of the 628 admitted between 1840 and 1850 are recorded as 'Failed in Probation'; which, although a small number, is significant enough to show it was a rule that was enforced.

The cadet register recorded the date at which a cadet was put into a class given his ability. Thus, the overall results for cadets admitted between 1840 and 1850 are as follows:

Table 3: Progression of Cadets Through Mathematics Classes, 1840-1850⁵⁸²

Maths Class Reached In Register	Cadets Who Had Reached that Class	Approximate Relative Standard of Class	Subtotal based on Standard	%
No Progress at All	28	None	28	4.5
Upper First	39	Basic	71	11.3
2 nd Class	32			
3 rd Class	54	Good	54	8.6
Under 4 th Class	119	High	249	39.6
Upper 4 th Class	130			
5th Class	181	Very High	226	36
6th Class	45			
		Good - V High	529	84.2
Total	628			

In the table above an approximate standard of mathematics has been assigned. Whilst subjective, it is based on a combination of both what contemporary commentators felt about the utility of mathematics for military purposes, and the level of mathematics taught in that class according to the 1838 course. The 'Basic' level is essentially arithmetic, including fractions and percentages, which would have been required for keeping regimental accounts. The algebra and quadratic equations of the third class were deemed 'useful for various calculations' and so a general standard of 'Good' has been suggested. This leaves the remaining as 'High' and 'Very High', which would be to the

⁵⁸¹ Berkshire Record Office, D/EE/C2/1, Letter from Arthur JA Ewen to his father, 12th August 1851.

⁵⁸² This data is compiled from the RMC cadet register 1806-1864, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

standard of today's British A-Level Mathematics.⁵⁸³ If this premise is accepted, it could be argued that a total of 600 (i.e. from upper first through to the sixth class), or 95.5%, reached a class where mathematics was equal to or above the standard useful for regimental duties. As the competence of those in the upper first is not known for certain before departure, it might be safer to include only those from the second class and up, i.e. 561 or 89.3%; the real figure was probably somewhere between the two.

Approximately 75% (475) reached a 'High' or 'Very High' class (under fourth to sixth classes). The surprising weight of numbers (over one-third) reaching calculus and above (i.e. the fifth class) certainly supported the concerns of those who felt too high a level of mathematics was being pursued by cadets at the college. Yet, the numbers do not necessarily equate with those who actually *qualified* through the searching board exam. The numbers of qualifications are listed below:

Table 4: No. of Cadets Qualified Before Board in Branches of Mathematics⁵⁸⁴

Subject in Which Qualified Before Board of Commissioners*	No. of Cadets Qualified	Summarised by Category	No. of Cadets Qualified
Euclid	356	Geometry	356
Trigonometrical Surveying (1844-1853)	23	Practical Trigonometry	334
Trigonometry & Mensuration (1841-1857)	311		
Analytical Geometry of 2 Dimensions & Differential Calculus (1841-1849)	76	Higher Mathematics	180
Analytical Geometry of 3 Dimensions, Integral Calculus., Analytical Mechanics (1842-1849)	19		
Poisson - Statics, Dynamics (1843)	1		
Coordinate Geometry & the Differential & Integral Calculus (1850-1857)	15		
Practical Mechanics (1850-1857)	64		
Spherical Geometry & Trigonometry w/ Practical Astronomy (1846-1851)	5		

Note: Dates in brackets are the start and end dates in which the qualification was awarded.

⁵⁸³ This accords with the view of the RMC Professor of Fortification, *Sandhurst Select Committee 1855*, evidence of Lt Col WH Adams, points 1061-1065; and the anonymous reviewer of the new Addiscombe maths textbook in 'Military Mathematics', *United Service Magazine*, 1 (1841), 311-317 (pp.314-315).

⁵⁸⁴ Compiled from WO99 Half-Yearly Reports of the Collegiate Board, Lists of the RMC and *United Service Magazine* exam reports, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

Qualification in Euclid was mandatory before studying, and qualifying in, any higher mathematical subject. It is, therefore, logical that the 356 qualifications in Euclid (the subject taught in the under fourth) equalled the exact number of those cadets who had entered the upper fourth to the upper sixth inclusive, i.e. upper fourth (130) + fifth (181) + sixth (45) = 356. It will be seen that in the under fourth, 119 cadets had got into the Euclid class and had some knowledge of the subject, but not sufficient to qualify in it. When considering the number of qualifications, it must be borne in mind that one cadet could have taken two or three subjects; for example, once Euclid was obtained, he might qualify in Co-ordinate Geometry & Calculus, and then Practical Mechanics. Therefore, the total number of 180 qualifications in higher mathematics was probably rather lower when considered as the accomplishment of single cadets. It certainly did not approach the total of 226 who entered the fifth and sixth classes. Still, it was sufficient to create an impression which prompted contributors to the *United Service Magazine* to complain about cadets being pushed too far in mathematics.⁵⁸⁵ However, although they had advanced to a high class, it was probable they would switch focus to the other subjects which were compulsory for commissioning and/or which they were strongest in.

On balance then, whilst a fair number qualified in higher mathematics, a sense of perspective should be maintained – as evinced by an ex-cadet, writing to advise his mother what to do with a troublesome younger brother:

But for pity's sake do not send him to Sandhurst if he is intended for Cambridge or any where else, as really the mathematical education there, though good enough for the army, would be as a drop in the bucket when compared with what is wanted for Cambridge.⁵⁸⁶

Indeed, the authorities thought the rather modest attainment of Euclid and Trigonometry were more important, particularly for their application to surveying and fortification.⁵⁸⁷ All cadets receiving free commissions qualified in Euclid (316) and a further 22 qualified but did not get a college recommendation. An additional 116 reached the class in which Euclid was taught. This amounted to a total of 454 or 72%.⁵⁸⁸ So, in this respect the

⁵⁸⁵ For examples of opinions on the maths instruction: 'Editor's Portfolio', *United Service Journal*, 1 (1835), 125-135 (pp.132-133); 'Editor's Portfolio: East India Company's Military Seminary', *United Service Magazine*, 1 (1843), 113-147 (p.132); 'The Royal Military College Sandhurst by An Old Cadet', *United Service Magazine*, 1 (1843) 392-404 (p.400); 'On The Qualifications Requisite for the Military Profession', *United Service Magazine*, 3 (1849), 199-202 (p.200).

⁵⁸⁶ Hampshire Record Office, 6A08/A5/4, Robert Portal Letter to his mother, 10.12.1841.

⁵⁸⁷ *Sandhurst Select Committee 1855*, Evidence of: Lt Col WH Adams, point 1025; Col GW Prosser, point 161; Col JE Addison, point 814.

⁵⁸⁸ Compiled from WO151 RMC Cadet Register Vol.1 1806-1864, WO99 Half-Yearly Reports of the Collegiate Board, Lists of the RMC and *United Service Magazine* exam reports, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854

college was getting nearly three-quarters of the cadets either qualified or, to some degree at least, familiar with the geometrical principles needed to learn fortification and surveying. It is these military subjects which must now be considered in turn.

Whilst it might be assumed that fortification was the preserve of engineer officers, it was also thought essential for the complete education of an infantry officer.⁵⁸⁹ Fortress warfare had been on the wane since Napoleon's doctrine of destroying the enemy's army in the field and bypassing fortresses. Still, it remained important – as the sieges in the Peninsular War revealed. Also, given the inadequate support from the engineers, it is possible the army felt it must look to itself.⁵⁹⁰ Indeed, it is interesting to note that none of the RMC instructors until after the Crimean War were Royal Engineers. Moreover, the important place within British military history of the Peninsular War arguably gave fortification further prominence. This was a view enhanced by examples in the post-Napoleonic era and beyond; for example, in the Siege of Antwerp, the Sikh Wars, the Siege of Sebastopol and the Indian Mutiny. Fortresses and sieges, being works and actions which were both slow and methodical, encouraged the proliferation of doctrine and theory. This meant the propensity to descend into drawing beautiful plates of the various systems in a class room, without actually understanding them, had to be guarded against.⁵⁹¹ Certainly, the challenge was to blend theoretical and practical instruction. This section will explore to what extent this was successful.

Fortification was on the syllabus of the Junior Department from the beginning. However, piecing together the course is problematic because a textbook was not published until 1845. Also, the course title 'Fortification' was a slight misnomer because it is evident from the beginning it could include other subjects such as bridging and castrametation (encamping). Table 5 shows the early course was confined to the three classes of the Upper School.

⁵⁸⁹ See for example Lt Horace Fenwick, *Essays on Field Fortification*, (London: [n. pub.], 1833); 'A Popular View of Fortification and Gunnery', *United Service Magazine*, 1 (1830), 49-58, 316-323, 586-594; *United Service Journal*, 2 (1830), 59-70, 311-322, 831-845; *United Service Journal*, 1 (1831), 218-227, 489-499; *United Service Journal*, 2 (1831), 505-512; *United Service Journal*, 1 (1832), 72-79.

⁵⁹⁰ Philip Haythornwaite, 'Sieges in the Peninsular War', in *A History of the Peninsular War: Modern Studies of the War in Spain and Portugal, 1808-1814*, ed. by Paddy Griffith, (London: Greenhill Books, 1999), pp.213-229.

⁵⁹¹ Captain Hector Straith, *A Treatise on Fortification, deduced from established principles*, (Croydon: William Annan, 1833), p.vi.

Table 5: Allocation of Fortification Competence to RMC Classes, 1805

1 st Class	• Regular & Irregular Fortification, with reference to models
2 nd Class	• Principles of Field Fortification
3 rd Class*	• Drawing plans and Profiles
	• Gunnery and Construction of Field Works
	• Attack and Defence of Places
	• Castrametation.

* The 3rd Class is the most senior.

[WO99/2, 'Report of the Committee RMC, 14.2.1805', Approved Fortification syllabus, p.131.]

Strachan criticised the teaching of fortification as being based on old systems such as Vauban which he deemed of little use to a subaltern in the field.⁵⁹² A fact which does support Strachan's view is that the cadets, for much of the time, did not appear to have been taught by anyone who had seen service in a siege. In the first few decades of the nineteenth century instruction was given by French civilians Louis Alphonse de Polchet and Francis De Masson. Little is recorded as to their origin, but both appear to have originally been civilian draughtsmen. Polchet supervised the construction of a great Vauban model in 1806 (costing £350) and a Cormontaigne model in 1814 (costing £900) which were used for instruction and examination.⁵⁹³ This suggested their instructional style revolved around the cadets executing detailed plans, which was judged useless to the infantry officer and was thought damaging to the college's reputation.⁵⁹⁴

However, the picture was more complex. Firstly, recent developments in fortification theory, such as the 'Modern French System' and the fortifications in use in Western Germany, were actually incorporated into the course. Their description and development were in the 1845 course textbook *Cadets* displayed examples of them, such as Fort Alexander in Koblenz, at the examinations; the instructions on which were in the more developed section of the third edition textbook of 1852.⁵⁹⁵ Secondly, many fortresses in existence were based on the principles of Vauban, Cormontaigne, and Carnot; so, some instruction in them was necessary. Presumably this is why they were also taught at

⁵⁹² Strachan, *Wellington's Legacy*, p.127.

⁵⁹³ 'The Royal Military College Sandhurst by An Old Cadet', *United Service Magazine*, 1 (1843) 392-404 (p.399).

⁵⁹⁴ Ensign O'Donoghue, 'Sandhurst College and Woolwich Academy', *Fraser's Magazine*, 14.80 (1836), 168-179 (pp.172-173); 'The Military System', *United Service Magazine*, 1 (1849), 50-63 (p.53).

⁵⁹⁵ Lt Col John Hambly Humfrey, *An Essay on the Modern System of Fortification Adopted for the Defence of the Rhine Frontier* (London: John Weale, 1838); *Outlines of Lectures on Fortification*, 1845, pp.109-113; *Outlines of Lectures on Fortification*, 1852, pp.98-99, 108-115; 'Editor's Portfolio: Half-Yearly Examinations at Sandhurst, Near Bagshot', *United Service Magazine*, 2 (1849), 458-469 (p.461).

St Cyr and in Prussia.⁵⁹⁶ Perhaps most importantly, any accusations of the RMC's insularity in this regard are deflected by the 'cross-pollination' of ideas between the Royal Engineers, the East Indian Company's engineers and the army's engineers. This is seen in the prefaces of textbooks and the attendance of the staffs of the various institutions at each other's public examinations.⁵⁹⁷ Lastly, it would be incorrect to characterise the course as dominated by permanent fortification, because practical instruction in field works was certainly given, as set out below.

Firstly, Polchet was capable of teaching cadets to produce field works in the college grounds as evidenced at a half-yearly examination when the commissioners selected a field work at random for the cadets to trace. From 1829 he was supported by a detachment of the Royal Sappers and Miners who, not only instructed the cadets, but also conjointly with them constructed various large field works.⁵⁹⁸ These were used for studying the attack and defence in a practical way; see for example the colourful account given by Gentleman Cadet John F Mann who was part of the escalating party which mounted the parapet after a mine detonation signalled the attack.⁵⁹⁹ Indeed, explosives were often used to demonstrate blasting obstacles and firing an improvised mortar (or 'fougas').⁶⁰⁰

Then, in 1834, training was introduced in field engineering and pontooning. The former was extensive and included the knotting and splicing of cordage, lashing and strengthening timber, the working of a field capstan, the dismounting and embarking of ordnance by the field gin and sheers, the use of block and tackle, and bridge building. Bridges ranged from a small foot bridge to one able to carry a field gun. These, and a cask pontoon 70 feet long, were set across varying spans of the lake and stream. In 1835 work was expanded to include fortifying houses and barricading streets. Pontooning became more ambitious with a bridge constructed 120 feet long of rafts and boats capable of carrying artillery. These were not mere 'shows' for the commissioners, as the schedule of the term's work in 1835 and 1837 under Major Prosser attested. In fact, it was only possible to demonstrate a small proportion of the various works carried out by the cadets on examination days.⁶⁰¹

⁵⁹⁶ *Yolland Commission Report 1857*, p.60; Lt Richard J Neilson, 'Notes on the Constitution and System of Education of the Prussian Army', Appendix I 'Examination for 2nd Lieutenant's Commission: Permanent Fortification', *United Service Journal*, 3 (1839), 14-18, 214-223, 498-520 (p.498).

⁵⁹⁷ For an example of staff attendances, RMA staff at RMC: 'Editor's Portfolio', *United Service Journal*, 3 (1840), 539-572 (p.561).

⁵⁹⁸ See Half Yearly Examinations in 'Editor's Portfolio', *United Service Journal*, 3 (1835), 553-568 (pp.558-559); 'Editor's Portfolio', *United Service Journal*, 2 (1837), 265-281 (pp.279, 281).

⁵⁹⁹ SCA, Mann, 'Sandhurst in the Thirties', p.11.

⁶⁰⁰ *Outlines of Lectures on Fortification*, 1845, pp.343-344, Appendices A & B.

⁶⁰¹ 'Editor's Portfolio', *United Service Journal*, 3 (1834), 553-562 (p.561); 'Editor's Portfolio', *United Service Journal*, 2 (1835), 269-279 (p.278); 'Editor's Portfolio', *United Service Journal*, 3 (1835), 553-568 (pp.558-559); 'Editor's Portfolio', *United Service Journal*, 2 (1837), 265-281 (pp.278-279).

The appointment of Major George Walter Prosser signalled a deliberate policy of employing qualified British officers. The continued employment of foreigners was not only seen as unnecessary, given the greater availability of well-trained British officers, but also as discrediting a national institution.⁶⁰² Prosser was a good choice; he had been a cadet and a student officer at the RMC, and published an extensive essay on fortification.⁶⁰³ Later still, he returned as the Superintendent of Studies and then the Lieutenant Governor. A number of other officers were employed, but the longest serving was Brevet Major William Henry Adams (1843-1870) who had also been a cadet and a student officer.⁶⁰⁴ He had not seen active service but had overseas postings and visited various fortresses. Adams also compiled the first textbook and kept abreast of fortification theory, as his lectures at the United Service Institution show. Also, shortly after his appointment the great Vauban model was modernised to show the latest developments.⁶⁰⁵

Although the course was taking a more practical turn and being improved with the appointment of British officers, there was still the point raised by Strachan that after 1818 the subject was separated into two qualification subjects: 'Permanent and Field Fortification' and 'The Attack and Defence of Fortresses'. Strachan noted that the attack was integral to understanding the defence, and the change was opposed vociferously by Sir Howard Douglas at the time and concurred with by the Professor of Fortification in 1855.⁶⁰⁶ This was a defect, it is true, but probably not to the extent that it at first appeared. This is because the subject was not as wide-ranging as Permanent and Field Fortification; the more extensive material of this branch can be seen in the 1845 textbook. In contrast, the textbook has one chapter on siege operations concentrating at a level of detail more appropriate to a directing engineer officer.⁶⁰⁷ A similar proportion of time is shown at St Cyr where out of 27 lectures 8 were on siege warfare.⁶⁰⁸ Further, with the extensive descriptions and excellent models and plans available, it is unlikely a cadet would not have been aware of the principles – especially as he studied the comparative strengths and weaknesses of the various systems and witnessed the construction of siege works.⁶⁰⁹

⁶⁰² WO99/22, Letters from Sir Edward Paget, RMC Governor to Major General MacDonald AG, Horse Guards, 28.6.1831 and 30.7.1834.

⁶⁰³ Major George Walter Prosser, 'An Essay on the Past and Present State of Fortification in Europe', *United Service Journal*, 2 (1839), 170-182, 472-482; 3 (1839), 300-310; 3 (1840) 75-84; for praise of his work see account of exam in 'Editor's Portfolio', *United Service Journal*, 2 (1837), 265-281 (pp.278-279).

⁶⁰⁴ SCA, RMC Staff Register, 1806-1939.

⁶⁰⁵ Lt Colonel William Henry Adams, 'Mr Fergusson's System of Fortification', *United Service Magazine*, 2 (July 1852), 429-442; for Adams's service see *Sandhurst Select Committee 1855*, evidence of Lt Colonel Adams, points 980-986.

⁶⁰⁶ *Sandhurst Select Committee 1855*, evidence of General Sir Howard Douglas, point 2193 and Appendix No.2 'Papers delivered in by Sir H Douglas, 15 May 1855'; Lt Col WH Adams, point 1019; Strachan, *Wellington's Legacy*, p.127.

⁶⁰⁷ *Outline of Lectures on Fortification*, 1845, pp.290-342; for evidence of the extensive models see, *Sandhurst Select Committee 1855*, evidence of Lt Col JE Addison, point 967.

⁶⁰⁸ *Yolland Commission Report 1857*, pp.59-60.

⁶⁰⁹ *Outlines of Lectures on Fortification*, 1845, pp.80-91, 92-113.

Due to this split in the subjects in 1818, and the number of changes that occurred over the next 40 or so years, it is difficult to quantify the output of teaching. Nevertheless, it can be ascertained that, out of the 536 cadets joining their regiments who entered and left the RMC between 1840 and 1854, 330 qualified in Permanent & Field Fortification (or 62%). However, of those that did not qualify another 14 reached the second class, 12 reached the upper first and 34 the under first. This gives a total of 390 (or about 73%) with at least some training in fortification. Additionally, 192 further qualified in the Attack and Defence.⁶¹⁰ This would have gone some way to meeting General Sir John Burgoyne's view that it would have been a great advantage if line officers '[had] understood the principles of fortification; [as] many of them were quite at a loss during the operations of the Crimea to perform the duties that are really required.'⁶¹¹

In addition to the numbers above, the limited testimony existing from cadets tended to confirm a better quality of teaching from the mid-1830s. Brevet Colonel JJ Hort described it as 'extremely well taught' as did Alexander Tulloch.⁶¹² However, the subsequent utility of such knowledge is harder to discern; it would clearly depend on the subsequent employment of an officer – and more importantly, the perception of the impact of their training. For example, Brevet Colonel JWS Smith when asked: 'Have you found the rudiments which you acquired at Sandhurst of use to you on service in the field?' remarked, 'Not at all of use. I was always employed regimentally. They gave me an intelligent interest in the siege works at Sebastopol.'⁶¹³ However, 30 years earlier he had commanded a detachment in Central America, which took part in the assault and capture of the fort at Serapigni, and the forts of Castillo Viego and St Carlos. Later, he was at the battles of the Alma, Inkerman, the Siege of Sebastopol and the capture of its suburbs.⁶¹⁴ Smith received a college recommendation and so it is difficult to reconcile his view with his service record, if it is assumed the fortification course was all it should be. That said, it could be possible that the health of the ailing Frenchman Polchet, despite support from the Sappers, was insufficient. Colonel Hort who, on the other hand, commissioned eight years later (in 1840) when military personnel were teaching fortification, felt the following about his RMC education:

⁶¹⁰ This data is compiled from the WO99 Half-Yearly Collegiate Reports, RMC Lists and *United Service Magazine* exam reports and WO151 RMC Cadet Register Vol.1 1806-1864, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

⁶¹¹ *Sandhurst Select Committee 1855*, evidence of General Sir John F Burgoyne, points 1405 and 1421.

⁶¹² Tulloch, *Recollections of Forty Years' Service*, p.10; *Dufferin Commission Minutes 1870*, evidence of Bt Col JJ Hort, point 5119.

⁶¹³ *Dufferin Commission Minutes 1870*, evidence of Bt Col JWS Smith, point 5205.

⁶¹⁴ James P Jones, *History of the South Staffordshire Regiment* (Wolverhampton: Whitehead Bros, 1923), p.50, 'Official Despatches: Expedition to San Juan de Nicaragua, 28th April 1848', *United Service Magazine*, 2 (1848), 307-308.

I have found it of advantage throughout my life in everything. I think that the education which I got at Sandhurst was as good and as practical an education as a soldier could have.⁶¹⁵

In contrast to fortification instruction, it is easier to discern the impact of surveying instruction. Arguably, this is because surveying, which could be executed by a single officer, was of more certain and general utility. This was demonstrated early in the college's history when, in 1801, a group of junior officers from the Staff School at High Wycombe played a successful part in the Egyptian campaign. This also ensured the survival of the Staff School to transform into the RMC.⁶¹⁶ From the outset surveying placed the college in a valued position, and students from both departments played a part in the improvement of surveying in the army as a whole. Although it might be thought of as the preserve of engineer officers, surveying was universally deemed of use to infantry officers.⁶¹⁷

Surveying, like Fortification, was really taught in the later stages of the course – once sufficient mathematical knowledge had been attained. However, in the early stages, cadets, as at Woolwich, started in the subordinate branch of Plan Drawing. This ability to skilfully manipulate a pen, pencil and brush was difficult and took time to acquire.⁶¹⁸ It was, therefore, developed under separate masters, although, from the material available, the distinction between who taught Military Drawing or Surveying was not always clear. Undoubtedly, however, the key figure was Professor George Burr (RMC 1813-1853). Although a civilian, Burr had started life as a cadet surveyor under instruction at the Tower of London and later joined the Corps of Royal Military Surveyors and Draftsmen. He probably worked on the Ordnance Survey, but after six years joined the RMC. His textbook on surveying was lauded as the first publication 'worthy of the advanced state of the art', and although a reviewer questioned the method of shading, it came strongly recommended.⁶¹⁹ A second edition appeared in 1847, which was re-printed posthumously in 1858, and included a section on sketching ground without instruments.⁶²⁰ It was quoted from in similar treatises by surveying instructors at the Sunbury Practical Military Institute (by Auguste Lendy) and at Addiscombe (by Basil Jackson). Along with the latter work it

⁶¹⁵ *Dufferin Commission Minutes 1870*, evidence of Bt Col JJ Hort, point 5137.

⁶¹⁶ Thomas, *Story of Sandhurst*, p.32.

⁶¹⁷ *Yolland Commission Report 1857*, p.59.

⁶¹⁸ See account of Military Drawing under Professor Piercy, in SCA, Mann, 'Sandhurst in the Thirties', p.14.

⁶¹⁹ George D Burr, *A Treatise on Practical Surveying and Topographical Plan Drawing*, (London: John Murray, 1829); 'Military Surveying' *United Service Journal*, 1 (1829), 337-345 (p.339), and *United Service Journal*, 2 (1829), 176-186.

⁶²⁰ George D Burr, *Instructions in Practical Surveying, Topographical Plan Drawing and Sketching Ground Without Instruments* (London: John Murray, 1847).

served as a benchmark up until the early 1860s.⁶²¹ Burr was also a 'patient and careful instructor' a fact recognised by the authorities.⁶²² For example, one of his pupils was George Grey, later a Governor of Australia, and notable surveyor and explorer. On an Australian expedition Grey named a mountain Mount Burr, after his respected former professor.⁶²³ There were other civilians in addition to Burr, such as Thomas Costin, John Piercy and William Stevens; this is probably due to a continuation of an earlier trend of the 1800s whereby few military officers capable or willing to give instruction could be found. Stevens at least was trained, like Burr, by the Ordnance Office, and it is possible that Piercy and Costin were too.⁶²⁴

However, by the mid-1840s military officers were appointed. The first to the Junior Department was Lieutenant Robert Petley. When a cadet, he was an outstanding student excelling in Mathematics, Surveying, and Landscape Drawing. After service in Canada, where his drawing skill has been particularly recognised, he studied in the Senior Department. He joined the college staff in 1845 as a Military Drawing and Mathematics Master where he became known as one of the best military sketchers in the country. For example, his work illustrated Lendy's course in military surveying and a folio of example sketches was used as a reference for Woolwich cadets. He was asked to participate in the ongoing debate on the scale of shade and contouring in representing ground; offering advice and drawings as specimens which were still talked about four years after his death in 1870.⁶²⁵ After Burr's retirement in 1853, Petley became the Professor of Surveying. Both Burr and Petley were remembered by Henry Haversham Godwin-Austen as

⁶²¹ Auguste Lendy, *A Practical Course in Military Surveying*, (London: Atchley & Co, 1869), pp.10-12; Basil Jackson, *Elementary Surveying*, (London: Simpkin and Marshall, 1842), p.156; See for example, Arthur Wellesley Torrens, *Six Familiar Lectures for the Use of Young Military Officers* (London: Parker, Furnivall and Parker, 1851), p.66; Charles George Butler, *An Essay on Military Sketching* (London: Parker, Furnivall and Parker, 1854), pp.iv, 6; Capt S B Farrell RE, 'Military Surveying', *Journal of the Royal United Services Institution*, 5.26 (1862), 79-86 (p.86); Lt Col Henry Garnet Man, 'Military Drawing', *Journal of the Royal United Services Institution*, 5.19 (1862), 397-404 (p.397).

⁶²² SCA, Mann, 'Sandhurst in the Thirties', p.12; WO99/23, Application for a Superannuation Allowance for GD Burr, 1.4.1853.

⁶²³ James Belich, 'Grey, Sir George (1812-1898)', in *Oxford Dictionary of National Biography*, online edn, 23rd September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/11534>> [accessed 2 Mar 2018].

⁶²⁴ WO99/5, Minutes of the Supreme Board, Book 1, 10.12.1801.

⁶²⁵ For accounts of Petley's performance as a cadet at the Half-Yearly examinations see, *United Service Magazine*, 1 (1830), 76-78, 2 (1831), 81; Mora Dianne O'Neill, *Robert Petley: Recollections of Nova Scotia* (Halifax, NS: Art Gallery of Nova Scotia, 1999); for Petley's contribution to debate see the discussions following these papers: Major Henry Scott, 'On the Representation of Ground', *Papers Connected with The Duties of the Corps of the Royal Engineers, New Series*, 12 (1863), 144-164 (pp.158, 160); Captain C E Webber, 'Representing Ground etc', 29-44; and Captain E R James, 'Military Sketching', 45-56, and 'Discussion on Papers II & III: General Sir JF Burgoyne in the Chair', *Papers Connected with The Duties of the Corps of the Royal Engineers, New Series*, 15 (1866), 57-78 (pp.59, 63-66, 74); Captain J A Millar, 'The Scale of Shade Simplified', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers, New Series*, 22 (1874), 76-79; 'Discussion on Paper VII. On the Scale of Shade Simplified: Lt Gen Sir J Lintorn Simmons in the chair', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers, New Series*, 22 (1874), 155-175 (pp.158-160, 164, 168).

excellent and skilled teachers.⁶²⁶ Another former cadet and Senior Department graduate took Petley's place as the senior instructor of Military Drawing.⁶²⁷ Indeed, into the 1860s almost all successive appointments to Military Drawing and Surveying were former RMC cadets; the most noteworthy of these were William Paterson, who wrote a completely new textbook for the college, and W Hamilton Richards, who eventually wrote the standard textbook for the entire army in 1883.⁶²⁸

However, what were the results of the professors' teaching? Curiously, although Surveying was an obligatory step, it is not consistently recorded in the half-yearly examination reports; neither is it in the register. Therefore, it is not known how many cadets qualified in Surveying who did not obtain a college recommendation. Instead, the register shows progress through three classes of the lower branch of Military Drawing. Some cadets might get to the highest class in drawing but not pass out (i.e. qualify in Surveying) for another year. So, it is not clear to what degree progress in drawing indicated qualification in Surveying. Out of the 523 cadets entering the army, 316 must have qualified in Surveying as this is also the number who obtained the college recommendation. Of those not obtaining a recommendation, 69 got to the third class of drawing and a further 163 to the second class.⁶²⁹

Contemporary commentary pointed to this output as having a positive impact on developing surveying within the army, most notably on colonial duties – although there was even a rare case of a former cadet employed in the UK on a railway project.⁶³⁰ This was inevitable when the British Empire was rapidly expanding into new territories which required mapping and infrastructure. For example, Ensign James Hoste, along with other former cadets, surveyed the levels of a railway in New Brunswick.⁶³¹ Similarly, Henry Haversham Godwin-Austen formed part of the Trigonometrical Survey of India and credited his RMC education for his success in this.⁶³² In South Africa George Colley surveyed the site of a settlement, and after the Transkei Expedition was employed mapping 1,000 square miles of frontier territory.⁶³³ George Grey in Australia has been mentioned. In New Zealand, George Greaves, who had done well in Surveying when a

⁶²⁶ Moorehead, *Life of Godwin-Austen*, pp.38-39.

⁶²⁷ SCA, RMC Staff Register, 1806-1939, entry for Captain Francis Taylor.

⁶²⁸ William Paterson, *A Treatise on Military Drawing and Surveying* (London: Trubner & Co., 1862); William Hamilton Richards, *Textbook of Military Topography: including the courses of Instruction at the Royal military Academy, the Royal Military College, The Staff College, Garrison Instruction and Examinations for Promotion* (London: HMSO, 1883).

⁶²⁹ Compiled from WO151 RMC Cadet Register Vol.1 1806-1864, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

⁶³⁰ 'Editor's Portfolio', *United Service Magazine*, 2 (1840), 265-281 (p.274); Anon, 'The British Army; Past, Present and Future', *United Service Magazine*, 1 (1842), 15-31 (pp.19-20).

⁶³¹ 'Ensign James Hoste Obituary', *United Service Magazine*, 1 (1837), 288.

⁶³² Lt Colonel Henry Haversham Godwin-Austen, 'Exploration Survey Work', *Professional Papers of the Corps of Royal Engineers*, 20 (1894), 163-174 (p.164).

⁶³³ Lt General Sir William Butler, *The Life of Sir George Pomeroy Colley* (London: John Murray, 1899), pp.24-26, 30, 41-43.

cadet, surveyed the Waikato River in preparation for the campaign against the Maoris. The disaster in Afghanistan focused attention on the importance of an intimate knowledge of territory as prerequisite for a campaign. Surveying was proposed as one of a host of educational subjects that should form a part of the body of knowledge on which officers should be examined before promotion.⁶³⁴

During wartime there is evidence that the Surveying taught at the RMC was of great value in gathering military intelligence. The best examples come from the Crimean War. In a letter from Viscount Hardinge to the Prince Consort, Hardinge stated:

Sir Richard Airey has given me a plan [...] which was drawn and surveyed by the officers of his staff in the Crimea. I think I may safely say that such a plan could not have been created by the staff of any of the other armies in the field [...]. Nearly all the officers in the QM General's Staff in the Crimea, had passed through Sandhurst, either in the Senior or Junior Departments.⁶³⁵

Garnet Wolseley worked on this survey under Roger Barnston, a student of both departments, whom he described as a 'first class staff officer' and added, 'I owe him a great deal for he taught me much'.⁶³⁶ John Ewart, another former cadet so employed, mapped Balaklava's environs to inform their defence, and reconnoitred Sebastopol to inform its attack. Indeed, Ewart found other instances when the skill was useful, such as undertaking a battlefield tour of Waterloo and taking astronomical observations for a ship's captain.⁶³⁷ With such potential utility it appeared that even the cadets themselves valued this subject. Cadet Ewen when writing to his brother about dropping History, stated: '[...] the step is no use to me and M[ilitary] Surveying much more important'.⁶³⁸ Similarly, another cadet wanted to complete History as he 'wanted to get on with Fortification and Military Drawing'.⁶³⁹

The learning of modern languages, particularly French, at the RMC, incurred little criticism from historians, as much military knowledge originated from France. Indeed, many of the early instructors were French émigrés; the most notable being General

⁶³⁴ George Richards Greaves, *Memoirs of General Sir George Richards Greaves* (London: John Murray, 1924), pp.12, 80-88; 'Suggestions for Improving the Military System, Letter dated 19th April 1842', *United Service Journal*, 2 (1842), 111-113.

⁶³⁵ Royal Archives, VIC/MAIN/E/7/60, Hardinge to Prince Consort, 18th June 1856; For RMC trained staff having been appointed to the QMG's staff see *Sandhurst Select Committee 1855*, Evidence of General Sir John F Burgoyne, points 1430, 1450.

⁶³⁶ Garnet Wolseley, *The Story of a Soldier's Life*, 2 vols. (Archibald Constable; London, 1903), I (1903), p.203.

⁶³⁷ Ewart, *Story of a Soldier's Life*, pp.103, 155, 247-251.

⁶³⁸ Berkshire Record Office, D/EE/C2/2, Letter from Arthur JA Ewen to his brother, 14th January 1853.

⁶³⁹ Wiltshire and Swindon Archives, Letter from Cadet Robert Poore to his mother, 24th March 1850.

Francois Jarry. As with the Mathematics course, French was developed through mandatory instruction to a certain level, and with the option to qualify in it at a higher level for a commission. Hitherto no analysis of the RMC's modern language teaching has been undertaken by historians, and in any case, a better understanding of its instruction could not be had until the history of language teaching developed in the 1990s. A picture is fairly clear that in the eighteenth century, French was widely taught in private schools but much less so, if at all, in the grammar or public schools. German, on the other hand, seemed to have been only taught in the 'dissenting academies' of non-conformist Protestant groups. Modern languages did not become part of the mainstream curriculum in public schools until after the mid-nineteenth century.⁶⁴⁰

In common with other private schools, the teaching of modern languages was part of the RMC curriculum from the beginning.⁶⁴¹ Similarly, they were taught by male native-speakers who often struggled to keep order due to their lack of command of English.⁶⁴² Still, by the publication of the *Guide to the RMC*, in 1849, French and German teaching had long been established, which prompted its author to state: 'there is no institution in England where the French language is better or more thoroughly taught.'⁶⁴³ Although a rather bald and boastful statement, the context above suggested there was substance to the claim. If the author exaggerated, it was to refute the position in a *Quarterly Review* article that favoured a public school education for an officer over the RMC. Nevertheless, the point stands that the typical public school education of the time focused on the classics to the exclusion of modern languages. As if to emphasise this, it is interesting to note that when Prince Albert provided a £50 modern language prize for Eton College, the examiner selected was the French professor at Sandhurst.⁶⁴⁴

Coming to a conclusion about the quality of teaching is difficult. At the 1855 select committee the Professor of Military Science gave a dim view. He noted cadets came with very different French abilities, and that they were divided up by the professor who devoted more attention to the more advanced 'because he cannot give sufficient attention to those individually who know nothing at all.'⁶⁴⁵ He also thought there should be one more French

⁶⁴⁰ Nicola McLelland, 'The history of language learning and teaching in Britain', *Language Learning Journal*, 46 (2018), 6-16; Nicola McLelland, 'French and German in British schools (1850-1945)', *Documents pour l'histoire du français langue étrangère ou second*, 53 (2014), online edn 10.9.2017; Curtis, *History of Education*, pp.115-116.

⁶⁴¹ RMA Library, Le Marchant Papers, Bundle 7, 'Outline of a Plan for a Regular Course of Military Education, 1799' by John Gaspard Le Marchant.

⁶⁴² McLelland, 'The history of language learning and teaching in Britain', p.9; Tulloch, *Recollections of Forty Years' Service*, p.10.

⁶⁴³ *RMC Guide 1849*, p.58.

⁶⁴⁴ 'Eton College', *The Times*, 16 November 1847, p.4.

⁶⁴⁵ *Sandhurst Select Committee 1855*, evidence of Lt Col Adams, point 1029.

professor, as it was 'perfectly absurd to think of teaching French well with the limited number of professors that we have at present.'⁶⁴⁶ However, he felt a cadet ought:

[...] to be able to translate a book such as 'Wellington's Despatches' and within a time limit translate it without a dictionary, and similarly with a French comedy he should be able to translate it intelligibly *viva voce* in front of the board.⁶⁴⁷

This was probably expecting too much and, as the French masters were not questioned to qualify his statements, conclusions from such views should be drawn cautiously.

Still, it cannot have helped that no French ability was required on entrance, despite the Governor's attempt to raise it. A committee witness noted: 'There will be difficulty in getting boys qualified in French and German from public schools but if publicised as a requirement then an Eton boy would take lessons'.⁶⁴⁸ The result was that even dedicated cadets, such as Robert Poore, could struggle; forcing them to resort to their own resources – which he did during the summer vacation of 1850 when he was sent to Paris to stay with a French tutor. After several earlier letters from Sandhurst recording indifferent progress he wrote:

I have some of the very best news that I could possibly have to tell you, in fact, I consider it quite miraculous how it has happened, for I have passed Under Third in French, and now have not got anymore French to do while I am at college.⁶⁴⁹

Cadet Arthur Ewen, on the other hand, qualified in French and talked of doing better than expected and 'walking' into the next French class.⁶⁵⁰ It is not clear to what degree their antecedent education involved French or contributed to their progress, but a former cadet was sure a cadet's knowledge of French was probably down to natural ability and prior knowledge.⁶⁵¹

Still, although there were disadvantages cadets could make progress; this can be explored further through some quantitative results. As with Mathematics, the register continued to record cadets' progress in the same manner. Therefore, the course structure from 1805 serves as a useful guide.

⁶⁴⁶ Ibid., evidence of Lt Col Adams, point 1054.

⁶⁴⁷ Ibid., evidence of Lt General Sir J Burgoyne, points 1418-1419, and Lt Colonel WH Adams, point 1068.

⁶⁴⁸ WO99/19, Letter from Major General Sir George Scovell to RMC Board of Commissioners, 7th March 1853; *Sandhurst Select Committee 1855*, Evidence of Colonel JE Addison, points 863-877.

⁶⁴⁹ Wiltshire Record Office, Letter from Robert Poore to his parents, 1st October 1851.

⁶⁵⁰ Berkshire Record Office, D/EE/C2/1, Arthur JA Ewen, Letter to his father, undated but probably August 1851, Letter to his mother, undated but probably August 1851.

⁶⁵¹ Tulloch, *Recollections of Forty Years' Service*, p.10.

Table 6: Allocation of French Competence to RMC Classes, 1805

Lower School	First Class	<ul style="list-style-type: none"> • First part of grammar including the regular verbs. • Vocabulary and dialogues.
	Second Class	<ul style="list-style-type: none"> • Grammar, including syntax. • Construe and parse French exercises.
	Third Class	<ul style="list-style-type: none"> • Grammar, translations from English into French, and French into English • Reading approved authors • Construing and parsing French authors; and repetitions of the same
Upper School	Fourth Class	<ul style="list-style-type: none"> • To read and translate French authors, and to translate English into French
	Fifth Class	<ul style="list-style-type: none"> • To read French authors, and to read and transcribe into English 'The King of Prussia's Instructions to his Officers' • To write French themes.
	Sixth Class	<ul style="list-style-type: none"> • To read French authors; and to translate and transcribe into English 'The King of Prussia's Instruction to his General Officers' • To compose in French

[WO99/2, 'Report of the Committee RMC, 14.2.1805', Approved French syllabus, pp.128-9.]

From 1818 whilst the qualification 'step' was not required, it was essential to be in the 'Under' (or lower part) of the third class for a commission (hence Robert Poore's joyful sentiment quoted above). This level would ensure a knowledge of French grammar and is corroborated by tables 6 and 7. The college also published a French and German grammar for the cadets to attain this level.⁶⁵²

Of the 537 cadets that entered and left the RMC between 1840 and 1854, and which entered the service, at least 172 cadets (or 32%) passed the searching qualification exam in French.⁶⁵³ Of those who did not pass this exam, the following levels were achieved:

⁶⁵² *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, points 235-246; *A Letter by Authority on the Royal Military College at Sandhurst*, (London: Spottiswode & Shaw, 1848), p.10 [Attributed to GW Prosser].

⁶⁵³ Compiled from WO151 RMC Cadet Register, Vol.1 1806-0864, WO99 Half-Yearly Reports of the Collegiate Board, Lists of the RMC and *United Service Magazine* exam reports, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

Table 7: Progression of Cadets Through French Classes, 1840-1850⁶⁵⁴

Class Reached in Register	No. of Cadets	
Reached the 5 th Class	16	2.9 %
Reached the 4 th Class	20	3.7 %
Reached the 3 rd Class	161	30 %
3 rd – 5 th Class Subtotal	197	36.7 %
Reached 2 nd Class	84	15.6 %
No level at all	78	14.5 %

Table 7 shows that some exceeded the minimum (third class) level to qualify for a commission, but did not get to the qualification step. It appeared that cadets either aimed to pass the board exam or simply to qualify – there being few in the intermediate classes. If the total number of cadets qualified in French (172) is added to those who met or exceeded the minimum (197), this gives 369 (or 69%) of cadets commissioned who had, or was deemed to have, an acceptable standard of French. If the remaining 84 who reached the second class, and therefore had some knowledge of French grammar, were added this would be 84% – although it would be difficult to judge their competence as the duration of their stay in that class before leaving has not been analysed. Given that no competence was required for admission and that between 69% and 84% gained some proficiency – some to a high standard – it could be argued the college possessed a reasonable degree of teaching power.

As with Fortification and Surveying, command of French was not requisite for regimental duties. Therefore, its benefit to the graduate was more speculative. It might be argued that a cadet obtaining a commission without purchase who, having either qualified or passed the exam, might be more studious; and, therefore, more likely to have found French useful in studying French military manuals, articles, press and mathematical tracts. Yet, this is contingent on access to good libraries. Related to this, is the possibility of their attending the Senior Department or Staff College. Colonel Addison noted the necessity of a prior French knowledge to study at a higher level – where almost all books on strategy were in French.⁶⁵⁵ Certainly, table 6 shows instruction was geared towards reading, writing and translating French to English and vice versa, which would have helped in such study. It would be far-fetched to explain the observation that British staff officers could almost without exception converse with the French officers in the Crimea because of

⁶⁵⁴ Ibid.

⁶⁵⁵ *Sandhurst Select Committee 1855*, evidence of Colonel JE Addison, points 934-945.

teaching at Sandhurst, but at least the RMC teaching laid a strong foundation for its graduates even if conversation was not taught.⁶⁵⁶

A similar pattern is seen when the German provision is considered. German, as in the country at large, occupied a subordinate position to French in the college.⁶⁵⁷ Consequently, there was one less master, and although, like French, a certain standard had to be reached – that standard was lower, being ‘Under Second’.⁶⁵⁸ Also, the 1805 regulations revealed a more modest course:

Table 8: Allocation of German Competence to RMC Classes, 1805

Upper School	First Class	<ul style="list-style-type: none"> • Grammar, as far as the verbs, and writing the German characters.
	Second Class	<ul style="list-style-type: none"> • Grammar, including syntax. • Writing exercises, and translating German into English
	Third Class	<ul style="list-style-type: none"> • Translating English into German and vice versa. • Writing German composition • Reading German authors

[WO99/2, ‘Report of the Committee RMC, 14.2.1805’, Approved German syllabus, p.127.]

Unfortunately, the cadet register did not record German results. Progress only appears from compiling the half-yearly examination reports which showed that 135 out of 537 cadets (25%) passed the board examination in German and went into the army. This is less than the number qualifying in French – but only by 36. As with French, given that a certain German standard was exacted, it appeared that a further 197 got the college recommendation and met that standard (or 36.7%). This meant a total of 332 or 61.8% met or exceeded the standard in German.⁶⁵⁹ Although the knowledge required was slightly less, given that provision for German language teaching in the country at large was less than for French, this seems a respectable figure. Overall, the level of education reflected the fact that the usefulness of German was deemed less than French. Yet, with the marriage of Queen Victoria to the Prince Consort, the unification of the German states (1864-1871) and the increased admiration for German scientific achievement, matters were starting to change.⁶⁶⁰ The conflicts during German unification undoubtedly fostered

⁶⁵⁶ *Sandhurst Select Committee 1855*, evidence of Lt General Sir J Burgoyne, points 1418-9.

⁶⁵⁷ McLelland, ‘French and German in British schools (1850-1945)’.

⁶⁵⁸ *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, points 235-246.

⁶⁵⁹ Compiled from WO99 Half-Yearly Reports of the Collegiate Board, Lists of the RMC and *United Service Magazine* exam reports, for cadets who entered from 1840 to 1850 inclusive, and who left by June 1854.

⁶⁶⁰ C W Proescholdt, ‘The Introduction of German Language Teaching into England’, *German Life and Letters*, 44.2 (Jan 1991), 93-102.

interest in their system of military training and fortification methods – and this seemed to accelerate in the 1860s, just when cadets from the mid-1840s onwards would be gaining a more senior rank.

In concluding this section on the subjects of instruction it is worth reflecting upon Harries-Jenkins's strong criticism: he thought that the RMC course covered too wide a field, that it tried to meet too many aims – 'general education, military education, military training – and failed to satisfy any single one.'⁶⁶¹ He claimed the dichotomy of purpose between school and professional education was resolved by over-emphasising the school subjects. Regarding the military education he thought: '[...] there was no study of the more practical subjects which would have been useful to a young officer [...] such as military law, administration, logistics, transport, communications and hygiene.'⁶⁶² Whilst such subjects would no doubt have helped complete the military education, knowledge of certain subjects such as administration and law could at least be developed at the regiment through witnessing court martials and studying regulations. Indeed, before the days of garrison instruction the advantage of the RMC's course was it taught that which could not be taught at the regiment and was still of benefit. For example, consolidating cadets' arithmetic, including fractions and percentages, would have helped them keep regimental accounts. Indeed, a select committee witness recalled an officer who thought it was beneath his dignity to learn arithmetic to keep accounts, and so resigned his commission.⁶⁶³ On the other hand, fortification and surveying were skills which would not be employed regimentally on first appointment but were deemed of use on active service. Learning these was time consuming but advantage was taken of the college's specialist instructors, extensive grounds and equipment. Modern languages were perhaps more speculative still, but could be justified as worthy of instruction as French and German were the languages of potential allies and enemies, and much scientific and military knowledge emanated from those countries. Of more direct use was the drill and riding instruction which seemed to prepare the cadet for life at his regiment with many assuming the responsibilities of adjutant. As a former cadet stated: 'I have just finished all my drills and find myself tolerably au fait at the Battalion Parades which are mere child's play to Dalgety's parades at Sandhurst.'⁶⁶⁴

On the other hand, the tuition and value of the genuine 'school subjects' (Latin, Geography and History) was probably overstated by the Lieutenant Governor in his

⁶⁶¹ Harries-Jenkins, *Army in Victorian Society*, p.123.

⁶⁶² Harries-Jenkins, *Army in Victorian Society*, pp.122-123; see also Spiers, *Army and Society*, p.13.

⁶⁶³ *Sandhurst Select Committee 1855*, Evidence of Lt Col WH Adams, points 1061-1065.

⁶⁶⁴ *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, points 309-310; Berkshire Record Office, D/EE/C2/6, 2nd Lieutenant AJA Ewen, to his mother, nd. September – November 1854.

riposte to the *Quarterly Review* article (discussed below). Collegiate Board reports reveal that qualification in such subjects was quick and obtained early in the cadet's career. Thus, the attention a cadet could spend on such subjects in a year and a half would really have amounted to either rote-learning dates and place names in History and Geography, or consolidating in Latin what had already been learnt in the cadet's antecedent education. So, in comparison with public schools and their longer courses, this amounted to something of a condensed 'course.' This suggests the school subjects were not over-emphasised as Harries-Jenkins suggested.

Whilst the military education part of the course had its advantages, Strachan correctly observed that much of it was imparted without being 'allied to theory', and that 'cadets learned drill as private soldiers, not as field manoeuvres applicable to tactical problems.'⁶⁶⁵ This was articulated by a former Senior Department student, Major Joseph E Addison, who stated there was a 'want of some central study.'⁶⁶⁶ Comparing the role of classics in public schools, where history, geography and politics were collateral studies, he felt that military history might serve a similar function. Campaigns, great commanders and sieges would be this central study; with fortification, surveying and military drawing being branches.⁶⁶⁷ However, this situation at the RMC simply reflected the wider attitude of the British army which was slow to develop a general staff and produce a theory and conduct of war.⁶⁶⁸ Thus, to develop anything approaching doctrine at Sandhurst, there was really only the Superintendent of Studies and to a degree the latterly styled 'Professor of Military Science' – a grandiose and inappropriate title. Patrick MacDougall was the Superintendent but his *Theory of War* was not published until 1856. Moreover, similar to Woolwich, there was no consultative committee or academic board for the development of military knowledge.

Arguably the main stumbling block for the RMC was that cadets were not prevented from leaving and taking up a commission directly. This was considered injurious to the cadet's individual motivation and set a bad example to others. It was thought to predominate in the wealthier class of cadet, with those from poorer backgrounds staying the course to obtain the free commission.⁶⁶⁹ Thus, out of the 523 cadets that entered the army between 1840 and 1850, 316 obtained the full college recommendation, whereas 209 obtained their commissions by purchase.⁶⁷⁰ However, it is

⁶⁶⁵ Strachan, *Wellington's Legacy*, p.127.

⁶⁶⁶ *Sandhurst Select Committee 1855*, Evidence of Major JE Addison, point 762.

⁶⁶⁷ *Ibid.*, Evidence of Major JE Addison, point 764.

⁶⁶⁸ Hew Strachan, *From Waterloo to Balaclava: Tactics, Technology and the British Army 1815-1854* (Cambridge: Cambridge University Press, 1985), pp.1-4; Bond, *Army and the Staff College*, p.54.

⁶⁶⁹ *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, points 249-251, 260, 289-290.

⁶⁷⁰ Figures compiled from WO151 RMC Cadet Register 1806-1864.

suggested from statistics in the preceding sections that even those who left the college were still receiving an education – particularly in Mathematics, French, Plan Drawing, Drill and Riding. It is also arguable that the requirements for a commission without purchase were perhaps unnecessarily stiff. A correspondent in the wake of the Afghanistan disaster suggested all candidates should go through Sandhurst, but with a modified system to benefit candidates of differing education. Rather than the ‘severe ordeal’ of the exam for a free commission, which could exclude those of moderate abilities who would otherwise ‘make a capital regimental officer’, he suggested a system of effort and reward which were graduated to each other.⁶⁷¹ Apart from the cadets’ option to purchase, the benefit to an officer’s career of his Sandhurst education was open to question – not in terms of practical utility necessarily, but more in promotion and appointments to the staff. It was felt in the military press and later at the Sandhurst Select Committee, particularly when analysing the Senior Department, that promotion and staff appointments were not given to those with a military education.

Notwithstanding these disadvantages, the select committee failed to criticise the Junior Department heavily. For example, they did not see the need to raise the entrance age, nor the standard on entrance. They thought the qualification system of steps was capable of improvement; but whilst they felt education ought to be of a more military character, they were reluctant to see the loss of non-professional subjects. They did, however, recommend introducing Military History and the formation of a sub-committee of the board to review the syllabus.⁶⁷² Brian Bond put their ‘timid’ conclusions down to muddled thinking, but the advantages of the system might also go some way to explain their indecision.⁶⁷³

The respective advantages and disadvantages of the college were evident in the actions of the Revd GR Gleig. He was a military biographer and former officer in the Peninsular War who subsequently developed other ranks’ education, and whose views influenced the Secretaries of State for War, Sidney Herbert and Lord Panmure.⁶⁷⁴ Initially, he criticised the RMC education in an anonymous article in the *Quarterly Review* of 1848.⁶⁷⁵ The military press sprang to the college’s defence, the *Guide to the RMC* was written as a response and a letter ‘by authority’ was sent to *The Times* which published a

⁶⁷¹ ‘A Few Hints on the Education of Candidates for the British Army’, *United Service Journal*, 3 (1842), 588-591.

⁶⁷² *Sandhurst Select Committee 1855*, p.vi.

⁶⁷³ Bond, *Army and the Staff College*, pp.60-61.

⁶⁷⁴ Revd David R Jones, ‘The Rev. GR Gleig and Early Victorian Army Education’, (MA Dissertation, Queen’s University of Belfast, 1983), pp.138-141.

⁶⁷⁵ George Robert Gleig, ‘Military Education’, *Quarterly Review*, 166 (1848), 419-450.

stern riposte.⁶⁷⁶ His criticism of the RMC was actually rather minor and incidental, because the real drive of his 1848 article was to institute an examination for candidates purchasing their first commission. He wished to abolish the RMC and provide professional education via libraries at regimental headquarters. Gleig was an influential man, albeit 'energetic, bullying and heedless of War Office procedures', and ultimately, he was successful; with examinations instituted in 1849, which ironically, were held by the professors at Sandhurst.⁶⁷⁷ Strachan thought these examinations were not a formality, as between May 1852 and April 1855 there were 456 failures to 1,444 passes.⁶⁷⁸

Although, inevitably, such exams would draw criticism as to their relative difficulty or syllabus, it did show that Sandhurst was potentially part of the solution to officer education. Indeed, Gleig reversed his position regarding Sandhurst and submitted a broad proposal tackling officer education with the RMC at its heart. He proposed raising the admission age to 16 and making it the basic education for infantry officers with further schools of application for cavalry, artillery and engineers. There would also be schools of instruction at various headquarters for promotional exams. Lord Panmure concurred with much of the plan.⁶⁷⁹

By January 1854, however, there was still continued dissatisfaction with the direct commissioning exams. Sidney Herbert accused them of being too technical, limited and severe; and that rather than testing a candidate's general education he simply crammed up on the Sandhurst textbooks beforehand.⁶⁸⁰ Gleig now also wanted them conducted by a board unconnected with the college.⁶⁸¹ The point, here, in considering the direct appointment examinations, is that the *viva voce* regulatory exam system at the college, for cadets at least, had hitherto been regarded as successful.⁶⁸² The difficulties encountered when trying to adapt the system to direct appointments meant both were to suffer in estimation. The key factor was the *quantity* of direct candidates. In the civilian world, as early as 1818, apothecaries used written exams to deal with the sheer numbers of candidates about whom the examiners had no knowledge whatsoever.⁶⁸³

⁶⁷⁶ 'Military Education' by 'Dioclesides', *United Service Magazine*, 1 (1849), 161-170; 'The Military System', in *United Service Magazine*, 1 (1849), 51-64; 'A Letter by Authority on the Royal Military College at Sandhurst', 12th October 1848, by 'Z'; *The Times*, 1 December 1848, p.4.

⁶⁷⁷ Strachan, *Wellington's Legacy*, pp.87, 129.

⁶⁷⁸ *Ibid.*, p.130.

⁶⁷⁹ Wiltshire and Swindon Archives, Herbert Papers: 2057.F8.IV.B.10, Memorandum by Revd GR Gleig to Sidney Herbert, not dated but probably January 1853; 2057.F8.III.A.78, Letter from Lord Panmure to Sidney Herbert, 22nd January 1853.

⁶⁸⁰ *Sandhurst Select Committee 1855*, Appendix 5, pp.193-5, Letter from the Rt. Hon. Sidney Herbert to General Viscount Hardinge GCB on Military Education, War Office, January 1854.

⁶⁸¹ Strachan, *Wellington's Legacy*, p.130.

⁶⁸² *Sandhurst Select Committee 1855*, Evidence of Colonel GW Prosser, point 267.

⁶⁸³ Reader, *Professional Men*, pp.50-52.

As has been shown in connection with the RMA, by the 1850s written exams were adopted by the Civil Service and for entrance to the RMA. However, it was not until after the Crimean War that such exams were implemented at the college. Probably, in time, some of the unsatisfactory aspects of the college would have been addressed gradually. The admission age, the entrance standard, and therefore the suitability of continuing with school subjects, would probably have been reviewed at a more reasonable pace. Reformers within the army, and those reforming the public service generally, might have adapted and modernised the institution to fit in with the prevailing educational standards throughout the country and the interests of a growing middle class. Any potential for this was upset by the Crimean War, but whilst it provided a strong impetus, were the changes to be satisfactory?

iii. Post-Crimean Change and the Council of Military Education

In the post-Crimean period, as indeed before, the RMC still formed a part of the schemes of reformers. The Yolland Commission, appointed in January 1856 to investigate the training of officers for the engineers and artillery, in 1857, concluded: '[...] no radical alterations are required in our present system. We have the institutions already [but] [...] these colleges should have their proper opportunities of working well.'⁶⁸⁴ The commission reinforced the criticism of the Sandhurst committee of 1855, but went further beyond its remit by investigating and judging the whole system of military education.⁶⁸⁵ However, unlike the 1855 committee, they established the principle of separating a general school education from a military college, and consolidated the latter as a pre-requisite for a professional training.⁶⁸⁶

Whilst they took evidence, the Duke of Cambridge was active and also saw a role for the college. In a memorandum to Prince Albert he outlined areas for development. To obviate cramming for a direct appointment the duke envisaged a kind of assessment centre where youths would attend a practical class for several months where under 'able and well selected military instructors [the candidate] should go through a continued course of examination, and where both his mental and physical capabilities would be thoroughly and efficiently tested.'⁶⁸⁷ This would be at Sandhurst but unconnected with the Junior Department. He did not think it desirable to interfere with the latter other than a portion of the graduates pass on to the RMA for further training as artillery and engineers. The prince agreed, especially with the idea of continuous assessment; which he preferred to competitive exams viewing it as a 'favourite scheme of the press' and eroding royal patronage.⁶⁸⁸

However, competitive examinations were recommended by the Yolland Commission, and in April 1857 the Council of Military education (CME) was formed to select examiners and prepare examination papers. When the CME witnessed the exams at Sandhurst, they were unimpressed:

The examiner appearing to have nothing to guide him in his decision, beyond the impression he receives from a short *viva voce* examination of the candidate, the

⁶⁸⁴ *Yolland Commission Report 1857*, p.xxvii.

⁶⁸⁵ Bond, *Army and the Staff College*, p.64.

⁶⁸⁶ *Yolland Commission Report 1857*, p.xl.

⁶⁸⁷ Royal Archives, VIC/MAIN/E/8/77, Duke of Cambridge Memorandum on Military Education, to Prince Albert, November 1856; see also final version in Wiltshire Record Office, Herbert Papers, 2057.F8.IV.B.15, Duke of Cambridge Memorandum, 12.12.1856.

⁶⁸⁸ Royal Archives, VIC/MAIN/E/8/78, Prince Consort to Duke of Cambridge, 3.1101856.

result must necessarily be very uncertain.⁶⁸⁹

The CME prepared a scheme for written competitive entrance exams for the RMC, from where select graduates would pass into a School of Application at Woolwich.⁶⁹⁰ The first examination was to take place in January 1858, and to facilitate this link with the Ordnance Corps, the veteran Royal Engineer, Sir Harry D Jones, was appointed Governor.⁶⁹¹

In January 1858 the CME set out its proposals to discontinue the system of qualifying steps and make all subjects compulsory at a final examination. By May 1858 they recommended that the final exam should be written and conducted externally.⁶⁹² Despite raising the admission age to between 16 and 18, and introducing a higher mathematics standard on entry, the college was still providing, initially at least, a general as well as military education. Nevertheless, in this new scheme, the intention was to strengthen the RMC, by: i) the competitive entry, ii) the increased establishment of 500, iii) the 'all arms spirit' and, iv) the final competition to pass into the School of Application for artillery and engineers.⁶⁹³ However, the abolition of the scheme meant the position of the RMC cadets had to be clearly defined. With cadets now passing solely into the infantry or cavalry, they were at a disadvantage compared to those purchasing their commissions; the cadets' entrance exam was equivalent to the direct commission exam, but moreover they incurred fees and spent two years at the college. As a result, RMC graduates, even if they had not qualified for a free commission, were given preference for commission, over those coming direct. This was provided they had passed a minimum in obligatory subjects of Mathematics (arithmetic, algebra including simple equations, the first three books of Euclid, practical geometry), Field Fortification and Military Drawing & Field Sketching. Voluntary subjects were also to provide marks, these were: Higher Mathematics (Geodesy and Mechanics), Higher Fortification, French, German, Latin (for cadets who joined on the previous system), History, Geology, Chemistry and Landscape Drawing.⁶⁹⁴ In this way it was not dissimilar to the original course with the 'big three' of Mathematics, Fortification and Surveying being compulsory and the remainder being elective – only now qualification was by obtaining a minimum of marks rather than by *viva voce*.

⁶⁸⁹ WO152/16/89.1037, Military Secretary, Horse Guards, to Governor RMC, 8.9.1857.

⁶⁹⁰ WO152/16/89.1049, Memorandum, Horse Guards, 3.12.1857.

⁶⁹¹ Royal Archives, VIC/MAIN/E/7/12, Viscount Hardinge, Horse Guards, to Queen Victoria, 19.4.1856.

⁶⁹² WO152/16/89.1065, Memorandum by the Council of Military Education on the Course of Studies Proposed for the Royal Military College, 27.1.1858; WO152/16/89.1117, Letter from Horse Guards to RMC, 27.5.1858, forwarding Memorandum of the Council of Military Education, 7.5.1858.

⁶⁹³ *First CME Report 1860*, pp.17-18.

⁶⁹⁴ WO152/17/89.1149, Memorandum of the Council of Military Education and Comments by Lt Governor and Superintendent of Studies, 31.8.1858; WO152/17/89.1153, Memorandum of Council of Military Education, 21.9.1858; WO152/17/89.1168, Memorandum of the Council of Military Education, 21.10.1858.

Geology was added in March 1858 with the appointment of lecturer Thomas Rupert Jones, who was the Geological Society's assistant-secretary, curator and librarian; and it is believed that his appointment was due to the recommendation of Major General Portlock who was not only the society's president but vice president of the CME at the time.⁶⁹⁵ Geology had been taught at Woolwich since 1848 and its introduction would have made sense had a proportion of the cadets entered the School of Application at Woolwich. However, abandoning the scheme left it rather redundant in a purely infantry and cavalry college, especially when it appeared that teaching was not particularly applied; it was dropped in 1870 with the RMC closure.⁶⁹⁶

Of more continued importance was Military History which was introduced with the appointment of Captain Charles C Chesney, Royal Engineers, in July 1858. Chesney published on the Waterloo campaign and upon this his lectures were apparently based. Indeed, the campaigns seemed to set the trend for the topics throughout the 1860s, but without a published syllabus available it is difficult to establish exact content until Captain Walker's appointment in 1865 (see below).

By the end of 1858 the CME re-introduced two features of the earlier college course. The first was periodical written examinations in all classes (i.e. not simply those going for their finals). The second was to revive the public spectacle of the old half-yearly examinations.⁶⁹⁷ It was increasingly apparent that the CME's appointment as 'visitors' to the RMC removed the autonomy of the Board of Commissioners. The latter became a consultative committee with responsibility for local matters. Confusion still arose when the Governor seemed to answer to both the War Office and the board. Staff, similarly, became fully aware when the longest serving French master was passed over by the CME in preference for the senior professor at Woolwich.⁶⁹⁸ The RMC was thus moving from a charitable organisation at arms length to an integral part of the War Office.

With the RMC still at around 180 cadets and without the spur of an Ordnance Corps commission to increase it, nor effective professional education for direct appointment candidates, the CME started developing plans to make all candidates enter

⁶⁹⁵ EPF Rose, 'Military men: Napoleonic warfare and early members of the Geological Society', in *Geological Society, London, Special Publications*, 317 (2009), 219-241 (pp.234-235).

⁶⁹⁶ *Ibid.*, p.235.

⁶⁹⁷ WO152/17/89.1168, Memorandum of the Council of Military Education, 21.10.1858.

⁶⁹⁸ WO99/10, Minutes of the Proceedings of a Board of Commissioners of the Royal Military College, No.105, 29.1.1858; No.106, 3.2.1858; No.108, 19.8.1858; No.109a, 5.11.1858; WO152/17/89.1298, Draft Memorandum on Duel Governance of RMC, Sir HD Jones to Horse Guards, 15.11.1859.

the RMC.⁶⁹⁹ However, in May 1859, the Secretary of State for War, Major General Peel, felt the RMC should not be the sole point of officer entry. The Prince Consort emphatically agreed: 'Quite the contrary, I consider it of the greatest importance that they should be admitted directly from all the schools of the United Kingdom.' He continued, that the general education of a gentleman was requisite and the professional education should begin after appointment. The Prince conceded, however, 'it may well deserve reconsideration whether the newly appointed officers should not first go through a course at Sandhurst before joining their depot.'⁷⁰⁰ The course he alluded to would be 'merely and purely military studies'. The CME persisted and posited that the public cannot object to their plan as general instruction is widely understood to be completed, also the RMC could not be considered as having a monopoly as the requisite military education could not be given anywhere else except at a government military school. By requiring them to go there 'nothing more is imposed upon them than is required by other liberal professions, for admission to all of which it is a condition that the candidate should have availed themselves of some recognised means of professional instruction.'⁷⁰¹ The trajectory was swinging to a focus on exclusively professional studies. In July 1859 the Superintendent of Studies, Colonel William CE Napier, wanted to stop the obligatory attendance of all cadets at general subjects and to drop History altogether. Despite reservations by the Lieutenant Governor, the CME felt Napier's views coincided with their own; with Sidney Herbert's agreement, History was replaced by more Military History, with Landscape Drawing and German becoming optional.⁷⁰² Interestingly, Napier himself went on to become the Commandant of the Staff College, the head of the CME, and finally Governor of the RMC.

In December 1859 the next Secretary of State, Sidney Herbert, finally accepted the CME's plan of an enlarged college of 600 cadets and an amended course of studies. In essence, the course was to combine both the military skills instruction of the type originally envisaged at the depots (e.g. military law, administration, drill etc), with that which the RMC had traditionally done well: 'supplying the army with a fair proportion of more highly instructed officers.'⁷⁰³ With such a radical change necessary it took all of 1860 and most of 1861 for the proposal to mature. The plan was to come into effect in January 1862 but with opposition from the House of Commons and the universities at the end of 1861 the plan was abandoned by the new Secretary of State, Sir George Lewis, in March 1862. The system of direct commissions was to continue but with Sandhurst enlarged to

⁶⁹⁹ *Dufferin Commission Minutes 1870*, Appendix II (H), 'Memorandum of the Council of Military Education, enclosed in the above letter 30th July 1859', p.xxiv; *First CME Report 1860*, p.10.

⁷⁰⁰ Royal Archives, VIC/MAIN/E/11/19, Prince Consort to General Peel, possibly 31.5.1859.

⁷⁰¹ *Dufferin Commission Minutes 1870*, Appendix II (H), Extract from a Memorandum by the CME, dated 4th November 1859, enclosed in the above letter', p.xxvi.

⁷⁰² WO152/17/89.1256, Colonel Charles R Scott, Lt Governor, to Sir HD Jones, RMC Governor, 5.7.1859; WO152/17/89.1261, CME Memo dated 13.7.1859, forwarded to RMC 18.7.1859; WO152/17/89.1277, War Office Letter to Horse Guards, 25.8.1859.

⁷⁰³ *Dufferin Commission Minutes 1870*, Appendix II (H), Extract from a Memorandum by the CME, dated 7th January 1860, enclosed in the above letter', pp.xxvi-xxvii.

an establishment of 336 cadets (four companies of 84 each). This would enable it to dispose of all available free commissions and provide officers for the Indian army with the abolition of Addiscombe. In fact, cadet numbers were initially 250 but were eventually raised to 300 in 1865.⁷⁰⁴

The impact of these changes on the course of studies was problematic. The focus on professional education on the one hand made it more streamlined. For instance, the Fortification textbook of ten years earlier had been replaced by one edited by Major General Portlock with contributions from the various instructors at Sandhurst and Chatham. It was replete with illustrations and diagrams and split into sections on Practical Geometry, Artillery and Fortification by artillery and engineer officers. Similarly, the new course of Field Sketching was simpler and better illustrated than the previous work of Burr's.⁷⁰⁵ However, there was simply not enough time to undertake the studies thoroughly. The course was now a year; the duration being a vestige of the aborted sole entry scheme. Measures adopted to cope with this problem included; firstly, re-organising the subject classes according to ability (not when cadets joined), and secondly, extending voluntary subjects so that further time could be devoted to the more important military subjects.⁷⁰⁶ Also, the increased numbers meant the riding school was deemed 'altogether inadequate for the efficient instruction of the cadets in military equitation.'⁷⁰⁷ By 1865 matters had not improved; Major Robert Petley stated: 'the whole course [in military drawing/surveying] [...] is gone through in so hurried and superficial a manner that only the most talented and quick of the G[entleman] Cadets receive any lasting benefit from the instruction given.' Colonel WH Adams agreed with regard to Fortification, to which the Superintendent of Studies added that the course had been confined too much to book work with the outdoor work becoming almost insignificant – although the fact that outdoor work did not carry sufficient marks was also partly to blame. He thus recommended the extension of the course to be three terms (or a year and a half) with the last term consisting solely of military subjects.⁷⁰⁸ The new three-term system was not agreed to until March 1866 and then came into operation for cadets entering the following term.⁷⁰⁹

⁷⁰⁴ *Dufferin Commission Minutes 1870*, Appendix II (E), 'Historical Notice of the Royal Military College' pp.xvii-xviii.

⁷⁰⁵ *Course of Artillery, Geometrical Drawing and Fortification Compiled for the Use of the Royal Military College Sandhurst*, ed. by Major General JE Portlock (London: HSMO, 1862); William Paterson, *A Treatise on Military Drawing and Surveying* (London: Trubner & Co., 1862).

⁷⁰⁶ WO152/19/89.1494, CME Memo no.1768, 11.6.1862; WO152/33/90.1434, CME Memo no.2108, 31.12.1862.

⁷⁰⁷ WO152/33/90.1493, CME Memo, 2.6.1863.

⁷⁰⁸ WO152/32/90.1377, Memorandum of RMC Commandant, Colonel EG Hallewell to RMC Governor, 13.5.1865, with attached memoranda from Major R Petley to Col JE Addison, 10.5.1865, Lt Colonel WH Adams to Col JE Addison, and Memorandum from Col JE Addison to Col Hallewell, 13.5.1865.

⁷⁰⁹ WO152/33/90.1390, CME memo, 23.3.1866.

In line with this increasing professional focus some attempts were made to integrate the cadet battalion with the manoeuvres at Aldershot.⁷¹⁰ However, it is not clear what they actually did beyond 'take part'. Similarly, Military History gradually became more prominent. Major Charles Adams was appointed in addition to Captain Chesney, in 1860, following the redundancy of the History, Geography and Classics teacher. However, with the enlarged establishment of cadets, both lecturers had classes of about 135 each, 'a number far too large for efficient instruction'.⁷¹¹ So, the following year an additional instructor was appointed bringing the total to three. In 1865 Captain Edmund Walker made up the loss of Chesney who had moved to the Staff College. Major Adams would in turn replace Chesney at the Staff College in 1869 – continuing the trend of staff transferring to that establishment.⁷¹² Despite the additional instructors, teaching remained difficult. Cadets struggled to take notes on campaigns and resorted to using books obtained privately. Colonel Addison, who was a particular advocate of military history and former member of the CME, invigorated the teaching of the subject. Now, as Superintendent of Studies, he requested that lithographed notes and maps be given to the cadets. Matters improved, but although cadets could follow campaign narratives, comprehension on the theory of war was lacking – textbooks such as MacDougall's *Theory of War* and Hamley's *Operations of War* having been rejected. Walker's appointment was clearly a boon as he alone edited together a volume of theory and history lectures. The text certainly seemed to fulfil Addison's aspiration of a central body of knowledge from which other studies were the branches. For example, in lecture three, on the formation of infantry, cadets were shown the link between their drill and its utility on the battlefield. In lecture thirteen the importance of topographical knowledge for a commander was revealed with examples from history.⁷¹³ In one sense the term 'military history' was a misnomer, as it incorporated a liberal amount of knowledge on the prevailing drills, organisation and definitions in use. On the other hand, except for one or two, almost all examples were from the Napoleonic Wars. However, the contents are unlikely to be the complete syllabus, as in the following year a small volume on the French invasion of Italy was produced especially for the cadets.⁷¹⁴

By 1869, despite the course stabilising, the CME concluded that under the RMC's circumstances few cadets benefitted from the instruction. They felt the final qualification for a commission was set too low in order to correspond with the admission standard; and

⁷¹⁰ WO152/32/90.1375, Letter from Military Secretary, Horse Guards, to RMC Governor, 1.5.1865.

⁷¹¹ WO152/33/90.1512, CME memo, 11.9.1863.

⁷¹² War Office, *Army List, 1869*, p.504.

⁷¹³ WO152/35/90.1735, 'Memorandum with Reference to "Military Elements" by Captain GE Walker', 21.3.1868, and CME Memo, 3.4.1868; Captain Edmond Walker, *Military Elements: Notes from Lectures Addressed to the Gentleman Cadets, RM College*, 2nd edn (York Town: W Webb, 1868), pp.34-35, 229-246.

⁷¹⁴ Edward Monckton Jones, *The Campaign of 1859: For Gentleman Cadets of the Royal Military College Sandhurst* (York Town: W Webb Town, 1869).

the entrance itself was pitched at that level so as not to discourage those who might simply get a direct commission. The other problem was the limited number of free commissions available which acted as a disincentive to those cadets, who quickly realised there was no chance of their obtaining one. The Royal Commission on Military Education reached similar conclusions.⁷¹⁵ In neither report, however, was doubt expressed about the course content, it having been finally honed to what was regarded as requisite for an officer. Instead, due to discipline problems misgivings were raised about the management of the college from the point of view of the cadets' moral welfare.

Conclusion

The first part of this chapter looked at how the RMC course originated. This showed that its origin as the 'Third Department' in a college to solve comprehensively the problem of officer education, meant its purpose was to create a subset of highly qualified officers. It was never the intention for the 'Third' or 'Junior Department', to be the sole source of officer supply. Such a view is to attach retrospectively a function to the college it was never trying to have. However, those quarters in the military press which sought improvement in officer education saw the RMC as the answer – hoping to modify the course and ascribe it the cadet college function it would have in the late Victorian era. This was because the course was quite thorough and exacting. However, this caused 91 cadets out of 628 (or 14.5%) to leave the college and not enter the army. Out of the remainder who did join the army, 221 (or 35%) left without a college recommendation, whereas 316 (50%) went the whole way and obtained a commission without purchase.⁷¹⁶ These figures may not represent the real situation as some cadets left and went into the East India Company's Service or to the RMA; most notable were Frederick (later Lord) Roberts and Sir Charles Warren.⁷¹⁷ As has been shown, many of those who left and obtained a commission by purchase or through other means, had at least been trained to a certain extent in mathematics and drill which would assist in regimental duties. Others would have learnt the rudiments of fortification and surveying, which at least might have formed a basis for future study. However, even supposing all cadets admitted passed out with the full recommendation, the college might still have been criticised by historians for the small numbers it contributed to the army.⁷¹⁸ Initially, this does appear a reasonable criticism. However, it is arguable that with the broader education that the RMC supplied, when compared to public schools, its students were more suited to posts of responsibility

⁷¹⁵ *Third CME Report 1869*, p.19; *Dufferin Commission 1869*, pp.14-15.

⁷¹⁶ Figures compiled from WO151 RMC Cadet Register 1806-1864.

⁷¹⁷ *RMC Guide 1849*, p.75.

⁷¹⁸ Spiers, *Army and Society*, pp.12-13; Strachan, *Wellington's Legacy*, p.126; Harries-Jenkins, *Army in Victorian Society*, p.124.

such as adjutant.⁷¹⁹ Also, having secured such an appointment an incumbent might have been ear-marked for progression. The *Guide to the RMC* noted:

At the present time there are in the service upwards of 360 General and Field Officers, 17 Adjutants of regiments, and a considerable number of Staff Officers, who were educated at Sandhurst College.⁷²⁰

The examples cited with regard to surveying particularly showed the advantages the RMC education could have in regard to career progression; possibly because it was more beneficial during peace time whereas, fortification knowledge would only count in times of war, and even then, only in certain circumstances. It is possibly better to think of the course as a 'Junior Staff Course' rather than one honed purely to the mundane details of regimental work. This was indeed Le Marchant's purpose in providing an education for elevated stations. This is suggested by Anthony Morton's study of the contribution made by RMC-trained staff at the battle of Waterloo. This demonstrated that out of 29 staff officers trained at the RMC, 15 came from the Junior Department only and 14 from the Senior Department. There were also a number of former Junior Department field officers who had served on the staff but served regimentally at the battle.⁷²¹

That cadets could go on to hold such appointments is a testimony to the education at the establishment. In the post-Waterloo era, it has been shown that the education remained up-to-date and well structured, and that there were staff capable and willing to make changes. This study has revealed notable individuals such as Robert Petley and George Burr in Surveying, George W Prosser and William H Adams in Fortification, and, among others, William Scott, John Narrien, Thomas Leybourne, and Francis Twisden in Mathematics. In addition, the course, despite financial reductions, was still well resourced by a detachment of cavalry, and from the Corps of Sappers and Miners who were able to utilise the college's extensive grounds for field fortification practice.

Whilst the course between 1820 and 1855 could hardly be described as a golden age, conversely it would be injudicious to dismiss the education out of hand, and characterise the institution as an indifferent public school. The advantage of starting at an earlier age at least meant that the college could ensure that all were at an acceptable 'house standard' in mathematics or French to enable them to progress to the military subjects in the Upper School; something in contrast to candidates from many different schools cramming for an entrance examination – a problem which the army authorities

⁷¹⁹ *Sandhurst Select Committee 1855*, Evidence of: Colonel GW Prosser, point 310; Major General GA Wetherall, point 1716.

⁷²⁰ *RMC Guide 1849*, p.75.

⁷²¹ RMAS Library, Anthony R Morton, 'From Flanders to Waterloo: The Origins of the Royal Military College', (unpublished Sandhurst Occasional Paper, 2019).

would wrestle with in the 1860s. On the other hand, it is true that the younger admission age brought problems associated with managing boys and dealing with bullying and fagging which will be highlighted subsequently. Additionally, the disadvantage in having to 'level' the cadets, was that the length of residence was longer than if only military subjects were taught, as the course would have been shorter and more cadets could have been educated. However, with the standard of education in the country at large being so variable (at least at the start of the period) the authorities had little choice. Also, in any case, it did not mean the education itself was necessarily a failure.

Still, evidence from the pre-Crimean era did not point to, as Harries-Jenkins put it, an 'uncertainty of purpose [which] was to bedevil Sandhurst for many years until the post-Crimean reforms.'⁷²² In fact, it is arguable that it was period of the post-Crimean reforms that were bedevilled by an uncertainty of purpose. Thirteen years after the Crimean War it is interesting to observe how officer education for first commissions was still a work in progress. In many respects it remained similar to before the war with the majority of officers obtaining a direct commission through examination and a smaller subset passing through Sandhurst. Despite the efforts of the Commander-in-Chief and the CME, the RMC was not to become the sole route of entry – being thwarted in 1858 and in 1862 by the House of Commons. As for Sandhurst itself, elements there also remained unchanged. Mathematics remained prominent, assessment remained continuous and there were obligatory and voluntary elements of the course. On the other hand, the admission age had been raised and the course had become more professional in character. However, between 1858 and 1866 the college was plagued by uncertainty (or the effects of it), in the shape of the short year's course and ineffective, or irrelevant, teaching in Military History, Geology and Experimental Sciences.

Even when the course had increased to a year and a half, it was probably still too short a time to address the nature of instruction felt necessary. Exacerbating this, was that the course had become a difficult hybrid of preceding methods and what was being attempted as a result of aborted change. This could not have been beneficial for the cadets and must have in turn negatively affected their system of management. The resulting indiscipline, which precipitated the Royal Commission of 1869, will be dealt with in the final chapter. As was shown regarding the RMA in the previous chapter, the commission had leanings to encourage cadets' literary attainments, and this was similarly felt about the RMC. Yet, events would intervene which would cause education for first commissions to be a work in progress for some years yet – the changes were the reforms of Edward Cardwell and the Franco-Prussian War.

⁷²² Harries-Jenkins, *Army in Victorian Society*, p.123.

Chapter 4: RMC Course of Studies 1870 - 1899

The army of the late Victorian period is generally seen as one that was developing a greater degree of professionalism. The 'triumph of competition', as Reader put it, had meant that the middle classes of the country could aspire to enter the officer corps, and take their share of appointments just as in the Home and Indian Civil Service. The caveat was that the cost of living in an expensive regiment, coupled with the low pay of an officer, constrained the choice of regiments for those with more modest means.⁷²³ Also, the abolition of the purchase system meant promotion was by seniority and merit; and even if it often actually meant promotion through having 'interest', its abolition did in fact enable many talented officers to reach high command who would not have otherwise done so. It also meant it was easier for the War Office to make changes in the examination standards of the officer corps.⁷²⁴ This meant that the Staff College, too, would now have greater currency than before.⁷²⁵ The abolition of purchase was part of the wider Cardwell reforms which saw general improvements made, such as the introduction of the Army Enlistment Act (1870) which established a highly flexible system of short service enlistment.⁷²⁶ The will of the country to endorse these reforms was undoubtedly bolstered by the 'profound impact upon influential sections of British opinion' of the Franco-Prussian War (1870-1).⁷²⁷ The reverberations of this cataclysm were to be seen through the presentations and debates in the army's London-based 'think-tank' – the Royal United Services Institution.⁷²⁸

Whilst there was this acknowledgement of the increasing professionalism of the late Victorian army, how has the RMC been assessed in this era? A source of evidence that has dominated interpretation by historians is the extensive report made by the Committee on Military Education chaired by Aretas Akers-Douglas MP. The committee was convened during the Boer War (1899-1902) as a result of British reverses in the field. It was tasked with examining the preparatory education of candidates for regular commissions, both at schools and universities, in the cadet colleges and the militia; and to report what changes, if any, were necessary. With regard to the colleges, evidence was taken as to their systems of education and administration, and whether their product compared favourably, or otherwise, with officers transferred from the militia. It also considered the ongoing professional education of the junior officer. Evidence was taken from 73 witnesses. These were wide ranging and included, amongst others: private army

⁷²³ Reader, *Professional Men*, p.98.

⁷²⁴ Bruce, *Purchase System in the British Army*, pp.165-166.

⁷²⁵ Bond, *Army and the Staff College*, pp.116-117.

⁷²⁶ Spiers, *Late Victorian Army*, pp.9-11.

⁷²⁷ *Ibid.* p.14.

⁷²⁸ Michael D Welch, *Science in a Pickelhaube: British Military Lesson Learning at the RUSI (1870-1900)* (London: Royal United Services Institute for Defence Studies, 1999).

tutors, officers commanding regular and militia regiments, headquarters staff and staff from instructional establishments, staff from public schools and universities, as well as prominent military thinkers and naval officers. Also, written responses were solicited from regimental commanding officers.⁷²⁹

The conclusions reached on the RMC were particularly damning and it seemed the college was failing in many key areas. Regarding military exercises, too much instruction appeared to be in the hands of NCOs only. Drill, Riding and Gymnastics all seemed to suffer in this regard. As to drill instruction, this gave the impression that 'it was beneath the dignity of an officer' to impart it. In addition, too much time was spent on close order parade work when cadets should have been learning their drill by instructing each other. The lack of musketry and revolver shooting instruction, and the inadequate riding, were seen as characteristic of an ineffective system which reached its nadir with cadets having their rifles cleaned for them but having to pipe-clay their own belts. The absurdity being that a cadet, through cleaning a rifle, could gain familiarity of the mechanism, whereas the educational value of pipe-claying a belt was 'extremely slight.'⁷³⁰

With the instruction of technical subjects, the allotment of time and marks to the various subjects did not reflect their relative importance. Some, such as Military Topography, Military Administration and Military Law, acquired an undue prominence over the more important Tactics. Also, in the manner of instruction, it was felt too much time was spent indoors, and the passing out examinations reflected this by being too heavily based on written papers and not on assessed work in the field. Most importantly, as attested to by many witnesses, there was no inducement for cadets to work and no inducement for good instructors to come and teach at the college.⁷³¹

Overall, the committee concluded that important principles were lost in a mass of detail which was delivered in a dreary and impractical way. Cadets were thus 'crammed' up to pass examinations without the opportunity to apply their theoretical knowledge practically and develop any originality of mind. Most importantly, the final result was that a young officer, whilst still in the cadet stage, developed a dislike of studying and came to regard it as 'a nuisance which need trouble him no more once he [had] obtained his commission.'⁷³² Such a conclusion chimed with those who wished to abolish the RMC altogether. The Military Secretary was the post responsible for officer supply and the incumbent in 1901 was Major General Sir Ian Hamilton. Despite being a former student at the RMC, Hamilton did not attach much weight to the technical knowledge taught at

⁷²⁹ *Akers-Douglas Report 1902*, 'Terms of Reference'.

⁷³⁰ *Ibid.*, p.21.

⁷³¹ *Ibid.*, pp.22-23.

⁷³² *Ibid.*, p.24

Sandhurst and thought it need not be maintained. A former Military Secretary, Major General Sir Coleridge Grove, concurred. A cadet of the 1880s, and then a Brigade Major, Major H G Ruggles-Brice, was not in favour of education at Sandhurst at all and declared that the cost of maintaining it could be better spent on a different method of educating officers. A sentiment unsurprising as he viewed officers from the militia, RMC and university as all equally capable in their first year of service.⁷³³ Indeed, out of 87 officers asked, 37 either preferred the militia or could see no advantage to the RMC cadet.⁷³⁴ Lieutenant General Neville Lyttelton noted how militia officers had that advantage of dealing with men, which was of greater value than the knowledge acquired at Sandhurst. With this advantage of the militia, senior officers within it, such as the Duke of Bedford, the Earl of Selborne and Lord Raglan, believed it should be made the universal road to a regular commission.⁷³⁵

In the works by David French, Edward Spiers, Gwyn Harries-Jenkins, Jay Stone, and Timothy Bowman and Mark Connelly, the report by the committee supported a dim view of aspects of the late Victorian army officer corps and the RMC.⁷³⁶ The annual Board of Visitors' inspection reports, which were presented to Parliament, were another source and also occasionally contained negative criticism. Bridget Malcolm cited these, but Corinne Mahaffey went further by using the Director General of Military Education reports.⁷³⁷ In all the works by the authors listed above, while occasional use was made of biographies, the fundamental findings of the Akers-Douglas committee and the Boards of Visitors were accepted as the prevailing state of the RMC. The deeply critical view of that doyen of British military theorists and historians, Major General J F C Fuller, about his RMC education, certainly set the tone for the way of thinking about the RMC. He noted that, 'The whole atmosphere of the establishment was Crimean [...] our work at this centre of learning was even more archaic than it is today.'⁷³⁸ Such a view was about contrasting the training of the late Victorian army with the experience of the Boer War and the First World War. This was encapsulated in the quote David French used of Sir T Montgomery-Cuninghame. About the latter's opinion of the mid-1890s, he felt he was taught:

⁷³³ *Akers-Douglas Report Minutes*, evidence of: Major General Sir Ian Hamilton, points 668, 684, 773; Major General Sir Coleridge Grove, points 470-3, 476; Major HG Ruggles-Brice, points 1560-2, 1572-3.

⁷³⁴ *Akers-Douglas Report 1902*, p.10.

⁷³⁵ *Akers-Douglas Report Minutes*, evidence of: Lt General NG Lyttelton, points 1001, 1058; Duke of Bedford, point 7128; Lord Raglan, point 6129; Rt Hon Earl of Selborne, points 5999-6000.

⁷³⁶ David French, *Military Identities: The Regimental System, the British Army and the British People c.1870-2000* (Oxford: Oxford University Press, Oxford, 2005), pp.69-70; Spiers, *Late Victorian Army*, pp.101-102; Harries-Jenkins, *Army in Victorian Society*, pp.167-168; Jay Stone, 'The Anglo-Boer War and Military Reforms in the United Kingdom', *The Boer War and Military Reforms*, ed. by Erwin A Schmidl and Jay Stone, (Lanham, USA: University Press of America, 1988), 1-164 (pp.16, 108-109); Bowman and Connelly, *The Edwardian Army*, pp.17-18.

⁷³⁷ Mahaffey, 'The Fighting Profession', pp.118-122; Malcolm, 'Educational Reform at the RMA and RMC', pp.130-134.

⁷³⁸ Major General John Frederick Charles Fuller, *Memoirs of an Unconventional Soldier* (Ivor Nicholson and Watson Ltd, London 1936), pp.5-6.

Little to indicate how to cope with an astute enemy under modern conditions in a fire-fight, still less to prepare us for the far-reaching changes just ahead of us, which have revolutionized soldiering both in barracks and in the field.⁷³⁹

It appears, then, that much of the research is underpinned by either; firstly, the views of the Akers-Douglas committee, or secondly, a tacit assumption of the RMC's redundancy – often treating the period as a footnote to the First World War. Upon this last point opinions could vary in their severity. Compare, for example, the very negative assessment by Gerard De Groot with the more moderate question mark over the RMC by Gary Sheffield.⁷⁴⁰ Mahaffey's doctoral thesis was the most thorough treatment of the RMC for this period. However, when reviewing the course content and the commissioning exams, Mahaffey trusted the aforementioned reports and did not tend to find alternative sources or to critically review them.⁷⁴¹

Certainly, there was truth in the findings of committees' and visitors' reports, but it was not the complete picture and certainly not accurate for the whole late Victorian era. This chapter seeks to take a longer view and uses the evidence of the college in its entirety to give both, a more nuanced appraisal of the period, and to appreciate how the negative view of the RMC originated. In this way, the reports which were conceived under certain political and financial considerations must be reviewed. This chapter, therefore, is the largest in this thesis as it seeks to understand the criticisms espoused by such reports that have formed a basis of the views of the historians referred to above. Unlike the previous chapter on the RMC, it benefits from a complete series of letters to the governor's office. It is also assisted by a better survival rate of cadet work, textbooks, letters and memoirs than in the last chapter.

To that end, therefore, this chapter is structured in four parts as follows. In the first section the way in which the college course came about between 1870 and 1877 will be examined. This was a period when the college ceased training cadets and taught students and then sub-lieutenants. After this preamble the second section will treat the general chronology of course changes and management; that is, the allocation of marks and qualifying standards, the introduction of new subjects, and alteration of term lengths etc. The third section will then look more closely at the individual subjects of study themselves in order to see how the syllabus changed and why. It will cover the principal military subjects of Military Topography, Fortification (latterly known as Military Engineering) and

⁷³⁹ Sir T Montgomery-Cuninghame, *Dusty Measure: A Record of Troubled Times* (London: John Murray, 1939), p.12 quoted in David French, p.69.

⁷⁴⁰ Gerard J De Groot, *Douglas Haig 1861-1928* (London: Unwin Hyman Ltd, 1988), p.28; Gary Sheffield, *The Chief: Douglas Haig and the British Army* (London: Arum Press Ltd, 2011), p.18.

⁷⁴¹ Mahaffey, 'The Fighting Profession', pp.118-122.

Tactics. The latter subject was in fact broken down into Tactics, Military Administration and Law. However, the last two are excluded as firstly, space will not permit and, secondly, these were probably less contentious given that they simply followed the prevailing military regulations and were entirely class-based. In the fourth, and final, section of this chapter the nature of the staff of professors, instructors and management generally will be considered more closely. This is due to the fact that the quality of the staff was particularly criticised in the Akers-Douglas report and, given that their quality is very much a consideration in any training establishment, this is an area which will be explored more fully.

I. Origin of the Cadet Course 1870 – 1877

It is interesting to note, that in 1902, the Akers-Douglas committee recommended a course of studies not very different from that in the late Victorian era RMC. The committee had proposed shooting, drill, reconnaissance, field fortification, accurate field sketching, military history, tactics, law, administration and riding. The exceptions being the addition of signalling, horse management, keeping military accounts, and the ability of a cadet to assist in the instruction of his half-company.⁷⁴² That they should be so similar was a result of developments over 30 years earlier.

As has been shown, the course of instruction before 1870 was a mixture of non-professional and military subjects. Despite a thorough investigation by the Royal Commission on Military Education (1869) and their recommendation to retain languages, mathematics, drawing and even a return to Latin, Edward Cardwell could not decide on the RMC's future role. The outcome of the Franco-Prussian War cast new light on the recent evidence gathered by the commission and inspiration was drawn from the Prussian system of education. This was not as revolutionary as it might first appear. Certainly, there were similarities; for instance, the Prussian *gymnasia* could equate to the British public schools and there was a strong upper-class officer tradition in Prussia. There was also a comparable flexibility in the officer education route.⁷⁴³ So, in 1870, it was decided that the RMC should cease offering commissions, and on the 15th December 1870 the last cadets passed out. Instead, training for aspirant officers was to be based at the regiment. Just as in the Prussian system, where young officers joined their regiments first for a period and then finished their education at a war school, the sub-lieutenant rank was instituted as a probationary phase until their training was completed.

Initially, however, in 1871 and 1872, direct appointments to commissions were still maintained; successful candidates awaiting appointment to their regiments were given the option to join the RMC. The incentive was that students would be exempt from passing the 'special army examination'. This exam had to be passed by subalterns within three years of joining their regiment. The subjects of examination were Military Law, Field Fortification, and Field Sketching and Reconnaissance.⁷⁴⁴ Consequently, these purely professional subjects were studied at the RMC. Although, in fact, initially the RMC course had additional subjects: Military History and Geography, Drill, Riding and Gymnastics. The regulations also stipulated that 'students who wish to keep up their knowledge of Mathematics, French or Landscape Drawing will have the assistance of Professors in

⁷⁴² Akers-Douglas Report 1902, pp.24-5.

⁷⁴³ Clemente, *For King and Kaiser!*, pp. 21, 28; Spiers, *Late Victorian Army*, pp.14-15.

⁷⁴⁴ First DGME Report 1873, Appendix XIII, 'General Orders by HRH the FM C-in-C, 1st August 1870, GO 65 Garrison Instructors and Examinations of Subaltern Officers'.

those branches.⁷⁴⁵ Presumably, the additional military and relevant civil subjects were taught because the facilities in terms of staff and premises were already there. The time of the civil subjects was coming to an end, however. In 1870 Geology and Chemistry ceased to be taught. 1871 witnessed the very tail end of the liberal course of instruction, with the final demise of nearly 70 years of continuous mathematical, language and drawing teaching. This was because, at the end of 1871, the Governor recommended the abolition of voluntary subjects.⁷⁴⁶ Although the reason is not recorded, it cannot have been due to these subjects impinging on the satisfactory instruction of the students; after all, the examiners' reports were very positive.⁷⁴⁷ It was probably more to do with that they were extraneous to the garrison instruction course. Thus, it was in this early phase that the course of studies for the rest of the period took shape.

With the student scheme apparently successful, the Director General of Military Education (DGME) looked to the future education of sub-lieutenants with optimism.⁷⁴⁸ General William Napier, as DGME, did 'not doubt' that the new sub-lieutenants after being a year at their regiments 'will fully avail themselves [of the instruction offered]'.⁷⁴⁹ However, the advent of the sub-lieutenants' course in 1873, occasioned what Mockler-Ferryman described as a 'fiasco' resulting in questions being raised in the House of Commons.⁷⁵⁰ Essentially, the problem was getting the sub-lieutenants, who were already gazetted to regiments, to submit to discipline within an educational environment. This was most strikingly exemplified by a story recounted by Lord Gleichen, in which the subalterns, who used to be stopped by the Governor from going to Ascot by giving them extra drill, arrested all the NCOs and as a body took off for Ascot.⁷⁵¹ The exam results were consequently poor. Out of 50 examinees in December 1873, 10 failed completely (which meant they returned to their regiments but had to pass a similar exam within two years) and 15 passed in the 'third class', which meant they were not awarded an antedate to their commission. In 1874, 34 were examined and five failed, with eight being in the third class.⁷⁵² As a result, the scheme was progressively dropped, with new regulations issued in 1875 stating that the RMC was to provide a special military education for sub-

⁷⁴⁵ *First DGME Report 1873* Appendix XI, pp.69-72, 'Horse Guards Circular 1870' and 'Regulations for the Government of the Royal Military College under the System of admitting thereto 100 Young Gentlemen who have passed the Examination for Direct Commissions.'

⁷⁴⁶ WO152/37/90.1972, Horse Guards letter to RMC Governor, 25.11.1871.

⁷⁴⁷ WO152/38/90.1977, WO letter & report to RMC Governor, 20.1.1872.

⁷⁴⁸ *First DGME Report 1873*, p.14.

⁷⁴⁹ *Ibid.*, Appendix XI, pp.72-3, WO Circular 1872.

⁷⁵⁰ Mockler-Ferryman, *Annals of Sandhurst*, p.39; Malcolm, 'Educational Reform at the RMA and RMC', p.123.

⁷⁵¹ Major General Lord Edward Gleichen, *A Guardsman's Memories: A Book of Recollections* (Edinburgh & London: Blackwood & Sons, 1932), p.14.

⁷⁵² C1491, *Second Report on the Education of Officers by the Director-General of Military Education*, (London: HMSO, 1876), p.12 [hereafter *Second DGME Report 1876*].

lieutenants and successful candidates in the competitive examination for a commission.⁷⁵³ The following year preparations were made to revert to the cadet system. Nevertheless, despite problems in the sub-lieutenant era, the course remained as it had under the student scheme.

Apart from the change to purely professional subjects, there was a fundamental change in the way commissions were awarded. During the years of purchasing commissions, the RMC awarded commissions without purchase to cadets who succeeded in obtaining the highest marks. The number varied from year to year and those who did not succeed in obtaining one of the limited commissions had to purchase. On the one hand, the advantage was that there was competition among cadets, but on the other, it meant those who realised a free commission was beyond reach did only what was necessary to qualify. This did not auger well for the system that was to follow in the post-purchase army. Although apparently successful, the student phase was a period in the college's history which General Sir Ian Hamilton recalled as being 'easier to shirk work and get away with it' than any other.⁷⁵⁴ This was due to the commissioning exams being qualifying, and the same was true in the sub-lieutenant phase. Again, the incentive of a free commission was absent once the cadet system started again in 1877. The difficulties arising from this will be examined in the following section.

II. Development of the Cadet Course 1877 - 1899

The failure of the sub-lieutenant scheme, and presumably the irregularities of the early to mid-1860s, must have been a stark warning that the new cadet system needed to be well thought out. An internal War Office committee recommended that the RMA regulations should form the basis for the RMC, and that the RMC cadets being on average 20 years old, 'the general arrangements and discipline should rather appropriate to those of the universities than to those of a school, the military element being of course duly preserved.'⁷⁵⁵ No recommendation was made on the course of studies; the tacit assumption being that the syllabus from 1871 to 1876, and which had already begun to be integrated with further officer education, would continue.

Matters relating to the course were in theory left to the Governor – except in one crucial area – the setting of the final examination standard at the college. The Akers-Douglas committee, in 1902, placed the qualifying standard at the heart of their conclusions: 'In the first place the cadets cannot be expected to derive much benefit from

⁷⁵³ *Second DGME Report 1876*, p.11 and Appendix IX 'Regulations for the Government of the Royal Military College at Sandhurst, issued with General Order 20 of 1875'.

⁷⁵⁴ General Sir Ian Hamilton, *When I was a Boy* (London: Faber and Faber Ltd, 1939), p.266.

⁷⁵⁵ WO152/41, 'Fourth Report of the Sandhurst Committee', 1876.

their instruction at Sandhurst when it is clearly established that they have absolutely no inducement to work.⁷⁵⁶ They believed inducement was, neither provided by the marks necessary to qualify for a commission, nor by the appearance that some cadets who failed to qualify entered the army anyway. There were many witnesses who supported the view of the lack of inducement to work. In paragraph 93 of the report, evidence was cited from: the RMC Governor, Lieutenant General Sir Edwin Markham; RMC Assistant Commandant, Lieutenant Colonel J S Talbot; the Assistant Military Secretary (and former instructor), Colonel A M Delavoye; the Adjutant General, General Sir Evelyn Wood; and the Military Secretary, Major General Sir Coleridge Grove. Further witnesses supported this view, some of whom were very knowledgeable about the circumstances of the RMC. For example, Lieutenant Colonel G F R Henderson, a former instructor, said: 'the minimum is far too low – ludicrously low. No cadet has the slightest difficulty getting out of Sandhurst.'⁷⁵⁷ Colonel Lonsdale Hale stated: 'There is no incentive to the boy at Sandhurst to work – absolutely no incentive of any kind whatever.'⁷⁵⁸ Other RMC staff concurred; for instance, Captain C Moore, an instructor in Military Engineering, thought one-third of qualifying marks in each subject was ridiculously low – a fact the former commandant of RMC Canada, Colonel Gerald Kitson, thought as indicative of officer education as a whole. Indeed, at that time the qualification was one-third of the examiner's marks in each subject and one-half of all possible marks available (known as 'aggregate marks'). Kitson noted in military colleges abroad it was a two-thirds minimum. Also, the Professor of Tactics, Major J E Caunter, felt there was a disinclination to work hard as cadets knew they had a commission; a fact upon which Field Marshal Lord Roberts reflected that boys would not go to the RMC unless they were 'pretty certain' of a commission.⁷⁵⁹ In addition, the results of this lack of industry were seen externally. At the School of Musketry, Hythe, the commandant commented on the cadets that had come to him after the RMC as 'wanting' with 'very little keenness.'⁷⁶⁰ Similarly, cadets who had failed either at their probationary or final exam would go to a 'crammer', such as the notable Captain W H James who said 'their failure is due always to one thing – laziness'.⁷⁶¹

Interestingly, the same sentiments aired at the Akers-Douglas committee were echoed earlier in 1887 and 1888. This was during the evidence collected by an internal War Office committee under the chairmanship of Lord Harris. Several members of the RMC staff commented on cadets not working hard. For example, the Professor of Tactics,

⁷⁵⁶ *Akers-Douglas Report 1902*, paragraph 93, p.20.

⁷⁵⁷ *Akers-Douglas Report Minutes*, evidence of Lt Colonel GFR Henderson, point 6426.

⁷⁵⁸ *Ibid.*, evidence of Colonel Lonsdale Hale, point 2703.

⁷⁵⁹ *Ibid.*, evidence of: Captain C Moore, point 5705; Colonel G Kitson, point 2925; Major JE Caunter, points 5628-9; Field Marshal Lord Roberts, point 8592.

⁷⁶⁰ *Ibid.*, evidence of Lt Colonel JLA Pennington, point 6765.

⁷⁶¹ *Ibid.*, evidence of Captain WH James, point 2778.

Lieutenant Colonel Albany R Savile, stated: 'some work very well, but generally I think they do not work hard. They work during the last month pretty hard, because they get frightened about the examination.' This point was supported by others.⁷⁶²

How did this low qualifying standard originate? Over ten years before the Harris committee, when the RMC was being re-established, the standard was suggested by General Napier who, by November 1876, was RMC Governor. Although Napier's minute recommending it does not survive, it is clear he suggested a qualification minimum even lower than that in 1901 – one-quarter marks in each subject plus the attainment of one-half of the aggregate marks. In a minute to the Military Secretary the DGME was supportive, remarking that the qualification proposed was 'not too highly rated', and that Napier's idea of selecting regiments according to order of merit was worthy of consideration. The Military Secretary thought a better inducement would be to divide successful cadets into two classes; those in the first could be exempted from the examination for captain.⁷⁶³ This was the incentive given to the students at the RMC, who had worked studiously. The DGME, having consulted with Napier, wrote to the Military Secretary:

[exempting cadets of the First Class] will certainly be an inducement to exertion whilst at the College, tho' the advantages appear remote, and that combined with priority of choice and appointment to corps would be advantageous. The standard under such circumstances, might remain as at present for both classes, viz:

1 st Class	one-third marks in each subject and three-fifths of the aggregate
2 nd Class	one-quarter marks in each subject and one-half of the aggregate. ⁷⁶⁴

Deputy Adjutant General Major (later General Sir) Redvers Buller was cautious in his support; firstly, he thought it was 'very undesirable' to have choice of regiment as an inducement, secondly, he conceded that 'it may be advisable' to exempt cadets from subjects in the captain's exam, but preferred an alternative of awarding those in the first class a certificate which 'would materially aid their chances of obtaining regimental or staff appointments in their after career.'⁷⁶⁵

⁷⁶² *Harris Committee 1888*, evidence of Lt Colonel AR Savile, points 1471, 1474; Colonel EA Anderson, point 1242; Lt Colonel L Scott, points 1488-9; Major EA Ball, points 1769-70.

⁷⁶³ WO152/41/90.2265, Minute Paper, DGME EHF Pocklington to Military Secretary, 29.11.1876 and reply dated 7.12.1876.

⁷⁶⁴ WO152/41/90.2265, Minute Paper, DGME EHF Pocklington to Military Secretary, 1.1.1877.

⁷⁶⁵ WO152/41/90.2265, Minute Paper, DAG Buller reply dated 19.1.1877 to AG minute of 13.1.1877.

The Commander-in-Chief, the Duke of Cambridge, seemingly settled the issue by incorporating the remarks of Buller to approve the captain's exam exemption, and give the first class a certificate of proficiency intended to benefit their future careers. The choice of regiment according to merit was, at first, abandoned.⁷⁶⁶ Napier criticised awarding certificates as so many would be issued they would be devalued. Nevertheless, the measures were submitted and approved by the Secretary of State for War on 12th February 1877. However, these plans were strongly objected to by the new Adjutant General who felt that the army was being injured in order to induce cadets to exert themselves at Sandhurst. He thought that the benefit to junior officers of studying for captain's promotion should not be removed. Also, that:

[...] the knowledge which can be acquired by a boy during 8 months at Sandhurst in the elements of tactics, as defined, must be of the most elementary kind; and yet it is proposed to allow him to qualify with this elementary knowledge, of what is in fact the application of drill to war, and can only be thoroughly learnt when drill has been completely mastered, for a company which he will not get for 10 years!⁷⁶⁷

This caused the Commander-in-Chief to reverse his decision on the exam exemption and Napier was asked if he could think of any other inducements for the cadets. He disagreed with the AG, firstly, because this incentive had already been offered to students and sub-lieutenants since 1872, and secondly, he thought the AG over-estimated the value of the garrison instruction versus Sandhurst:

[...] but as it [the garrison course] is an inferior course, both as regards length of time and extent and scope, and as the final examination is of a lower standard than that of the First Class at Sandhurst, I cannot see the Army surrenders anything by not requiring officers who have passed in a higher course and a higher standard to be re-examined in a lower course and with a lower standard of qualification!⁷⁶⁸

Indeed, Douglas Dawson recorded his garrison course as 'rather disastrous.'⁷⁶⁹ However, the AG's arguments were so forcefully put that Napier's compromise was not endorsed. Upon being asked again for suggested inducements, and having consulted with the Commandant, professors and senior instructors of each branch of study, RMC staff were at a loss to suggest anything which would make it worth dividing the cadets into two passing out classes. The lower of the two qualifying standards was adopted by default.

⁷⁶⁶ WO152/41/90.2265, Minute Paper, Military Secretary to Under Secretary of State for War, 8.2.1877.

⁷⁶⁷ WO152/41/90.2265, Minute Paper, Memo of Adjutant General Sir Charles Ellice, 2.3.1877.

⁷⁶⁸ WO152/41/90.2265, Memorandum RMC Governor to DGME, 19.3.1877.

⁷⁶⁹ Sir Douglas Dawson, *A Soldier Diplomat* (London: John Murray, 1927), pp.26-27.

The inducement of order of merit governing choice of regiment was reinstated, and a further measure adopted was a certificate of special proficiency for the subject in which a cadet obtained at least 75% marks.⁷⁷⁰ The Commander-in-Chief accepted these plans with an additional suggestion of the DGME that there should be an 'honours list' whereby cadets' names would be denoted to this effect in published lists.⁷⁷¹

This bout of extensive correspondence revealed several things. Firstly, it showed the decision-making process at its worst in the highest authorities of the army; the C-in-C being like the proverbial cushion – bearing the impression of the last person who sat on him. However, in this regard, it showed the second fact, that the AG had considerably more weight than the RMC Governor – even though Napier had been RMC Superintendent of Studies, Commandant of the Staff College and even DGME himself. The post of Governor was nevertheless a subordinate one and, as it was based in Camberley, the incumbent never had that regular personal contact which would enable him to iron out any misunderstandings. Most importantly of all, however, from the outset it revealed the conundrum inherent in trying to introduce competition within the framework of a qualifying examination system.

Surprisingly, despite the initial misgivings of Napier, the results for this final exam in 1877 were deemed very satisfactory and the Commander-in-Chief expressed his satisfaction with the condition of Sandhurst. The exam class consisted of 124 cadets; 118 passed, the first 17 with honours, and six failed. The examiner's remarks in all subjects were positive, the following are a selection of excerpts:

Military Administration, Examiner Lt Col M Petrie stated: '[the result] is decidedly creditable to the cadets [...]'

Tactics, Examiner Colonel Evelyn Wood VC stated: 'I consider the result of the examination reflects great credit on the instructors and shows some application on the part of the cadets. Only five cadets obtained as little as half marks. The average is certainly higher than usual.'

Fortification, Examiner Maj General CS Hutchinson stated: 'The result of the written examination has been satisfactory particularly so in the cases of nos.45 and 101. The cadets have evidently been carefully instructed and have benefited from this instruction. There are no bad failures [...]'

⁷⁷⁰ WO152/41/90.2265, Memorandum RMC Governor to DGME, 4.5.1877.

⁷⁷¹ WO152/41/90.2361, Memorandum DGME to RMC Governor, 6.6.1877.

Military Topography Examiner Maj General Scott, RE, stated:

‘The determination of distances and angular measurements are generally good and many of the cadets read the ground well; but the execution is inferior to what I have seen in former examinations. This is the inevitable result of the present short course.’⁷⁷²

Scott’s observation on the shortness of the course was justifiable, as he also examined RMA cadets whose course was over twice as long. The 1877 Board of Visitors also expressed satisfaction.⁷⁷³ It seemed that although cadets were only eight months under instruction, the previous six years of teaching students and sub-lieutenants had married a workable syllabus to the time available. This fact was reinforced in later years when the professors sent up the summary of the courses to the examiners wherein only minor amendments were made due to adverse effects of weather. This was borne out by the fact that when alterations were made to force through more cadets in a quicker time, the exam results were unsatisfactory. For example, in the following year of 1878, the senior and junior terms were commissioned early, resulting in 150 previously unsuccessful, but qualified, candidates being admitted. Those examined on the April-December 1878 course did not acquit themselves well: 100 passed, one with honours, 39 failed.⁷⁷⁴ In part, the results were blamed on the inferior candidates that were drafted in, but it must also have been due to a modified course that for one reason or another could not be delivered so well. When the normal length course resumed in 1879, the results were as they had been in 1877; with 146 cadets examined, 138 passed, 23 with honours, and only seven failed. Examiners remarked that Fortification was ‘very satisfactory’, Military Topography was ‘better than usual’, Military Administration was ‘generally creditable’ and the Tactics papers were ‘generally exceedingly well answered and evince a knowledge of the subject which cannot fail to be of great service to the cadets in their military career.’⁷⁷⁵

It is interesting to note how the notion of the lack of industry on the part of the cadets does not quite square with the results of exams conducted by examiners which were completely independent of the college. Biographies of cadets attending in the 1870s also cast a new light on their time at the RMC. Charles Repington recounted: ‘I was now free of the school subjects which interested me least, and plunged into the military lore with the greatest zest and with real enjoyment.’⁷⁷⁶ Similarly, James Willcocks found the

⁷⁷² WO152/43/90.2623, DGME letter containing Examiners’ Remarks, 27.1.1878.

⁷⁷³ C2063, *Report of the Board of Visitors 1877, to the Royal Military College, Sandhurst* (London: HMSO, 1877), p.4.

⁷⁷⁴ WO152/43/90.2712, RMC Professors to Asst Commandant, Exam Marks, 10.4.1878; WO152/45/90.3030, Remarks of the External Exams on December 1878 Exam, 1.1.1879; WO152/44/90.2955-6, Synopsis of Course for December Exam, 12.11.1878.

⁷⁷⁵ WO152/47/90.3428, Examiners’ Remarks on December 1879, 14.12.1879.

⁷⁷⁶ Charles à Court Repington, *Vestigia* (London: Constable & Co Ltd, 1919), p.38.

work 'was practical and most interesting.'⁷⁷⁷ That said, there was clearly a certain degree of levity, as the autobiography of George Younghusband seemed to indicate. His chapter on the RMC mentioned nothing other than a litany of practical jokes, such as tossing lamp posts into the college lake and dressing a fellow cadet in drag to trick an instructor.⁷⁷⁸ This perhaps explained the dissatisfaction of Napier with the exertions of the cadets. When responding to the idea of allowing the sons of Indian officers a certain claim over regiments – a proposal which would undermine the rule of selecting regiments according to order of merit, he responded: 'Some incentive to extra exertions at College is much required.'⁷⁷⁹ However, this was refused, and the peppery Napier noted: 'HRH did concur originally till someone in the AG's Dept set him against it.'⁷⁸⁰

Nevertheless, the following exam was again rated as very satisfactory, the Tactics papers in particular were, 'very good, many of them excellent. The questions bearing on examples from Military History have been (almost universally) well answered and show both careful study and good training.'⁷⁸¹ The July 1882 exam was:

[E]vidence of the care with which the cadets are taught, and of the attention that the majority of them pay to instruction. The examiners reported that the papers on Military Admin, Military Law, Tactics and Military Topography were, as a rule, very satisfactory, and showed a creditable knowledge in those subjects.⁷⁸²

The experience of cadets at around this time confirmed Repington's experience of the novelty and enjoyment they found in the new work, which was a complete break from the nature of subjects experienced at school. Many, therefore, appeared to work reasonably hard and willingly, presumably producing the exam results mentioned. Writing of his time between 1879 and 1880, Percival Marling stated: 'I thoroughly enjoyed my time there', and, 'there was a lot of work but plenty of football and cricket.'⁷⁸³ In 1880, it was said of John Cowans, later General Sir John 'Jack' Cowans, that 'at Sandhurst Jack first displayed that amazing capacity for both work and play [...] when he entered he was

⁷⁷⁷ James Willcocks, *From Kabul to Kumassi, Twenty-Four Years of Soldiering and Sport* (London: John Murray, 1904), pp.1-2.

⁷⁷⁸ George Younghusband, *A Soldier's Memories in Peace and War* (London: Herbert Jenkins Ltd, 1917), pp.19-31.

⁷⁷⁹ WO152/45/90.3050, Minute Paper: Military Secretary to DGME, 20.1.1879; RMC Governor WCE Napier to DGME, 26.1.1879.

⁷⁸⁰ Ibid.

⁷⁸¹ WO152/48/90.3792, Examiner's Remarks on Final Exam, 7.9.1880.

⁷⁸² C3793, *Report of the Board of Visitors for the Inspection of the Royal Military College* (London: HMSO, 1883), p.3.

⁷⁸³ Percival Marling, *Rifleman and Hussar* (London: John Murray, 1931), p.22.

almost at the bottom of the list and when he left almost at the top.⁷⁸⁴ Of his cadet career between 1880 and 1881, Cecil F N Macready, later General Sir Nevil Macready, said:

Possibly the shock of this unexpected achievement [qualifying for RMC] had the effect of suddenly developing the latent capacity for solid work which was within me, for from that moment I settled down seriously to make up for what I had lost through ten years' pleasant idleness, and succeeded in passing out a year later about the same number of places from the top as I had passed in from the bottom.⁷⁸⁵

Similarly, writing of his time between 1881 and 1882, General Sir Aylmer Haldane wrote that the course:

[...] was congenial to me, for I was conscious that I was working at something that would directly affect my career and was no longer cramming my head with subjects, some of which, except as brain exercises, could be of little service to an infantry officer.⁷⁸⁶

The switch, or perhaps shock, to a purely professional education, is rendered more lucid by cadets writing at the time:

I like Sandhurst very much and everyone else seems to like it too. [...] This place is so utterly unlike any other place that it is difficult to give you a good notion of it. The work itself and all the surroundings are so different that no amount of writing would tell you much about them.⁷⁸⁷

Another wrote, 'I should like you to see me at my drill like Tommy Atkins with rifle and bayonet [...] The time has passed very quickly here and I cannot believe I have been here several weeks.'⁷⁸⁸ Nevertheless, it was clear that the new work could be seized upon with alacrity:

As for gun pits, shelter trenches and other like matters we are getting quite the thing – the more so that we have to dig and make them with our hands which has

⁷⁸⁴ Desmond Chapman Huston and Owen Rutter, *General Sir John Cowans, The Quartermaster of the Great War* (London: Hutchinson & Co, 1924), 2 vols, I (1924), p.57.

⁷⁸⁵ Sir Nevil Macready, *Annals of an Active Life* (London: Hutchinson & Co, 1924), p.36.

⁷⁸⁶ Aylmer Haldane, *A Soldier's Saga: The Autobiography of General Sir Aylmer Haldane*, (Edinburgh & London: Blackwood and Sons, 1948), p.26.

⁷⁸⁷ West Sussex Record Office, Maxse papers, letter from GC FI Maxse to father, 8.9.1881.

⁷⁸⁸ SCA, 76.552.iv, 'Extracts from the Letters of a Gentleman Cadet to his Sister', 20.10.1886.

resulted in a good many blisters on my hands and fingers, for each party tries to get done first and best.⁷⁸⁹

While biographies of some cadets between 1877 and the late 1880s recorded their working assiduously, and to this category can be added Sir Stanley Maude and General Sir Hubert Gough; other biographies simply mentioned the enjoyment or are non-committal.⁷⁹⁰ For Seymour Vandeleur the practical work, particularly surveying and military sketching, was 'congenial.'⁷⁹¹ Lord Gleichen 'spent a happy year before joining my regiment', Alexander Godley had a happy and uneventful year there, while Major General Lionel Dunsterville recorded simply that his year passed uneventfully.⁷⁹² For this time, Lord Birdwood mentioned little, but he was there for only a term.⁷⁹³ These latter testimonies suggested the regime under which the cadets laboured was not particularly harsh, indeed, even the Assistant Director of Military Education at the Harris committee described the study as 'not excessive' and 'easy'. Compared to the RMA it was merely a qualifying exam in elementary military subjects. He felt that the rising standard of educated officers was primarily due to the competition for entry into Sandhurst and not in the course itself.⁷⁹⁴ This latter point was re-iterated by Mahaffey.⁷⁹⁵ It certainly seemed that the purpose of the college was not to continue the selection process in academic terms – that job had been done by the entrance exam. Rather, it was the ongoing monitoring of cadets' characters, their physical skill and development, and the ability to apply their minds to military subjects which was being assessed. Indeed, this was the advantage which the Harris committee saw in a government supported cadet college over private institutions training young men to pass a commissioning exam.⁷⁹⁶

The fact that most cadets had passed a highly competitive and difficult entrance exam, meant they could, in the main, turn their minds quite easily to the elementary subjects at the RMC. The severity of competition was shown by the fact that, between 1883 and 1888, 1,441 out of 4,882 candidates, or 32%, were successful in gaining admission. This dropped to 27% between 1889 and 1891.⁷⁹⁷ The anguish and studying

⁷⁸⁹ SCA, [no. ref.] Letter from GC AH Russell to father, 15.10.1886.

⁷⁹⁰ Charles E Callwell, *The Life of Sir Stanley Maude* (London: Constable and Co, 1920), pp.10-11; Hubert Gough, *Soldiering On* (London: Arthur Baker, 1954), p.29.

⁷⁹¹ Frederick Ivor Maxse, *Seymour Vandeleur: The Story of a British Officer Being a Memoir of Bt Lt Colonel Vandeleur DSO, Scots Guards and Irish Guards, with a General Description of his Campaigns* (London: The National Review, 1905), p.8.

⁷⁹² Gleichen, *Guardsmen's Memories*, p.14; Sir Alexander Godley, *Life of an Irish Soldier* (London: John Murray, 1939), p.10; Lionel C Dunsterville, *Stalky's Reminiscences* (London: Jonathan Cape, 1928), p.57.

⁷⁹³ Lord William Riddell Birdwood, *Khaki and Gown: An Autobiography* (London: Ward, Lock and Co. 1941), pp.28-29.

⁷⁹⁴ *Harris Committee 1888*, evidence of Colonel SE Orr, points 1942-3, 1956-7, 1997-9.

⁷⁹⁵ Mahaffey, 'The Fighting Profession', p.124.

⁷⁹⁶ *Harris Committee 1888*, p.iii, paragraph 3.

⁷⁹⁷ *Fourth DGME Report 1889*, p.20; *Fifth DGME Report 1893*, p.7.

involved was revealed in various biographies.⁷⁹⁸ The competition for entry into Sandhurst was more severe than for Woolwich; and the Inspector General of Auxiliary Forces, and others, noted those failures would try to gain entry through the militia.⁷⁹⁹ However, it was found that a fair proportion of these failures, once in the militia, could struggle once under garrison instruction.⁸⁰⁰ At the School of Military Engineering they found topography and fortification difficult and the standard had to be dropped for these non-college officers.⁸⁰¹ There was also a question over how well they were able get into the Staff College.⁸⁰² The higher intellectual standard of the Sandhurst cadets probably explained why external examiners' reports were on the whole good and internal reports from the professors prior to the yearly inspection by the Boards of Visitors ranged from satisfactory to good.⁸⁰³

However, a change in the standard for commissioning in 1886 seemed to have a demotivating effect, because when the Harris committee took evidence, the remarks mentioned previously about cadets' not working were aired. Due to a higher number of failures than usual, in January 1886 the DGME suggested altering the qualifying standard from a compulsory minimum of one-quarter marks in each subject to a counting minimum of one-quarter marks. This meant for a cadet's marks to count toward the aggregate he had to obtain at least one-quarter of the marks in that subject. Crucially, it did not mean a cadet could fail in a subject, only that he could not count its marks towards the aggregate. The RMC Governor agreed with the proposal because, if the proposed standard had been adopted in the last examination, six of the eleven cadets who failed would have passed. They would have benefited from higher marks in other subjects and caused their total marks to far exceed the minimum aggregate.⁸⁰⁴ However, this was, in fact, a misplaced

⁷⁹⁸ Sir Charles E Callwell, *Field Marshal Sir Henry Wilson: His Life and Diaries*, 2 vols., I (London: Cassell and Company Ltd, 1927), pp.2-3; Jeremy Lonsdale, *The Army's Grace: The Life of Brigadier General R M Poore* (Tunbridge Wells, Kent: Spellmount Ltd, 1992), pp.11-12; Willcocks, *From Kabul to Kumassi*, pp.1-2; Douglas Sharman Russell, *Winston Churchill Soldier: The Military Life of a Gentleman at War*, (London: Brassey's, 2005), pp.33-36.

⁷⁹⁹ C7373, *Report of the Committee Appointed to Enquire into the Entrance Examinations (in non-military subjects) of Candidates for Commissions in the Army* (London: HMSO, 1894) [hereafter *Report of Committee on Entrance Exams 1894*], evidence of Colonel AM Delavoye, point 87; General Sir RH Buller, point 1614; *Akers-Douglas Report Minutes*, evidence of: Mr William J Courthorpe, points 139-140; Lt Colonel FC Annesley, points 1312, 1315; Mr WM Baker, points 4240-1; Major-General AE Turner, point 5375.

⁸⁰⁰ *Report of Committee on Entrance Exams 1894*, evidence of Colonel AM Delavoye, points 94, 102, 105; General Sir R Biddulph, points 184, 186; General Sir RH Buller, point 1613; *Akers-Douglas Report Minutes*, evidence of Lt Colonel FC Annesley, points 1312, 1315; See also for example, Lt General NG Lyttelton's struggle to pass his Major's exam, see Sir Neville Lyttelton, *Eighty Years Soldiering, Politics, Games* (London: Hodder and Stoughton, 1927), p.143.

⁸⁰¹ *Akers-Douglas Report Minutes*, evidence of Major General T Fraser, points 7690-7692.

⁸⁰² *Harris Committee 1888*, evidence of Lt General Sir G Harman, point 2266; *Akers-Douglas Report Minutes*, evidence of: General Sir Evelyn Wood, point 5; Lt General NG Lyttelton, point 997; Major General Sir Coleridge Grove, point 534; Also, see contrary testimony of Field Marshal FS Roberts, *Akers-Douglas Report Minutes*, evidence of Field Marshal FS Roberts, point 8447.

⁸⁰³ WO152/49/90.4119, Memoranda of Professors, 26.5.1881; WO152/52/90.4634, Memoranda from Professors of Topography and Fortification, 4.7.1882; WO152/54/90.4972, Memoranda of Professors, 25.6.1884.

⁸⁰⁴ WO152/55/90.5037, DGME letter to RMC Governor General RCH Taylor, 20.1.1886; RMC Governor letter to DGME, 21.1.1886.

kindness; in effect pandering to those too lazy to obtain even the low minimum in each subject. Consequently, the negative effects of adopting this measure were almost immediate.⁸⁰⁵ The new Governor, Lieutenant General Anderson, objected that, '[the system] enables cadets to pass on the aggregate after failing almost entirely in one subject' and as Tactics, Fortification and Military Topography were all connected with each other, an obligatory minimum in each was necessary.⁸⁰⁶ However, Anderson was new in post and did not wish to tamper with the recently introduced standard, and so it remained in force until 1892.

In the meantime, the college relied on old and new incentives such as the awarding of a parchment for special proficiency in certain subjects (1878), the awarding of the Anson Memorial Sword (1879), a new Sword of Honour (1887) and the exemption from a gymnastic exam in the regiment provided a qualifying minimum was met (1888).⁸⁰⁷ There was of course still the probationary exams and the professors' marks. By June 1887 internal professor reports suggested that standards had improved.⁸⁰⁸

However, the incentive of allocation of regiments on order of merit was becoming increasingly devalued. As Cadet R B Russell stated: 'I may not get what I want, even if I do pass out high, which, tho' I expect to, cannot be counted on; quite one-half depends on luck.'⁸⁰⁹ Compared to the allocation of engineer commissions, it was a very inexact process. A perception grew amongst cadets' friends that influence could be brought to bear. Again, Russell wrote: 'As for the 60th, nowadays unless you have had your name down at least 5 years and have someone to put in a plea for you, I fancy your chances are nil.'⁸¹⁰ The resulting enormous amount of correspondence prompted the War Office to remind cadets that only the place in the order of merit mattered and no further letters trying to influence decisions would be answered.⁸¹¹ This still did not work and cadets were asked to express a preference only for either home or foreign service.⁸¹² Nevertheless, the incentive of an Indian army commission still partly existed, even if influence was exerted to favour those with Indian connections. However, in 1891 this inducement was finally removed. Instead, 20 Indian Staff Corps (ISC) cadetships were awarded to those with a claim to Indian regiments before admission to the RMC. This ensured only officers

⁸⁰⁵ WO152/55/90.5075, Memorandum from Major AR Savile, Professor of Tactics to Assistant Commandant, June 1886.

⁸⁰⁶ SCA, Governor's Confidential Letter Book, Lt General D Anderson to Sir Edwin Johnson, DGME, 27.12.1886.

⁸⁰⁷ WO152/57.90.5410, WO letter approving Gym Marks, 30.1.1888; WO152/56a/90.5342, WO letter approving Sword of Honour, 14.3.1887.

⁸⁰⁸ WO152/10/88.1019, Memoranda from Professors to Commandant, 14.6.1887.

⁸⁰⁹ SCA, [no. ref.], AH Russell letter to his father, 30.5.1887.

⁸¹⁰ SCA, [no. ref.], AH Russell letter to his father, 1.7.1887.

⁸¹¹ WO152/58/90.5674, WO letter to RMC Governor, 17.11.1888.

⁸¹² WO152/14/88.1617, WO letter and Memo on First Appointments to Line Regiments, 15.4.1890.

sympathetic to India and its customs would serve there.⁸¹³ The problem was now that, not only had the ISC prize been taken from all cadets, but also, that ISC cadets knew they did not have to work hard to secure this object. By 1895, it was noticed that when compared to their places on admission, ISC cadets were not working as hard and the RMC was asked for suggestions for 'enforcing greater diligence'.⁸¹⁴ The following year ISC cadets were to be warned that unless reported on as 'industrious and well behaved they will not be given a commission of any kind.'⁸¹⁵

Nevertheless, there seems to be evidence that despite this difficulty many cadets were still applying themselves to the course. This is more creditable in view of the particular financial constraints which adversely affected the college after the report of Harris committee was published in 1888. The committee, which examined other educational establishments, was really a footnote to the wider work of the Hartington commission – which in the wake of military set backs between 1879 and 1885, examined the complex picture of imperial defence, mobilization, and budgetary control.⁸¹⁶ The committee, curiously, did not examine the Staff College. The effects of the Hartington commission on that institution were positive, as it ultimately recommended the formation of a general staff which only served to strengthen the prospects of its graduates and thus its future.⁸¹⁷ The effects on the RMC were, however, more mixed. On the one hand the committee confirmed the value of the institution, certainly with regard to militia candidates, but on the other, it set out to make financial savings which in the event were to prove injurious.⁸¹⁸ The Akers-Douglas committee rightly apprehended this point in connection with officer education as a whole, and stated 'economy appears to have been sought without sufficient regard to efficiency'.⁸¹⁹

The Harris committee proposed an increase in course length and cadet numbers to 450, but financial restrictions thwarted this. Instead, reducing holidays got another month and minor alterations in room allocation raised the establishment to 360. They acknowledged the defective counting minimum and recommended a mandatory qualifying minimum for each subject of a higher standard than before (i.e. of one-third instead of one-quarter).⁸²⁰ The negative impact of the committee was significant, as it had the effect

⁸¹³ T A Heathcote, *The Military in British India: The Development of British Land Forces in South Asia, 1600-1947* (Manchester: Manchester University Press, 1995), pp.174-175.

⁸¹⁴ WO152/25/86.2501, Loose Minute on Honours, 5.1895; WO152/31/90.1172, WO letter to RMC, 30.11.1895.

⁸¹⁵ WO152/45/86.2591, WO letter to RMC, 6.2.1896.

⁸¹⁶ William Spencer Hamer, *The British Army: Civil-Military Relations 1885-1905* (Oxford: Oxford University Press, 1970), pp.92-95.

⁸¹⁷ Bond, *Army and the Staff College*, p.145.

⁸¹⁸ *Harris Committee 1888*, evidence of Colonel SE Orr, points 1981-4, 1989-93, 2063-7; Lt General Sir George Harman, points 2266-7, 2285-7.

⁸¹⁹ *Akers-Douglas Report 1902*, p.2.

⁸²⁰ *Harris Committee 1888*, p.vii, ix.

of reducing the number of divisional officers and instructors, and abolished the separate posts of Adjutant and Commandant. The report was finished in March 1888, but it was not until natural wastage had removed the required instructors, who were 'a good deal unsettled by the prospect of impending change', before the new system could be implemented.⁸²¹

Reducing the staff meant re-organising the timetable and cadets – unsurprisingly, negative consequences ensued. The Professor of Fortification, who set exams after recess, was forced to discontinue the practice, 'owing to this inelastic and utterly worthless "Triplicate Scheme" which has been forced upon us'.⁸²² In the 'triplicate system' cadets were divided into three groups and received instruction in Fortification, Tactics or Military Topography by all instructors of the three branches at the same time. Previously, at least one branch did not work on a certain day. The Board of Visitors confirmed this inelasticity in 1890, noting how the new arrangements were easily upset by bad weather. Further, with cadets increased from 300 to 360, while the instructors had been reduced from 25 to 20 – 'The results do not appear to be quite satisfactory, as the classes are rather too large.'⁸²³ Similarly, when the War Office refused additional gym instructors 'as the [gym staff] have so little to do', their proposals were annotated by the Inspector of Gymnasia to the effect that classes of 20 were too large.⁸²⁴ Professors complained of the class sizes again in 1891.⁸²⁵ Still, evidence suggests that cadets were fairly resilient to these changes. Of the time between 1889 and 1890, Nevile Wilkinson wrote:

The year spent at the Royal Military College was the healthiest and happiest of my life. Tramps over the heather and among the pine trees with sketching board and prismatic compass; digging in the sandy soil like navvies; bumping on barebacked troop horses [...] and all we did was done with a definite object in view.⁸²⁶

General Sir Charles 'Tim' Harington, a cadet between September 1890 and September 1891, recalled similar fond memories.⁸²⁷ Cadet R B Lovett writing to his mother mentioned:

⁸²¹ WO152/58/90.5576, 90.5582, 90.5592, WO letters from DGME to RMC Governor on Reduction of Divisional Officers, August 1888; WO152/58/90.5710, WO letter from DGME to RMC Governor, 21.12.1888; SCA, Governor's Confidential Letter Book, letter from Lt General D Anderson, RMC Governor, to Sir Robert Biddulph, DGME, 13.6.1888.

⁸²² WO152/59/90.5750, Letter from Lt Colonel LK Scott to Assistant Commandant, 11.2.1889.

⁸²³ C6198, *Report of the Board of Visitors for the Inspection of the Royal Military College, 1890* (London: HMSO, 1890), p.4.

⁸²⁴ WO152/59/90.5739, WO letter, DGME to RMC Governor, 22.1.1889.

⁸²⁵ C6465, *Report of the Board of Visitors for the Inspection of the Royal Military College, 1891* (London: HMSO, 1891), p.4.

⁸²⁶ Sir Nevile R Wilkinson, *To All and Singular* (London: Nisbet & Co, 1933), p.28.

⁸²⁷ Charles Harington, *Tim Harington Looks Back* (London: John Murray, 1940), pp.7-8.

I am awfully happy here; there is lots to do, but not too much and everything so novel [...] In fortification we have come to the end of bridging, and last week we fortified a house in the grounds, which was very good fun.⁸²⁸

Further to this, and bearing in mind the adverse change relating to ISC commissions, the exam marks showed a fair proportion of cadets were exceeding the minimum of 50% of the aggregate. In December 1893, 53% obtained 'honours' (over 70% marks), in July and December 1894 it was 44% and 42% respectively.⁸²⁹

However, the college was to come under yet increasing pressure. Apart from the loss of instructors, the financial cuts created a defective management. The moves in this direction were strongly objected to by the Governor, stating:

The Finance Department should be satisfied by a reduction of £500 on the Governor's salary - £350 on the Commandant's and £1650 on 5 instructors and allow a Governor, Staff Officer and Adjutant in lieu of replacing the last named by giving £50 a year to a Divisional Officer to assist the Superintending the drills from 9 to 10 and 3 to 4 daily in addition to his 5 hours work as an Instructor.⁸³⁰

Nevertheless, in December 1889, the last Commandant, who acted as the second-in-command, the officer commanding the cadet battalion and the *de facto* director of studies, left his post. This was Colonel Spencer Orr who, before being appointed Commandant, had been an Assistant Director of Military Education and an examiner.⁸³¹ The Adjutant post was also abolished and its last incumbent, Major Montagu Wynyard, was transferred to a new post, to be known as the 'Assistant Commandant', which was an amalgamation of the two redundant ones. The Governor was to be known henceforth as the 'Governor and Commandant'. Lieutenant Colonel Willoughby Verner, a former Professor of Military Topography, stated to the Akers-Douglas committee in 1901, that neither Wynyard, nor his successor Lieutenant Colonel J S Talbot, were experienced enough to regulate the studies and so were unable to support the Governor, who was then, in theory, to directly supervise the studies. The first Governor and Commandant under this system, Sir Cecil East, had become very ill; but under the second Governor and a new Assistant Commandant (Talbot), apparently 'absolute chaos reigned.'⁸³² The need for a director of

⁸²⁸ SCA, [no. ref.], Letter from GC RB Lovett to mother, 12.10.1890.

⁸²⁹ WO152/25/86.2501, Loose Minute on Honours, May 1895.

⁸³⁰ SCA, RMC Governor's Confidential Letter Book 1863-1894, letter from Lt General D Anderson, to Sir Robert Biddulph, DGME, 13.6.1888.

⁸³¹ *Third DGME Report 1883*, p.7.

⁸³² *Akers-Douglas Report Minutes*, evidence of Lt Colonel Willoughby Verner, points 4047-4052.

studies function was echoed by two other former instructors.⁸³³ Talbot's appointment was objected to by a more senior member of staff on the grounds of seniority, but Viscount Wolseley felt there was no cause for a grievance, and that the new remit of the Assistant Commandant acting as the staff officer to the Governor brought 'a more logical chain of responsibility than that hitherto existing.'⁸³⁴

The negative results of these management changes began to manifest themselves when, somewhat ironically, the course was lengthened to 18 months and expanded in a much more practical direction. In 1893 a Board of Visitors, which had four members changed, went from passing only minor comments in 1892, to criticising a number of aspects in 1893. They thought cadets were not occupied enough and so filled their time with amusements such as gymkhana. They felt this was because 'a very large proportion' of their instruction was in the open air which they perceived as requiring little mental effort. With the course now three terms they thought the syllabus developed by the college for it did not go far enough. Accordingly, they proposed introducing a short course of Military History and Geography, reducing subjects within Tactics, and proposed that subjects, such as languages and freehand drawing, might be taken up as voluntary subjects. One dissident went as far as proposing an additional hour a day of class tuition.⁸³⁵ Mahaffey's analysis of this report suggests that it demonstrated a decline in the standard of instruction, but it should also be borne in mind that the additional term resulted in the senior division being able to go into camp for several days 'to be taught the practical work of a soldier's life'. More broadly, there was now an increased emphasis in the amount of outdoor work in Military Topography and Tactics, to the extent that the permissions for access to Crown lands had to be substantially renegotiated. Furthermore, a recruit's course of musketry was introduced, and the Fortification course was extended to include more practical field-craft.⁸³⁶

The key point is that it was the management of this more practical course that was to suffer as a result of the college having forced upon it a revised timetable to accommodate the additional hour of study and other changes.⁸³⁷ In May 1894, a strong defence was launched by the Professors of Tactics and of Fortification in response to a rebuke for the high number of dropped terms. The former noted how the positive remarks

⁸³³ Ibid., evidence of: Colonel AM Delavoye, points 341-342, 349-351; Colonel Lonsdale Hale, points 2739-2740.

⁸³⁴ SCA, RMC Governor's Confidential Correspondence Folio 1895-1901, B/21/2, letter from Lt Colonel JA Fergusson, RMC Professor of Tactics to Assistant Commandant, 20.2.1897; B/21/3, letter from Sir Coleridge Grove, Military Secretary, to RMC Governor, 30.4.1897.

⁸³⁵ C7176, *Report of the Board of Visitors for the Inspection of the Royal Military College 1893* (London: HMSO, 1893), pp.4-6.

⁸³⁶ Mahaffey, 'The Fighting Profession', p.120; WO152/70/90.7799, Memo by Lt General CJ East, RMC Governor, 16.2.1898, to Under Secretary of State for War; WO152/66/90.7115, Minute of Lt Colonel M Wynyard, RMC Asst Commandant on WO letter, 21.5.1894.

⁸³⁷ WO152/65/90.6953 & 6957, WO letter to RMC Governor, 14.1.1894, 27.1.1894.

of the examiners in December 1893 showed the cadets were working ‘most satisfactorily’ but under the revised programme the senior divisions were by breakfast and at the end of the day ‘fagged-out – both physically and mentally exhausted’. He simply felt that ‘there [was] too great a strain upon the cadets who are unduly pressed in order to secure an extra hour’s work.’⁸³⁸ The Professor of Fortification, Major Chippindall, complained classes were still too large as evidenced by the good results in the smaller batch in December 1893. At that exam, out of 77 examined, only one failed and 40 got honours. His concerns were, however, dismissed by the visitors.⁸³⁹ The exam results tended to support the view of the staff. For whilst the commissioning exams of December 1894 were regarded as generally satisfactory, there were negative comments on Drill and Military Law, and results of the second and third divisions were even more mixed.⁸⁴⁰ On Military Law the Professor of Tactics stated: ‘I regret to note the examiner’s opinion. Major Ball lectured to this division throughout its course. He was a very able lecturer and knew his subjects most thoroughly.’⁸⁴¹ Interestingly, Winston Churchill’s letters noted an increase in work, but he appeared to have taken it in his stride.⁸⁴² Churchill, however, was a very motivated cadet, striving as he was to get into a Hussars regiment, and hoping that a higher place would help in the battle with his father over his choice.⁸⁴³ As time progressed, however, it appeared that the professors’ objections to the cadets’ workload were increasing. In November 1895, Chippindall canvassed his six instructors who were unanimous in their opinion. Essentially, when the cadets’ hours were shorter, they worked better and took more interest. This was not an aversion to hard work – because it also adversely affected their performance and enthusiasm in their games too. This was mentioned specifically by the officers heavily involved in the welfare of the cadets, noting a ‘most marked [...] absence of dash and élan’ in their games.⁸⁴⁴ The timetable was also causing difficulty in the introduction of Military History. On the intermediate division the professor of Tactics remarked:

They have two hours hard physical work in the mornings before the brain work begins. By the hour of private study they have had another hour’s drill and half of them an hour’s gymnastics, besides the two hours physical work in the morning.

⁸³⁸ WO152/23/88.2956, WO letter to RMC Governor, 6.5.1894, minute of Lt Colonel JA Fergusson, Professor of Fortification to Assistant Commandant thereon, 9.5.1894.

⁸³⁹ Ibid., minute of Major WH Chippindall, RE, Professor of Fortification, to Assistant Commandant thereon, 9.5.1894; C7485, *Report of the Board of Visitors for the Inspection of the Royal Military College 1894*, (London: HMSO, 1894), p.4.

⁸⁴⁰ WO152/29/88.3124, ‘Examiner’s Remarks on the Examination of Cadets at the Royal Military College, December 1894’.

⁸⁴¹ WO152/31/90.1100, letter from Lt Colonel J A Fergusson to assistant commandant, 16.2.1895.

⁸⁴² Russell, *Churchill Soldier*, p.57.

⁸⁴³ Ibid., pp.66-69.

⁸⁴⁴ SCA, RMC Governor’s Confidential Correspondence Folio 1895-1901, letter from Major WH Chippindall, Professor of Fortification to RMC Asst Commandant, 22.11.1895, and letter from Captain E G Wynyard, to Professor of Fortification, 22.11.1895.

They are tired out and often incapable of hard work. They cannot learn two campaigns in addition to all their other subjects.⁸⁴⁵

These problematic timetable changes were argued for by the Board of Visitors in 1894 in quite flimsy terms: 'a rearrangement of the time table is advisable as at present the whole of the time for study falls in the early part of the day.'⁸⁴⁶ This was a departure from the long adhered to principle of having the 'brain work' done in the morning.⁸⁴⁷ In August 1895, the Board of Visitors made much more specific and detailed criticism of the timetable – along the lines objected to by the professors. Again, in 1896, it was criticised as 'a constant rush.'⁸⁴⁸ In September 1896, the first thing that struck the new Professor of Military Topography was '[cadets] are very often called upon to do an amount of study combined with physical work which, it is my strong belief, overtaxes their strength.'⁸⁴⁹ Further:

The cadets have shown such hearty good-will in carrying out their reconnaissance work in the field and have, so far, never spared themselves when working under me, that I trust that some means may be found to relieve them of some of their physical exercises on days when they are called upon to do reconnaissance work in the field.⁸⁵⁰

There certainly seemed to have been a disconnect between the professors and instructors on the one hand and the higher authorities on the other. For instance, when the Assistant Military Secretary, Colonel Delavoye, responded to the Akers-Douglas committee, upon being asked whether the course could not be increased to two years, he responded: 'Well, I should say so; but then you are told that they get tired and weary, and sick.'⁸⁵¹

These timetabling issues revealed the problem caused by, firstly, the effects of the Board of Visitors, and secondly, the absence of a Commandant (as a director of studies) to resist them. The Board of Visitors made recommendations in a report to the House of Commons, without due regard to the DGME or War Office, on the basis of one annual visit of about four hours duration. With members constantly changing the reports were prone to inconsistency based on personal prejudice and inclination. In the past, a man of

⁸⁴⁵ WO152/31/90.1197, letter from Professor of Tactics to Asst Commandant, 13.11.1895.

⁸⁴⁶ C7485, *RMC Board of Visitors Report 1894*, p.4.

⁸⁴⁷ *Harris Committee 1888*, evidence of Colonel AS Cameron, RMC Commandant, points 763-770; See timetable and distribution of studies in Appendix 3 Annex 2.

⁸⁴⁸ C7840, *Report of the Board of Visitors for the Inspection of the Royal Military College 1895* (London: HMSO, 1895), pp.3-4; C8344, *Report of the Board of Visitors for the Inspection of the Royal Military College 1896* (London: HMSO, 1896), p.3.

⁸⁴⁹ WO152/15/86.2870, letter from RMC Professor of Topography, Lt Colonel Willoughby Verner to RMC Asst Commandant, 28.9.1896.

⁸⁵⁰ *Ibid.*

⁸⁵¹ *Akers-Douglas Report Minutes*, evidence of Colonel AM Delavoye, point 356.

experience such as General Napier was, for example, able to resist the boards' repeated calls to introduce languages in 1880, 1881, 1882, and 1883, 'the plan having already been tried and proved a failure'.⁸⁵² Without Napier to resist in 1895, a new board called again for languages which were consequently introduced the following year causing timetabling pressures.⁸⁵³ In 1902, the Akers-Douglas committee justifiably recommended the abolition of the Board of Visitors (and languages) and that inspections should be made by the officer responsible for the supervision of military education.⁸⁵⁴ The difficulties seemed to increase towards the end of the century. The boards' effects could have been mitigated had the DGME post retained its effectiveness, but evidence suggested it may have become something of a sinecure.⁸⁵⁵ It was finally abolished in 1898, with its duties transferred to the Military Secretary who admitted he did not have time to undertake the duties; Lord Roberts thought the situation was unsatisfactory.⁸⁵⁶ However, in 1898 the course was cut down to only one year, which created more pressure as it still retained modern languages and Military History; as Major General Sir Coleridge Grove noted: 'the classes have been rather too large for the staff.'⁸⁵⁷ Then, due to the Boer War, the course was upset again by the premature commissioning of cadets and the admission of extra cadets in 1900. The recently appointed Governor, Sir Edwin Markham, in February 1900, quickly apprehended the situation and requested additional support for the overworked Assistant Commandant.⁸⁵⁸ The following year he re-emphasised how utterly starved the RMC was of staff to the Akers-Douglas committee; with which Colonel Kitson concurred and General Sir Evelyn Wood emphasised: 'we have been trying to do with "a man and a boy" and now we are to have a regular establishment'.⁸⁵⁹ The implications of these changes will be elaborated on below.

Given that cadets, in the main, seemed to endure the various pressures of the 1890s – as judged by the exam results and testimony of cadets and staff – how can this be reconciled with the views in 1901 of Colonels Hale, Henderson and Talbot *et al*, of cadets having absolutely no inducement to work? It is perhaps this, that the exams were sufficient to get them to work, but there was something in other respects that dulled that sense of competition, and thus to excel – a feature Henderson noted as characteristic in the army as a whole.⁸⁶⁰ For example, in 1901, Major General Sir Coleridge Grove, stated:

⁸⁵² WO152/49/90.4119, RMC Governor Memo for Visitors, 26.5.1881.

⁸⁵³ WO152/70/90.7797, letter from RMC Governor, Lt General CJ East, to WO, 2.2.1898.

⁸⁵⁴ *Akers-Douglas Report 1902*, p.27 paragraph 124; p.28, paragraph 130.

⁸⁵⁵ WO32/6051, Appointment of DGME, 1858-1899; Willoughby Verner, *Military Life of HRH George, Duke of Cambridge*, 2 vols., I (London: John Murray, London, 1905), pp.346-347.

⁸⁵⁶ *Akers-Douglas Report Minutes*, evidence of: Major General Sir Coleridge Grove, point 600; Field Marshal Lord Roberts, points 8509-10.

⁸⁵⁷ *Akers-Douglas Report Minutes*, evidence of Major General Sir Coleridge Grove, point 510.

⁸⁵⁸ WO152/71/90.7894, Governor's Memorandum to War Office, February 1900.

⁸⁵⁹ *Akers-Douglas Report Minutes*, evidence of: Colonel G Kitson, point 7917; Lt General Sir E Markham, points 7635-7642; General Sir Evelyn Wood, point 76.

⁸⁶⁰ *Ibid.*, evidence of Lt Colonel GFR Henderson, point 6355.

'I do not mean to say they do their work badly, but the thing just runs along in a rather routine way.'⁸⁶¹ At the same time the Professor of Tactics, Major Caunter, said: '[the cadet] knows that if he is fairly attentive in lecture, which he is as a rule, and if he pays ordinary attention in class, there is no doubt whatever about his passing his examination.'⁸⁶² The inducement to do this was the consequences of failure. If a cadet failed at the probationary exam, he had to stay another term; which meant another term's fees, losing seniority and being separated from his companions with whom he joined, and which was deeply unpopular.⁸⁶³ Probably as a wartime expediency the probationary exams were dropped and Caunter noted it had a particularly damaging effect on cadets' industry. Thus, even Grove conceded 'there is the necessity of passing the examinations', though he felt them insufficiently stringent.⁸⁶⁴ If a cadet failed the probationary or final exam, he was allowed to re-sit, so long as his character was satisfactory. A second failure meant removal from the college and being denied a regular commission.

So, for example, out of the cadets who failed the December 1890 final; Cadets Walton, Pool, Pennington and Prendergast, were permitted to re-sit, but Cadet Olivier, being considered 'childish', was removed.⁸⁶⁵ Similarly, those who failed the probationary in December 1890 could re-sit as their characters were well-reported upon; this was the case in 1892.⁸⁶⁶ Again, in 1896, when cadets were reported on as idle, inattentive and indifferent, reports were requested as to their suitability as officers, and parents were informed that serious consequences would ensue if their sons' conduct did not improve.⁸⁶⁷ To clarify the picture, for the years 1877 to 1882, 1,630 cadets passed the final exams and 106 failed; of these, 100 passed re-examination but six failed again and were removed. During the same period, 66 failed the probationary, of whom 62 passed re-examination but four failed and were removed.⁸⁶⁸ Also, for the six years from 1883 to 1888, 1,663 cadets passed the final exams, 44 failed, of whom nine failed again and were removed. For the same period 48 failed the probationary with one subsequently failing again. A similar pattern is shown between 1889 and 1891.⁸⁶⁹ These figures corroborate the views of witnesses such as Henderson, and Lonsdale Hale about the majority passing, but they also reveal that probationary and final exam standards were adhered to. This fear of failure perhaps helped explain that, while one-third marks in each subject

⁸⁶¹ *Ibid.*, evidence of Major General Sir Coleridge Grove, point 501.

⁸⁶² *Ibid.*, evidence of Major JE Caunter, point 5629.

⁸⁶³ *Ibid.*, evidence of Major JE Caunter, point 5633-4.

⁸⁶⁴ *Ibid.*, evidence of Major General Sir Coleridge Grove, point 500.

⁸⁶⁵ WO152/61/90.6090, WO letter to RMC, 22.1.1891; WO151, RMC Cadet Register, Vol. 3, 1881-1889, entry for Ernest Frederick Edmund Olivier, admitted September 1889.

⁸⁶⁶ WO152/90.6065, WO letter to RMC, 7.1.1891; WO152/62/90.6321, WO letter regarding re-sit of Cadets Grey, Mitchell-Innes, Dickson and Sidney, 8.1.1892.

⁸⁶⁷ WO152/24/86.2546, WO letter to RMC, 2.1.1896; WO152/24/86.2568, WO letter to RMC, 22.1.1896.

⁸⁶⁸ *Third DGME Report 1883*, p.14.

⁸⁶⁹ *Fourth DGME Report 1889*, p.22; *Fifth DGME Report 1893*, pp.9-10.

appeared low; because an aggregate of 50% was required, cadets, to be sure of reaching this, probably had to aim higher than the subject minimum. This seemed to be confirmed by the exam results. For example, in December 1877, it is interesting to note that although the qualifying standard was only one-quarter marks in a subject at that time, for Tactics, only five cadets out of 124 obtained as little as half-marks.⁸⁷⁰ This was repeated for the finals in July 1879; only four out of 138 examined obtained as little as between one-quarter and one-half marks, and 116 cadets obtained over 60%. For Fortification and Military Topography, it was 113 and 63 cadets, respectively, out of 138, who reached over 60% marks.⁸⁷¹ This meant the overall aggregate could thus be quite high, as was evidenced by 53% obtaining 'honours', that is, over 70% marks in December 1893. With similar good results at the subsequent two final exams, the required mark for honours was raised from 70% to 75%.⁸⁷²

It is therefore difficult to reconcile the enforcement of standards with the point that the Akers-Douglas committee reported to the effect that, 'there is too much reason to fear that even those cadets who failed to attain this standard have been commissioned none the less.'⁸⁷³ From the minutes of evidence it is not clear where this finding comes from. Kitson specifically stated, 'practically no boys have been cast for not getting to that standard', but gave no examples.⁸⁷⁴ A definite instance was mentioned by Markham of a cadet upon whom he reported as not being fit for a commission, but who by subterfuge, obtained a commission in the yeomanry in South Africa. Although this was subsequently cancelled, he managed to re-join a line regiment through the militia.⁸⁷⁵ College records showed that another cadet, AEHS Bourne, was removed for poor progress and then obtained a militia commission which was subsequently cancelled.⁸⁷⁶ Also, in September 1892, Cadet Charles Arthur Middleton failed two probationary exams and was dismissed in July 1893. He also managed to obtain a militia commission, but it is not clear how long he stayed in the regiment.⁸⁷⁷

It seems, therefore, that there is evidence which conforms to the findings of the Akers-Douglas committee. As has been shown, during the period between 1886 and 1892 the commissioning standard dipped due to the introduction of the qualifying minimum, and

⁸⁷⁰ WO152/43/90.2623, DGME letter containing examiners' remarks, 27.1.1878.

⁸⁷¹ Results compiled from exam marks in tactics, topography and fortification for the intake of September 1878 in WO151, RMC Cadet Register, Volume 2, 1864-1881.

⁸⁷² WO152/24/86.2530, WO letter to RMC, 21.6.1895.

⁸⁷³ *Akers-Douglas Report 1902*, p.20, paragraph 93.

⁸⁷⁴ *Akers-Douglas Report Minutes*, evidence of Colonel G Kitson, point 2928.

⁸⁷⁵ *Ibid.*, evidence of Lt General Sir Edwin Markham, point 7577.

⁸⁷⁶ WO152/70/90.7844, Responses from professors on AEHS Bourne, 17.5.1899; 90.7865, WO letter to RMC - removal of Cadet AEHS Bourne, 11.7.1899; *The London Gazette*, 21 August 1900, p.5178.

⁸⁷⁷ WO151, RMC Cadet Register, Volume 4, 1890-97, entry for Charles Arthur Middleton; *The London Gazette*, p.5555, 3.10.1893.

although this was raised again in 1892, the pre-entry allocation of ISC commissions had the twofold effect of dampening, both, the general competition, and the ardour of those dozen or so admitted as ISC cadets. Still, there is a sense that, certainly from 1877, but perhaps to a slightly lesser extent between 1886 and 1898, that the RMC was meeting the requirement. Cadets may not have been harried unduly but standards were certainly strictly enforced. Also, whilst witnesses at the committee in 1901 talked of the ease of passing out, it is clear that after financial constraints had cut key staff, both instructors and cadets were seemingly hard-pressed. These facts show that there is a more complex picture emerging of the late Victorian RMC than is often appreciated. It is now necessary to reveal this picture further by examining the course of instruction in some detail.

III. Subjects of Study: Tactics & Military History, Fortification and Military Topography

Probably the main issue surrounding the teaching of technical subjects was the degree to which it was done so practically outdoors. There was also a larger question about how the skills related to each other and the degree to which this was comprehended by cadets. Over the course of the late Victorian period, there is a sense that those involved with the management of the course were confident about the practical basis of the course. However, it is arguable that there was a 'blind-spot' when it came to joining together the three principal strands into a combined theory of war.

This latter point was brought forcibly to the fore when, in November 1900, the Adjutant General articulated a change in training philosophy. In a memorandum to the RMC Governor, Lieutenant General Sir Edwin Markham, General Sir Evelyn Wood envisaged the company commander to be solely responsible for the training of all ranks under him, and that new second lieutenants upon joining their units should be qualified as assistant instructors of men. This affected the RMC inasmuch that its training by 1900, not only did not meet this requirement, but was also not thorough enough to obviate junior officers resorting to private army tutors to pass promotion exams. Wood criticised an overly ambitious syllabus, in which field fortification and surveying were well taught but their application to war problems was insufficiently inculcated. Tactical theory was well taught, but without practical application; and the non-practical subjects of Military Law and Administration were far too extended. Ultimately, his conclusion was that the 'great want in the whole system of education is an insufficiency of practical work, and training in the fighting duties of the soldier.'⁸⁷⁸ Wood attributed the cause to officer instructors who were incapable of imparting practical instruction, and that a Sandhurst company was regarded

⁸⁷⁸ WO152/71/90.7933, Memorandum of General Sir Evelyn Wood, 12.11.1900.

merely as an administrative unit. In his vision for the RMC, company officers should be unmarried captains entrusted with the drill and field training of their cadets. It is interesting to observe that many of Wood's criticisms and recommended solutions (including suggestions for appointing officer instructors and subjects to be studied) were eventually to appear as recommendations in the Akers-Douglas report. Certainly, the gist of his memorandum of November 1900 was conveyed in his evidence in 1901 when he was the first witness.⁸⁷⁹ David French rightly noted it was Wood's view that shaped the immediate future of the college.⁸⁸⁰

In many ways Wood's criticisms were reasonable, notably the notion of having the RMC company commanders much more connected with drill and field training. This was appropriate if cadets were to better understand the manner in which a company worked and the way they would act to support their commander in training the men. In this he was supported by the Commander-in-Chief, Lord Roberts, and, tellingly, the next Commandant of the RMC – Colonel Kitson.⁸⁸¹ In other respects, however, Wood's criticisms only represent a snapshot of the college between 1898 and 1900. For example, he stated that while the course was excellent in theory it was too ambitious in practice and advocated an 18-month course.⁸⁸² At the committee in 1901 the former Professor of Military Topography, Lieutenant Colonel Willoughby Verner, conformed to this view, stating that too much was attempted, resulting in a 'most dangerous smattering.'⁸⁸³ This was understandable as the number of subjects had increased when the course increased to three terms, but these were not dropped when it reverted to two terms in 1898. Wood advocated dropping these – French, German, and Military History – just as RMC staff had opposed their introduction in the 1890s. Similarly, he wanted Musketry introduced, but this had been taught between 1892 and 1898 and was only discontinued due to a lengthened Musketry course (consequent on the new regulations) being incompatible with the shortened two-term course.⁸⁸⁴

However, as Wood admitted in evidence, there was a paucity of officers and NCOs in regiments, which hindered the instruction of young officers, and often threw new subalterns into the command of companies.⁸⁸⁵ It is likely this problem accentuated the perceived lack of correct training at the RMC. In essence, cadets were now being expected to fulfil a role they had not been trained for and so Markham was indignant that,

⁸⁷⁹ *Akers-Douglas Report Minutes*, evidence of General Sir Evelyn Wood, points, 40, 42, 66, 85, 94-95.

⁸⁸⁰ French, *Military Identities*, p.70.

⁸⁸¹ *Akers-Douglas Report Minutes*, evidence of: Field Marshal Lord Roberts, points 8576-7, 8580; Colonel Gerald Kitson, point 7918-9.

⁸⁸² WO152/71/90.7933, Memorandum of General Sir Evelyn Wood, 12.11.1900.

⁸⁸³ *Akers-Douglas Report Minutes*, evidence of Lt Colonel WWC Verner, points 3992, 4000.

⁸⁸⁴ WO152/70/90.7802, RMC Governor letter to WO, 5.3.1898.

⁸⁸⁵ *Akers-Douglas Report Minutes*, evidence of General Sir Evelyn Wood, point 20.

in effect, the 'goal posts had moved.' Markham realised that to meet Wood's new requirement of producing subalterns capable of instructing men, far more time would be needed on the practical military skills of drill and musketry.⁸⁸⁶ Further, Markham had already foreseen the need to galvanise the drill instruction and that there was a lack of discipline/drill staff.⁸⁸⁷ Still, he did manage to get company officers to help the beleaguered Assistant Commandant and got them to take their companies off the square and teach the basic drills necessary for the higher instruction by the professor of Tactics.⁸⁸⁸ He also elucidated the ways in which the course was practically taught and remarked: 'It is only those who come to the RMC to see and judge of such work that can form a correct opinion.'⁸⁸⁹

Still, with the looser, manoeuvre orientated drills demonstrably more important during the Boer War, the Akers-Douglas committee correctly identified this deficiency in the RMC drill. Their criticism of it being too much confined to parade drill and even for this purpose, excessive, was supported in various quarters.⁸⁹⁰ Time allocated to it was criticised in Boards of Visitors' reports for 1895 and 1896; so, in 1897 it was reduced from 10.5 to 8.5 hours per week.⁸⁹¹ Certainly, the institution of a drill competition in the early 1890s could not have helped matters beyond fostering company *esprit de corps*. Indeed, around this time Henderson recalled begging to be allowed to take his company out skirmishing.⁸⁹²

However, despite Markham's efforts, pleas for more staff and assertions of the course's practical bent, his point of view had no currency by 1901; Wood stated: 'I should say that the feeling against practical teaching at Sandhurst is strong [...] up to last December [1900], no Sandhurst cadet was ever tested in his knowledge of outpost duty.' and Colonel Delavoye said: 'then as to Tactics, talked about and not shown, it is of very little value.'⁸⁹³

To what extent, then, were the views of Delavoye and Wood accurate? Taking Tactics first, how was the syllabus taught? Principally, it was by lectures and class

⁸⁸⁶ WO152/71/90.7936, letter from RMC Governor, Lt General Sir E Markham to WO, 18.12.1900.

⁸⁸⁷ WO152/70/90.7837, Memorandum of RMC Governor, Lt General Sir E Markham, 15.4.1899.

⁸⁸⁸ *Akers-Douglas Report Minutes*, evidence of: Lt Colonel JS Talbot, point 5352; Capatin AC Lovett, points 9012-6.

⁸⁸⁹ WO152/71/90.7936, letter from RMC Governor, Lt General Sir E Markham to WO, 18.12.1900.

⁸⁹⁰ *Akers-Douglas Report Minutes*, evidence of: Colonel GM Fox, points 7484-7; Lt Colonel WWC Verner, point 3994; Dr TM Maguire, points 2523-6; Field Marshal FS Roberts, points 8616-20; Major JE Caunter, points, 5547, 5549, 5549, 5556, 5558-61; Montgomery-Cuninghame, *Dusty Measure*, p.12.

⁸⁹¹ *RMC Board of Visitors Report 1895*, p.4; *RMC Board of Visitors 1896*, p.4; C8744, *Report of the Board of Visitors for the Inspection of the Royal Military College 1897* (London: HMSO, 1898), p.4.

⁸⁹² *Akers-Douglas Report Minutes*, evidence of Lt Colonel GFR Henderson, point 6458.

⁸⁹³ *Ibid.*, evidence of: General Sir Evelyn Wood, point 9; Colonel Delavoye, point 281.

instruction with maps and models, and outdoor tactical schemes.⁸⁹⁴ Inevitably, there will be some truth in Delavoye's remarks because, unlike Fortification and Military Topography, which are subjects that can be practised individually (e.g. producing a field sketch or tracing a field redoubt), Tactics dealt of large formations of men, field guns and horses in greatly varying circumstances over potentially vast areas. In 1876, opportunity was afforded the sub-lieutenants of seeing half a battalion doing outpost work and a battalion defending and attacking a small position, but this was not carried on for the cadets.⁸⁹⁵ Presumably it was for financial reasons as, when the governor suggested the cadets should join the Aldershot Division as a battalion for a week after the Commander-in-Chief's inspection, the expense and trouble was not considered commensurate with the activity.⁸⁹⁶

The college had to look at the resources at its disposal; a major asset being the extensive empty country surrounding it. Every course synopsis showed that advantage was taken of this, with cadets 'posting pickets and sentries forming part of an outpost line' and performing the 'Attack and Defence of Small positions'.⁸⁹⁷ It is not absolutely clear from the sources how these were organised. There exists a little photographic evidence of attacking positions, but due to the limitations of Victorian photography to capture motion, it is obviously minimal.⁸⁹⁸ The 1877-1888 syllabuses on posting of outposts stated: 'The students are taken to ground, of which a lithographed sketch is given them, and they are then required to show on it how they would occupy this ground with outposts under given conditions.'⁸⁹⁹ Taking the pre-1890 timetable, on Tuesdays and Wednesdays the four continuous hours in the morning (between 10.20 and 2 pm) were occupied by outdoor tactical schemes. 15 or 16 of these schemes were done during the year, being on average outside twice for each day spent indoors.⁹⁰⁰ The amount of outdoor work was dependent on the weather and the stage of the course; in the latter case newly joined cadets could not take to the field without having had a sufficient amount of theoretical instruction first. Then, towards the end of the term, there seemed a consolidation of what was done throughout the term. So, tactical instruction outdoors was not seen as something which could, or indeed should, be unremittingly continuous. Outdoor tactical schemes were

⁸⁹⁴ *Harris Committee 1888*, evidence of Lt Colonel Albany R Savile, points 1341-1352.

⁸⁹⁵ WO152/40/90.2180, Course Synopsis for Examiners, December 1876; Alan G Harfield, *The Life and Times of a Victorian Officer, being the Journals and Letters of Colonel Benjamin Donisthorpe Alsop Donne* (Wincanton: Wincanton Press, Somerset, 1985), pp.15-16.

⁸⁹⁶ WO152/63/90.6719, HG Letter to RMC, 25.5.1893.

⁸⁹⁷ For example, WO152/48/90.3661, 'Tactics Course of Instruction for Final Examination July 1880', 6.1880; WO152/56/90.5172, Course of Instruction for Final Examination - Tactics, Nov. 1886; See transcribed example in Appendix 3, Annex 4.i.

⁸⁹⁸ SCA, photograph CAYMA: 2017.6.26, 'Attacking House of Defence', 1881; photograph CAYMA: 2017.6.41, 'Attacking Field Redoubt', 1881.

⁸⁹⁹ WO152/50/90.4304, 'Synopsis of the Course of Instruction at the Royal Military College', 1881, p.7.

⁹⁰⁰ *Harris Committee 1888*, evidence of Lt Colonel Albany R Savile, points 1345-1350; See also, Appendix 3, Annex 3.

marked by instructors, and assured by the professors, with mistakes pointed out to cadets in class who were individually questioned to check their comprehension. In addition, there was a one-hour Tactics lecture a week, the notes of which were marked by the instructor and referred to the professor. The tactical lectures were given by the senior instructors as it was deemed the most important and difficult subject to teach. Once they gained sufficient teaching experience after a couple of years' lecturing on the simpler Military Law and Administration, they moved up to teach Tactics.⁹⁰¹

An innovation was made in about 1894 where cadets went into camp for several days on the heathland to conduct outposts, patrols and general camp duties. They furnished reports using the prevailing army forms and scheduled the changing and posting of sentries. No individual cadet assessments were made, beyond commenting on the under officers and corporals, just the professor's overall report – the following excerpt of which is an example:

[the cadets] went about their duties in a thoroughly good spirit [...] and I have much pleasure in acknowledging the general keenness and soldier like spirit. I did not notice a single cadet skulking or shirking his duty. I visited the outlying picket next morning about 4 am and found the sentries alert, and the acting officers had discharged their duties well. Captains Kiggell and Banning were untiring in their exertions to make the camp a success and their knowledge and experience and power of imparting instruction were of great value.⁹⁰²

The extant documentation suggested the camps were taken seriously as an opportunity for instruction. The camps were adopted some point after the course had gone to three terms in 1892. By 1898, the practical patrolling carried out during them was incorporated into the 'Practical Work' section of the syllabus.⁹⁰³ At some point, too, in the mid- to late-1890s, skirmishing training was increased. Certainly, Clery and the cadets' notes show the need for cover back to 1895.⁹⁰⁴ When, in December 1900, Wood witnessed tactical schemes in action, he was impressed with the way in which the cadets took cover.⁹⁰⁵ Henderson stated that this was not all due to the Boer War and attributed skirmishing practice to the joining of Markham in early 1899.⁹⁰⁶

⁹⁰¹ *Harris Committee 1888*, evidence of: Lt Colonel Albany R Savile, points 1372 and 1382, 1387-1391, 1398-9, 1425; Major EA Ball, point 1778.

⁹⁰² WO152/45/90.3202, Report on Camp from Professor of Tactics Lt Colonel JA Fergusson to Assistant Commandant, 24.5.1897; also, WO152/67/90.7345, 17.9.1894; WO152/30/90.1088, 26.9.1895; WO152/24/86.2720, 1.6.1896.

⁹⁰³ WO152/70/90.7809, RMC Syllabus 1898, p.9.

⁹⁰⁴ SCA, Notes of GC NC Potter, c.1894 Section on 'Principles of Infantry Attack' in 'Tactics 2' notebook; SCA, 78-284, Notes of GC HT Crispin 1894, Section on 'Attack' in 'Tactics' notebook.

⁹⁰⁵ *Akers-Douglas Report Minutes*, evidence of Major JE Caunter, points 5580-5583.

⁹⁰⁶ *Ibid.*, evidence of Lt Colonel GFR Henderson, points 6443-5.

Nevertheless, on balance, evidence suggested that the Akers-Douglas committee had been guided by the impressions of Wood on tactical teaching. However, apart from Wood and Delavoie, there were almost no other witnesses who explicitly criticised the tactical teaching in any detail. The professor suggested the final exam could have a practical component and Maguire vaguely said 'they might be taught better.'⁹⁰⁷ In fact, more evidence was taken on tactics at the RMA, and so it is odd that criticism was levelled particularly at the RMC – especially when the RMC tactics instruction was deemed more practical by an instructor who had served at both.⁹⁰⁸ More evidence might have been extracted from Beamish Barter, Professor of Tactics at Woolwich, or William T Adair, AAG of Royal Marines; both of whom were previously instructors at the RMC. Adair thought the Tactics course at the Royal Naval College was not as good as at the RMC because the latter had enough cadets to form a body of troops for manoeuvre, enabling the cadets to understand the amount of room taken up and the terms used.⁹⁰⁹ When asked about the RNC tactics: 'do you mean tactics of the parade ground or of the battlefield?', Adair answered: 'Tactics of the battlefield; the syllabus is practically the same as the Sandhurst syllabus.'⁹¹⁰ With such limited precise evidence collected it is perhaps inevitable that the committee misapprehended the nature of this area of instruction. For example, in the summary of evidence, they stated that there was only 60 hours of tactical instruction a year. However, by the evidence submitted in the appendix of their own report this was incorrect. The 60 hours was in addition to the class-based instruction in Tactics, which was another 40 hours (100 hours in total, divided as 60% practical and 40% theoretical). This was just under twice that of either Military Law or Administration.⁹¹¹ This is a figure transferred into works by subsequent historians.⁹¹² Interestingly, in 1885, the total time given to strictly tactical instruction (not to be conflated with Administration and Law) was 126 ½ hours and the proportion of practical to theoretical instruction given by A R Savile was about the same.⁹¹³ The decline in total hours is attributable to the introduction of Military History, languages and Musketry. Still, it is apparent that the amount of instruction was greater, and had been for some time, than previously credited.

Besides time, Military History also interfered with the allocated marks. The Akers-Douglas committee were incredulous at the relatively small amount of marks given to

⁹⁰⁷ Ibid., evidence of: Major JE Caunter, points 5580-3; Dr Thomas Miller Maguire, point 2518.

⁹⁰⁸ *Harris Committee 1888*, evidence of Major Sisson C Pratt RA, points 3226-9; *Report of the Morley Committee 1886*, evidence of Major Sisson C Pratt RA, points 798-805.

⁹⁰⁹ *Akers-Douglas Report Minutes*, evidence of Colonel WT Adair, point 3679.

⁹¹⁰ Ibid., point 3680.

⁹¹¹ *Akers-Douglas Report 1902*, p.22, para. 104; Appendix 32, p.120, Lt General Edwin Markham answer 44, 6.7.1901, and Appendix 32, p.121, 'Memorandum as to Hours spent in Theoretical and Practical Instruction', 24.6.1901.

⁹¹² Mahaffey, 'The Fighting Profession', p.119; Bowman and Connolly, *The Edwardian Army*, p.18; Duncan, 'Military Education of Junior Officers', p.22.

⁹¹³ WO152/20/88.1961, 'Memorandum: Hours Devoted to Each Subject, Col F Solly-Flood', 26.9.1885.

Tactics in a military college, which they erroneously stated were the same as languages (only true if the professor's marks for practical instruction are ignored).⁹¹⁴ However, up until the beginning of 1895, Tactics, Fortification and Topography were all allocated 600 marks each. In the replies from the professors of Fortification and Tactics, Military History was very much seen as an outgrowth of Tactics; Clery's book gave many historical examples and it would be accordingly lectured on by the Tactics instructors (see also the extensive number historical examples in the Tactics question papers).⁹¹⁵ This explained the logic of the Governor, and supported by the DGME, to transfer 300 marks from Tactics to Military History.⁹¹⁶

Although it is understandable that there should be particular concern over the practical extent of tactical training, a point often lost sight of is the part played by the RMC in the development and promulgation of tactical theory. It is strange that Dr Maguire thought tactics at the RMC might be brought more up to date, when evidence suggested steps were always taken to keep abreast of current theory and interpret it through its textbooks.⁹¹⁷ Whilst Military History was taught in the 1860s, it was not until Captain Edward M Jones had served as professor of Military History (1868-1872) that anything more substantial came about. He had served three years in the Prussian guard and translated the latest Prussian drill book and the operations of the Prussian general staff; which added to his previous publications.⁹¹⁸ It is apparent that Jones had a hitherto unacknowledged impact because as Frederick Maurice noted:

[Jones] went over to Berlin and very carefully studied the methods that were pursued in the German schools, and he came back greatly impressed with what he had derived from them, and ready to join with me, and to lead me in devising instruction in warfare for the young officers.⁹¹⁹

Maurice was appointed in January 1871 and it is likely that the knowledge he gained working with Jones as an instructor fed into his Wellington Prize essay published the following year – certainly, three of Jones's publications were extensively cited in that essay. Maurice viewed this year as an instructor as 'the hardest in all my life [...] not from anything that I had to teach directly, but from the work that I had to do in order to keep

⁹¹⁴ *Akers-Douglas Report 1902*, paragraph 109, p.23.

⁹¹⁵ Walter Haweis James, *1,260 Questions in Topography, Tactics, Military Law, Fortification, Military Administration, Drill* (London: Harrison, 1881), pp.17-38.

⁹¹⁶ WO152/67/90.7457, letter from RMC Professor of Tactics to Assistant Commandant, 24.11.1894; WO152/67/90.7489, WO letter to RMC Governor, 22.12.1894, and replies from Professors, 22nd, 25th, and 27th Dec 1894.

⁹¹⁷ *Akers-Douglas Report Minutes*, evidence of Dr T M Maguire, point 2518.

⁹¹⁸ WO76/143, Records of Service of 20th Foot, p.9; *Dufferin Commission Minutes 1870*, evidence of Captain EM Jones, point 8896. See also entry for Jones, Edward Monckton, in Appendix 4.

⁹¹⁹ Frederick Barton Maurice, *Sir Frederick Maurice: A Record of His Work and Opinions*, (London: E Arnold, 1913), p.14; *Harris Committee 1888*, evidence of Colonel JF Maurice, point 3608.

myself thoroughly au fait with the subject which was then practically new to us.⁹²⁰ (This remark was in response to the Harris committee seeking to equate the number of hours' teaching time with the work involved). The resulting essay was assessed as 'the most famous, distinctive, and influential example' on the Prussian way of war.⁹²¹

When Jones left in September 1872, Captain Francis Clery succeeded the professorship and held it until May 1875. The same year he published *Minor Tactics* based on lectures he delivered to the sub-lieutenants. It was possible that some of the book was based on the work of his competent subordinate, Maurice, and his deceased former senior colleague, Jones. Spiers stated Clery's book, among others, did not have much effect on the late Victorian army.⁹²² Yet, this seems unlikely as *Minor Tactics* was adopted as the textbook and was in use up until at least 1898. Hubert Gough recalled *Minor Tactics* as 'a quite excellent book which I studied with avidity.'⁹²³ There is evidence, too, that Clery's book formed the benchmark for garrison instruction and elsewhere; after all, as previously stated, the RMC was increasingly connected with the ongoing education of officers.⁹²⁴ This was not surprising and for several reasons. Unlike the books by Patrick MacDougall, Edward Hamley, Edmond Walker and even the excellent *Precis of Modern Tactics* by Robert Home; Clery's book was the proven product of teaching cadets (or rather sub-lieutenants) and was consequently concise, well structured and without extraneous theoretical matter (compare with MacDougall's dreadfully abstract line diagrams).⁹²⁵

The book went through many editions and was revised frequently. In comparing the 1875, 1880, 1883, 1886 and 1896 volumes, a great change appeared between the first two editions; with that for 1880 having been published after the release of the new 1877 *Field Exercises*. Other versions included more minor amendments, such as the example of Tel-el-Kebir incorporated into the section on 'Night Marches', and the new battalion of eight companies of 100 men in the 'Space and Time Required for Formations'

⁹²⁰ *Harris Committee 1888*, evidence of Colonel JF Maurice, point 3611.

⁹²¹ Howard Bailes, 'The Influence of Continental Examples and Colonial Warfare upon the Reform of the Late Victorian Army' (unpublished PhD Thesis, King's College, University of London, 1980), p.96.

⁹²² Spiers, *Late Victorian Army*, p.246.

⁹²³ Gough, *Soldiering On*, p.29.

⁹²⁴ WO152/39/90.2138, WO letter agreeing to RMC Governor's recommendation on adoption of Clery's book, 9.3.1875; WO152/39, 90.2077, WO letter Instructing RMC Professor to afford Assistant to Superintending Officer of Garrison Instruction India, 4.2.1874; WO152/44/90.2947, Colonel CB Brackenbury, Superintending Officer of Garrison Instruction, to RMC Governor, 28.10.1878; WO152/53/90.4852, RMC Governor Lt General RCH Taylor to DGME, WO, 20.5.1883; WO152/70/90.7809, RMC Syllabus 1898; Spenser Wilkinson, 'An Experiment in Military Education', *Army Quarterly*, 3 (Oct 1921 – Jan 1922), 50-69 (57); Lt Colonel GFR Henderson, 'Lessons from the Past for the Present', *Journal of the Royal United Service Institution*, 38 (Jan 1894) 1183-1206 (1184-1185).

⁹²⁵ Patrick Leonard MacDougall, *The Theory of War*, 3rd edn (London: Longman, Green, Longman and Roberts, 1862), pp.68, 71, 78-79; 'Obituary: Sir Francis Clery: Tactics in Theory and Practice', *The Times*, 26 June 1926, p.16.

section – both in the 1883 edition.⁹²⁶ Despite the frequent changes, the section on the infantry attack was not updated for some time. The book was adopted in March 1875 and prior to the official 1877 attack formation instruction, Clery's section on the attack gave only guiding principles; in that, dense attack formations were no longer possible and that the assault should be by a skirmishing line with a supplying reserve which later combined with it for the final assault.⁹²⁷ The general guidance herein was in line with continental practice and the view concurred in by Maurice. Yet, only the following year the December 1876 final exam substituted the textbook's section on infantry attack with the more specific 'Formation of Attack' issued with General Order 46, 1876. For the next eight years the same section was replaced by the relevant section of the 1877 *Field Exercises*.⁹²⁸ Then, when the 1884 *Field Exercises* were issued, although chapters 1-20 were included, the official exercises replaced or augmented Clery's sections on attack and defence formations, skirmishing, advanced guards and outposts.⁹²⁹ In such instances Clery was relied upon more as a book which explained principles and gave good examples of historical actions. When the book was heavily revised in 1890 it was again regarded as the textbook.⁹³⁰

As a result of the use of the latest drill manual during the period when the textbook was out of date, the RMC ensured that it taught tactical doctrine in accordance with the wider army. This contradicted Spencer Jones's view that within the army there was a lack of doctrine and 'a profusion of tactical ideas based on individual regimental experience [which] meant tactics and formations of attack varied considerably.'⁹³¹ Jones made reference to the *Infantry Drill* 1896 as a 'move in the right tactical direction'. Yet, the *Infantry Drill* 1889 gave very detailed extended order attack guidance.⁹³² Also, the work by Bailes showed the deep concern of British military thinkers in the method of crossing the fire swept zone back to 1870 (or before in the case of Walker).⁹³³ Whatever effects the Boer War had on tactics, it is unnecessary to distort its impact by characterising the late Victorian army doctrine as, advancing in 'shoulder-to-shoulder formations [against]

⁹²⁶ Cornelius Francis Clery, *Minor Tactics*, (London: Kegan Paul & Co., 1883), pp.93-94, and Ch.4.

⁹²⁷ Cornelius Francis Clery, *Minor Tactics*, (London: Henry S King & Co, 1875), pp.101-106.

⁹²⁸ Prince Consort's Library, Army Orders, General Order 46, 'Formation of Attack', 1876; Course Synopsis for Examiners: WO152/40/90.2191, 12.1876; WO152/42/90.2521, 12.1877; WO152/44/90.2955, 11.11.1878; WO152/45/90.3219, 6.1879; WO152/46/90.3383, 11.1879; WO152/48/90.3661, 6.1880; WO152/48/90.3871, 12.1880; WO152/28/88.2344, 12.1883; WO152/23/88.2644, 6.1884.

⁹²⁹ WO152/20/88.1970, 'Senior Division: Course of Instruction for Final Exam, December 1885'.

⁹³⁰ WO152/26/88.1849, letter from Professor of Tactics, Lt Colonel G Le M Taylor to RMC Governor, 31.10.1890.

⁹³¹ Jones, *From Boer War to Cold War*, pp.76-77.

⁹³² War Office, *Infantry Drill as revised 1889* (London: HMSO, 1889), part VI.

⁹³³ Bailes, 'Influence of Continental Examples', pp.140-141; Walker, *Military Elements*, p.42.

colonial opposition that lacked modern weapons.⁹³⁴ For example, this early memorandum anticipated the changes to come:

Majors will be with the 2nd line [...] but will not give orders unless absolutely necessary, leaving officers commanding companies as much independent action as possible [...] section commanders should be held responsible that [...] their sections advance direct to their front, and take advantage of cover in their immediate front [...]⁹³⁵

As Bailes suggested, a view with which Ian Beckett concurred, the problems in the Boer War were not a lack of doctrine but a failure to act in accordance with it.⁹³⁶

This point is strengthened when considering cadet training for colonial war. The syllabuses between 1875 and 1888, plus that for 1898 and the contents of *Minor Tactics*, revealed a general absence of colonial wars from tactical teaching.⁹³⁷ All the examples, except crossing defiles in the First Afghan War, were from continental warfare – either from Napoleonic, Crimean or from 1866 and 1870. This was continued in 1881 when lessons from another significant continental war, the Russo-Turkish War (1877), were incorporated. Still, there was no mention of the Zulu War (1879), the Second Afghan War (1878-80) or the First Boer War (1881).⁹³⁸ Howard Bailes suggested there was a section of British officers, whom he described loosely as the ‘Imperialists’, which felt Britain should develop doctrine and organisation orientated towards the most likely employment in colonial policing, defence and expansion. This he contrasted with the ‘Continentalists’ who drew inspiration particularly from the developments arising from the Franco-Prussian War and later from general continental practice. However, irrespective of whether these views fall into such distinct camps or not, the opinions and debate at places like RUSI, on this topic anyway, seemed to remain there. As Bailes himself demonstrated, the so-called ‘Continentalists’ won from the beginning – as the new methods of attack were incorporated into the drill books.⁹³⁹ Further, if he had investigated the RMC, and presumably the Staff College too, he would have found this view being inculcated into intake after intake of cadets. After all, there were no doctrinal publications on colonial wars

⁹³⁴ Spencer Jones, ‘The Influence of the Boer War (1899-1902) on the Tactical Development of the Regular British Army 1902-1914’ (PhD Thesis, University of Wolverhampton, 2009), p.64.

⁹³⁵ Prince Consort’s Library, ‘Drill Memorandum on Infantry Attack’, issued by Colonel GB Harman, AAG Aldershot, 18.6.1875, p.3.

⁹³⁶ Bailes, ‘Influence of Continental Examples’, p.141; Ian Beckett, *Victorians at War*, (London: Hambledon and London, 2003), p.235.

⁹³⁷ A paragraph of less than 50 words on ‘Savage Warfare’ with a reference to the relevant page in the Infantry Drill book exists in SCA, ‘Tactics 2’ notebook of GC HC Potter, 1895.

⁹³⁸ See Cornelius Francis Clery, *Minor Tactics*, 5th edition, (London: Keegan Paul & Co, 1880), ch.20; C F Clery, *Minor Tactics*, 6th edn, (London: Keegan Paul & Co, 1883), ch.20; WO152/50/90.4304, *Synopsis of the Course of Instruction at the Royal Military College*, (London, HMSO, 1881), p.11.

⁹³⁹ Bailes, ‘Influence of Continental Examples’, pp.127-129.

until Callwell's *Small Wars* – a work cited in *Tactics for Beginners*, which replaced *Minor Tactics* in 1900.⁹⁴⁰ Interestingly, it was possible that cadets may have received, if not official instruction, then some anecdotal colonial war examples from instructors who had seen active service. Some instructors published their experiences in the one-off *Royal Military College Magazine* of 1891.⁹⁴¹ Staff who had been at the disastrous incidents of Majuba in 1881 (Forbes MacBean) and Isandlwana (Edward Essex) would surely have caused interest.

The Akers-Douglas committee was perceptive in noting the degree to which the principal technical subjects were kept in 'water-tight' compartments, with the intimate links between them not being sufficiently impressed upon the cadets.⁹⁴² The way the three subjects were taught by separate branches of instructors certainly supported this. At the Harris committee of 1888, the idea of having instructors capable of teaching all three branches was something which in some quarters was aspired to – principally to reduce the number of instructors.⁹⁴³ Of course, instructors were sometimes moved between the branches – though not as a rule, and only for either personal reasons, or for reasons of harmonious working relating to seniority. It was generally found that instructors were more efficient if they kept within their own branch (this will be returned to in the section on instructional staff). Also, the archives do not record any instances of combined training between the branches – indeed, under Governor East's regime there was sometimes antagonism, with each professor looking to the interests of their own branch. In order to shed more light on this issue, the course in the remaining two branches must be examined and the similarities compared.

The Fortification course consisted of learning to build and to place the structures necessary for a defence in the field. The potential overlap with tactical training was in the extent to which understanding could be had of placing and combining various types of field works from a tactical point of view. Certainly, Philips's textbook contained examples which included tactics; however, it is not clear to what degree the mechanical tasks of planning, organising and executing these field works crowded out the tactical aspect of the course. At least, however, there was a gradual throwing off of the trammels of the traditional engineer's perspective. This took time and was not helped by the Commander-

⁹⁴⁰ Captain Charles E Callwell, *Small Wars. Their Principles and Practice* (London: HMSO, 1896); Major Cuthbert De Gruyther, *Tactics for Beginners*, 3rd edn, (London: Gale & Polden, 1906), p.347.

⁹⁴¹ Forbes MacBean, 'What I Saw of Majuba', *RMC Magazine*, 1.2 (April 1891), 31-32; 'Reminiscences of the Egyptian War of 1882', *RMC Magazine*, 1.3 (May 1891), 38-40; 'My Experiences Under Fire', *RMC Magazine*, 1.3 (May 1891), 50-1 and 1.4 (June 1891), 60-62; 'A December Night', *RMC Magazine*, 1.4 (June 1891), 65-6; Johnston Stoney Talbot, 'Reminiscences of a Campaign: My First Night in the Desert', *RMC Magazine*, 1.5 (July 1891), 86-89.

⁹⁴² *Akers-Douglas Report 1902*, p.22, para. 104.

⁹⁴³ WO152/55/90.5056, WO letter to RMC Governor, 21.4.1886.

in-Chief insisting that the professor should always be an engineer officer.⁹⁴⁴ Despite their backgrounds, the engineer officers altered the course to be more suitable for infantry officers.

The first professor was George Philips, who was appointed as far back as 1858. He wrote the revised textbook for cadets in the 1860s and was to modify it continuously for the remainder of the century. Philips and his principal instructor, Edmund O'Brien (appointed 1869), kept abreast of the changes at that time and incorporated into the textbook details they had witnessed first hand during the Franco-Prussian War (e.g. compare Plate I in O'Brien's paper with Plate 34 in the 1884 Fortification textbook).⁹⁴⁵ The improvised defence of farms and houses outside Paris in 1870-71 in the Fortification textbook corresponded with the tactical example, 'Outpost of Prussian 10th Division Before Paris' in *Modern Tactics* (itself a précis of Boguslawski's examples).⁹⁴⁶ As Boguslawski stated in the same section: 'if you wish to employ the art of field fortification correctly [...] you must enter heart and soul into tactical questions in combination with your technical knowledge.'⁹⁴⁷ However, neither textbook linked the examples with each other; whether Clery, Philips or O'Brien (being contemporaries) did so during teaching, can only be conjecture.

If it was open to question whether tactical considerations were inculcated into the cadets, then at least the 'nuts-and-bolts' of field fortification were changed according to tactical ideas. Firstly, Philips abandoned teaching permanent fortification as not desirable for infantry and cavalry officers.⁹⁴⁸ When O'Brien became professor, he increased the practical work. For example, field casemates (whose value had been noticeable in the Russo-Turkish War) were now constructed and assessed, two plates of practical geometry were excised and, lastly, instruction was now given in the techniques of improvising the defence of buildings, roads, walls and hedges.⁹⁴⁹ This outpost defence

⁹⁴⁴ WO152/62/90.6443, WO letter to RMC Governor, 29.8.1892.

⁹⁴⁵ See for example Captain George Philips, 'Remarks on some Prussian Field Redoubts used in the Investment of Paris, 1870-71', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers*, 20 (1872), 79-80; Lieut EDC O'Brien, 'Description and Sketches of French and Prussian Works constructed during the War of 1870-71', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers*, 20 (1872), 81-82.

⁹⁴⁶ Clery, *Minor Tactics*, 1st Edn, 1875, p.25 and 5th Edn, 1880, p.29; Albert von Boguslawski, *Tactical Deductions from the War of 1870-71*, trans. By Lumley Graham (London: H S King & Co., 1872), pp.134-140; George Philips, *Textbook on Fortification etc.*, 2nd edn (London; Pardon & Sons, 1874), pp.110-112.

⁹⁴⁷ Boguslawski, *Tactical Deductions*, p.143.

⁹⁴⁸ WO152/40/90.2191, Minute to Military Secretary from DGME, 29.11.1876; for amended syllabus see WO152/42/90.2151, Synopsis of Course of Instruction for December 1877 exam, 12.1877.

⁹⁴⁹ Nicholas Murray, *The Rocky Road to the Great War: The Evolution of Trench Warfare to 1914* (Dulles, Virginia: Potomac Books, 2013), pp.71-2; Captain John Needham, 'Lessons from the Late War', *Journal of the Royal United Service Institution*, 22 (1878), 941-956 (p.950); for syllabus changes see WO152/46/90.3316, Proof of Course Synopsis, Summer 1879, and WO152/48/90.3661, *Synopsis of the Course of Instruction at the Royal Military College, 1879*, (London: HMSO, 1879), pp.3-4.

had only been shown previously, but O'Brien requested permission to adapt the derelict Fives court and instruct it practically. The building was then also used by Staff College students and later enlarged to allow more cadets to practise at the same time.⁹⁵⁰ However, O'Brien was not able to make all the improvements he would have liked, primarily because of financial reasons. For example, he had difficulty in securing up-to-date models of artillery.⁹⁵¹ Still, it was possible to incorporate changes that were 'cost neutral' such as blockhouses, which by 1881 were attributable in part to the influence of 'savage wars'. They were ideal for mountainous country, and along lines of communication, in sparsely populated potentially hostile territory.⁹⁵²

Major Lothian Kerr Scott took over from O'Brien and also reduced geometrical drawing further. He also advocated better skills in plan drawing from candidates so that cadets could make better progress on the course.⁹⁵³ The continued changes necessitated the QM sergeant instructor to be upgraded to a sergeant major instructor. Since the numbers of sappers were cut, untrained infantry had to be taught engineer duties. Also, with the cadets 'having to do far more practical work than formerly' this NCO was brought into 'closer relation with officers and cadets.'⁹⁵⁴ Much seemingly depended on this highly satisfactory NCO, the retention of which '[would] be of service to the state and economical to convert [...] into that of a Warrant Officer.'⁹⁵⁵ It being obviously cheaper to cut the sappers and give a pay increase to one man, the War Office agreed. According to the pay list, this NCO was now paid more than the college sergeant major.⁹⁵⁶ With the competent NCO secured, Scott recommended 'reducing the theoretical parts of the artillery course to a minimum' and further developing the practical work. Certainly, the list of works to be carried out by cadets at the exam was as extensive as ever.⁹⁵⁷ Scott stated it was the 'best course of instruction in field fortification that I am acquainted with.'⁹⁵⁸ The practical

⁹⁵⁰ WO152/43/90.2756, letter from Captain EDC O'Brien to Commandant, 19.5.1878; WO152/47/90.3505, letter from Captain EDC O'Brien to Commandant, 1.3.1880.

⁹⁵¹ WO152/48/90.3672, letters from Captain EDC O'Brien to Commandant, 15.3.1880 and 24.6.1880; WO152/50/90.4252, WO letter to RMC Governor, 26.9.1881.

⁹⁵² Lt R da Costa Porter, 'Warfare against Uncivilised Races: or, How to fight greatly Superior Forces of an Uncivilised and Badly-armed Enemy', *Professional Papers of the Corps of Royal Engineers*, 6 (1882), 305-360 (p.333); Philips, *Textbook of Fortification*, 1884, pp.76-78 (p.77); WO152/49/90.4070, Amendments on *Synopsis of the Course of Instruction at the Royal Military College, 1879*, p.3.

⁹⁵³ WO152/48/90.3698, Memorandum by EDC O'Brien to Commandant, 20.7.1880; WO152/29/88.3043, WO letter to RMC Governor, 14.10.1884; WO152/54/90.4972, Memorandum by LK Scott to RMC Commandant, 25.6.1884.

⁹⁵⁴ WO152/20/88.2055, letter from Professor of Fortification, LK Scott to RMC Cmdt, 11.10.1885.

⁹⁵⁵ WO152/20/88.2055, WO letter, to RMC Governor, 29.9.1885 and letter from RMC Professor of Fortification, LK Scott to RMC Commandant, 11.10.1885.

⁹⁵⁶ *Harris Committee 1888*, Appendix I, p.151, "Estimate of the Probable Expenditure of the Royal Military College, 1st April 1887 to 31st March 1888; WO152/55/90.5030, WO letter approving promotion, 8.1.1886.

⁹⁵⁷ WO152/55/90.5075, RMC Professor of Fortification, LK Scott to RMC Commandant, 6.1886; WO152/55/90.5076, WO letter List of works to be Executed at Exam, 21.6.1886; See transcribed example of practical activity for exam in, Appendix 3, Annex 3.ii.

⁹⁵⁸ *Harris Committee 1888*, evidence of Lt Colonel LK Scott, points 1529-1530.

character was presumably why the RMA Professor of Fortification was sent to Sandhurst to confer with Scott – in order to improve the RMA course. In 1899 the RMC textbook was adopted by the RMA.⁹⁵⁹

Of course, practical did not equate with *useful*, and it is not clear how far the tactical aspect was being dropped. For instance, Scott stated that the instruction was technical ‘and a little tactical too’, but:

Although they go in for the defence of villages, which is an application of what they have learnt in the study, everybody knows that [this subject] is one of the most difficult subjects to understand for men who have studied it constantly, and it must be very much more difficult for a cadet to understand it because he is obliged to do so many other subjects.⁹⁶⁰

Philips’s textbook had paragraphs which explained the placing and form of works from a tactical point of view.⁹⁶¹ It is known that these paragraphs from the textbook were explained by lectures ‘illustrating them by examples in recent wars [but] even then we have not time to do much of that.’⁹⁶² During O’Brien’s tenure the entire course was invariably covered. When Scott took over in 1885 the synopsis for the examiners showed that the majority of these tactical sections were included.⁹⁶³ In 1886 and 1887 some sections were omitted.⁹⁶⁴ The quotes above alluded to the difficulty in teaching this and the time pressure. Also, by the end of the 1880s, Philips’s book, although ‘admirably suited’ was becoming out of date and defence formations were taught in the Tactics syllabus.⁹⁶⁵ Certainly, the Tactics examiners set some questions on this, but without any record of the two professors conferring on this point, or a complete set of surviving exam papers for both subjects, the degree of overlap cannot be established.⁹⁶⁶

It should be noted, however, that there were limits on the extent to which the practical elements of the course could be expanded, not least because of the amount of manpower and material required. Old field works had to be levelled, the planks and

⁹⁵⁹ WO152/59/90.5782, WO letter to RMC Governor, 9.3.1899.

⁹⁶⁰ *Harris Committee 1888*, evidence of Lt Colonel LK Scott, point 1567.

⁹⁶¹ Philips, *Textbook of Fortification*, 1884, pp.51-52, 54, 68-69, 110-111, 115-126, 134-5.

⁹⁶² *Harris Committee 1888*, evidence of Lt Colonel LK Scott, points 1550, 1537, 1562.

⁹⁶³ WO152/20/88.1970, ‘Portion of Colonel Philips Course Book of Fortifications in which the Seniors are to be Examined in December 1885’, 6.11.1885 – except some historical examples on pp. 68-9, 119-121.

⁹⁶⁴ WO152/56/90.5172, ‘Portions of Colonel Philips Course Book of Fortification on which the Senior Division of Cadets are to be examined, December 1886’; WO152/11/88.1218, ‘Portions of Colonel Philips Course Book of Fortification on which the Senior Division of Cadets are to be examined, December 1887.’

⁹⁶⁵ WO152/26/88.1817, letter from Professor of Fortification, Major E Ross-of-Blandensburg, to RMC Assistant Commandant, 20.10.1890.

⁹⁶⁶ James, *Questions in Topography etc*, see questions; 35,41, 86, 128, 129, 131, 174, 235, 297, 298, and whole tactics chapter.

revetment materials recycled or written off. The work parties which cut the wood for gabions, fascines and bridging had to be coordinated and the materials needed to be delivered to the several sites where the cadets were to work simultaneously. In addition, the condition of the bridging materials and house of defence had to be maintained and certified. After the Harris committee, the War Office cavilled at requests to enlarge the hard-pressed works party. The new professor found it inadequate to the point where they were not only behind with their work, but it was also impossible to keep the instruction up to date. After repeated representations by the professor, the Duke of Cambridge approved his plans, though the War Office remained reluctant.⁹⁶⁷

The logistics behind the practical instruction inevitably set limits on the degree to which co-operation was possible with the Tactics branch. For example, with outpost schemes conducted up to three miles from the college, the material necessary would have to be carried some distance. Cadets could have dug shelter trenches and rifle pits during an assault but hundreds of these would need to be constantly filled in by the works party. In view of this, cadets demonstrated their knowledge of defending posts on paper, as is evidenced by three surviving defence schemes. This is not as theoretical as it might be assumed because all the locales were intimately known by the cadets. For example, two schemes were based on the roads and minor buildings immediately to the rear of the college.⁹⁶⁸ A third scheme was based on Sandhurst village itself wherein the types of field works were plotted, and the men and material assigned to building and defending allocated.⁹⁶⁹

In 1892, Philips published the substantially revised textbook, which incorporated the adoption of smokeless powder (the 5th edition was dated 1884).⁹⁷⁰ It was also written for the three-term course and so included new chapters on road making, camping arrangements and water supply.⁹⁷¹ With this three-term course it seemed cadets had time to learn these new tactical aspects as the notebooks by Cadet N C Potter testify.⁹⁷²

However, the notebooks of Gentleman Cadet Potter support the criticism made by the Akers-Douglas committee as to the time taken over finely illustrated notebooks and

⁹⁶⁷ WO152/14/88.1568, letter from Professor of Fortification, Major E Ross-of-Blandensburg, to RMC Governor, E Clive, 10.5.1890; WO152/63/90.6667, letters and report on Working Party, 30.3.1893; WO152/63/90.6726, WO letter to RMC Governor, 27.5.1893.

⁹⁶⁸ SCA, CAYMA: 2015.72, Course work of GC S H Godfrey ('Scheme No.1' and associated sketches), 1880; CAYMA: 76.281, 'Defence of a Post' by GC A H Marindin, 5.7.1892.

⁹⁶⁹ SCA, CAYMA: 91.132(4), 'Scheme for the Defence of a Post, Sandhurst' by GC HW Dickson, 16.11.1898.

⁹⁷⁰ George Philips, *Textbook on Fortification*, 5th edn, (London: Pardon & Sons, 1892), See in particular, sections 160-2, pp.50-1; 180-188, pp.57-8; 308-317, pp.86-88; 389-402, pp.111-114.

⁹⁷¹ Philips, *Textbook on Fortification*, 5th edn, preface.

⁹⁷² SCA, [no. ref.], Course Notebooks of GC NC Potter, 1895, Fortification books nos.3 (Works Adapted to Ground), 5 (Combination of Works) and 7 (attack and defence of posts).

drawings. They cited the evidence of Captain Moore who stated that, with cadets having a proportion of marks allocated to their notes, cadets were too often inclined to excessively elaborate them.⁹⁷³ The committee might well have cited other witnesses who confirmed this and were knowledgeable.⁹⁷⁴ The laboriously written notes by Potter and the elaborate drawings of J G Fairlie bear this out.⁹⁷⁵ Indeed, on one occasion the problem brought about friction between the Professors of Fortification and Tactics when cadets ended the term finishing off their Fortification notes to the detriment of Tactics revision – in some cases even finishing off these notes in another exam.⁹⁷⁶ Not only did this latter instance suggest pigeon-holed thinking by the professors, but it perhaps explained the committee's criticism of Military Engineering never having been brought into tactical schemes.

Whilst there were these flaws, the committee was probably too quick to decry the Military Engineering instruction as strongly as they did. Colonel Adair emphasised the need for neatness in drawings, not only to ensure functional clarity, but also in order to get boys into good habits – after which they could amend their drawing style/method to the circumstances.⁹⁷⁷ Even Markham and Moore suggested a certain amount of drawing was necessary to help cadets understand and remember the constructions. As it was, the number of proper plates drawn in fact only occupied five or six pages of an otherwise empty portfolio. This amounted to only one drawn every two months.⁹⁷⁸ Also, the committee did not acknowledge the substantial practical component or the logistical implications of carrying it out. Nor were they attune to the tactical aspect of the instruction that did exist as indicated by the examples of cadets' work above. There was also the potential for Fortification and Tactics to overlap with Military Topography; the degree to which it might have, will be explored next.

Reconnaissance, like the defence of posts, came at the end of its course of Military Topography, once the practical and technical skills of surveying had been learnt. That is; triangulation and traversing, followed by 'Field Sketches' and then an 'Eye Sketch' (or drawing without instruments). In effect the course was inversed, as technical skills, theory and accuracy were learnt first, followed by the looser 'sketching' (which was surveying in haste). The culmination was the ability to interpret the ground in military

⁹⁷³ *Akers-Douglas Report Minutes*, evidence of Captain C Moore, Instructor in Fortification, points 3701-3.

⁹⁷⁴ *Ibid.*, evidence of: Lt Colonel WWC Verner 4009; Lt Colonel JS Talbot, 5264; Colonel A Lonsdale Hale, 2688; Lt General Sir E Markham, 7570.

⁹⁷⁵ SCA, CAYMA:2002.792(i), Note book of Gentleman Cadet J G Fairlie, 1895-1897.

⁹⁷⁶ WO152/15/86.2991, two letters from Professor of Tactics, JA Fergusson, 4.12.1896 & 15.12.1896.

⁹⁷⁷ *Akers-Douglas Report Minutes*, evidence of Colonel WT Adair, points 3603-6.

⁹⁷⁸ *Akers-Douglas Report 1902*, Appendix XXXII, 'Replies to Questions for the Staff, RM College', answers 14, 15, 22; *Akers-Douglas Report Minutes*, evidence of Captain C Moore, points 5702, 5704; SCA, [no. ref.], 'Fortification Plates' by GC A J Fraser, 1898-1899; SCA, [no. ref.], 'Fortification Plates' by GC M Earle, 1890.

intelligence and tactical terms as a 'Road Reconnaissance'. Between 1877 and 1881, the course was shaped by the long-serving professor, William Paterson. His textbook entered extensively into tactical questions towards the end; dealing with reconnaissance of roads, rivers, outposts and positions. The sections on outposts and positions overlapped with the corresponding parts in the textbooks by Clery and Philips. However, it must be noted that only the 'Road and River Reconnaissances' were in the syllabus.⁹⁷⁹ In 1880, a War Office committee reported on the future of topographical teaching in the army. With instruction happening at various locations, using various textbooks, the committee sought to standardise instruction. The result was a single textbook with sections that increased in accordance with promotion exams and Staff College content. The result was that the RMC section was simplified with the introduction of map reading at the beginning and the removal of river reconnaissance at the end. Sections on the reconnaissance of positions were left for the examination for promotion to lieutenant. The committee concluded that instruction in the more advanced parts of reconnaissance 'will be given [...] concurrently with that in Military Topography, under the head of Tactics and Field Fortification.'⁹⁸⁰

There were also a number of changes in technique which had been distilled from the British army's particular colonial campaign experiences. In fact, it was acknowledged that military topography needed to be, and sometimes was, superior to that of continental armies, owing to the numerous colonial campaigns often in uncharted territory. The main change was the re-introduction of the plane table as a substitute for the prismatic compass, the former which had been used successfully in Afghanistan, and the latter which had failed in South Africa.⁹⁸¹

The new course was adopted in the 1881 syllabus and the new textbook in 1883.⁹⁸² It remained largely the same until 1896 upon the appointment of Lieutenant Colonel Willoughby Verner at the behest of Viscount Wolseley. Verner was known to Wolseley through his substantial campaign experience and particular commitment to practising and teaching topography. He was particularly passionate about bringing out the tactical appreciation of ground, even if the Governor did not fully agree with it.⁹⁸³ His

⁹⁷⁹ William Paterson, *Notes on Military Surveying and Reconnaissance*, 6th edn (London: Trubner & Co., 1882). pp.110-114; WO152/48/90.3661, 'Synopsis of Course of Instruction at the Royal Military College, 1879'.

⁹⁸⁰ WO152/53/90.4852, Memorandum of RMC Governor, Lt General RCH Taylor, to DGME, 20.5.1883; 'Report of Committee on Text Book and System of Instruction for Military Sketching and Surveying, etc. April 1880, in *Third DGME Report 1883*, pp.144-159 (p.149). [hereafter *Alison Committee 1880*].

⁹⁸¹ *Alison Committee 1880*, p.146; Willoughby Verner, 'Military Topography', *Proceedings of the Military Society of Ireland*, (1893) 1-34 (pp.29-30).

⁹⁸² WO152/50/90.4243, WO letter to RMC Governor, 17.9.1881; WO152/50/90.4304, *Synopsis of the Course of Instruction at the Royal Military College*, London; 1881, HMSO, p.5; WO152/22/88.2282, WO letter to RMC Governor, 7.2.1883.

⁹⁸³ Verner, 'Military Topography', pp.4-5; *Akers-Douglas Report Minutes*, evidence of Lt Colonel WWC Verner, points 4005-6, 4028.

appointment seemed to bring a renewed vigour to the instruction; lobbying for additional equipment and relying on quicker techniques such as the cavalry sketching board and plane table to allow more reconnaissance work – particularly outpost sketches, wood and river reconnaissance. He also abolished any plate drawings in class.⁹⁸⁴ Nevertheless, in typical War Office fashion, when Verner requested a qualified NCO to assist with lithography and for technical assistance in the field, the application was not supported – despite this assistance being provided to a usual DAAG of garrison instruction.⁹⁸⁵

The Akers-Douglas committee criticised Military Topography for many of the same reasons that they had criticised Fortification, but in addition they concluded that it had been given too much prominence. Indeed, by 1901, the marks allotted were certainly greater than those allotted to Tactics. This did not reflect the situation in the majority of the period as marks were equally allocated from 1877 until 1895 when Military History was included. However, unlike the criticism of Fortification the evidence supporting its undue prominence was somewhat obscure. The general need for topographical training was noted above in the 1880 Alison committee and reiterated in the 1890s.⁹⁸⁶ Similarly, in 1901, the Military Secretary, General Sir Ian Hamilton, thought knowledge of military topography was of use on active service and there were others who confirmed the need for this training.⁹⁸⁷ Colonel Delavoye thought topography was ‘very well taught’ at the RMC, and the course at the RNC was ‘practically the same.’⁹⁸⁸ Others, some of whom were supporters of the militia route, conceded it was an advantage of the Sandhurst cadet.⁹⁸⁹ This was because it was a course taught both practically and theoretically. The committee cited only two witnesses to support their criticism. One was Lord Raglan, a militia officer who had, in 1897, suggested Sandhurst should be retained with sole admission by a competition from the militia. However, by 1901, he recommended its total abolition. In 1897, he stated that a militia officer only needed to read a map and write a report. When pressed by the committee, in 1901, whether militia officers could really be trained to the required standard, his changed position with regard to the abolition of Sandhurst rather compelled him to state that all that was necessary for *regular* infantry

⁹⁸⁴ WO152/24/88.2745, WO letter to RMC Governor, 19.6.1896; WO152/24/88.2811, 2816, 2827, letters from Lt Colonel W Verner, to Assistant Commandant, 25.8.1896, 27.8.1896, 1.9.1896; SCA, *Syllabus of the Course of Instruction at the Royal Military College, Sandhurst, 1898* (London: HMSO, 1898), p.7; WO152/70/90.7799, Memorandum on Changes to Course to WO by RMC Governor, Lt General CJ East, 16.2.1898.

⁹⁸⁵ WO152/15/86.2886, letter from Lt Colonel W Verner to Assistant Commandant, 19.10.1896.

⁹⁸⁶ Verner, ‘Military Topography’; ACH Kenney-Herbert, ‘On the Best Method of Teaching Military Sketching’, *Journal of the Royal United Service Institution*, 40.1 (1896), 221-246 (p.245), see comments by DGME Major General Sir Charles Wilson RE.

⁹⁸⁷ *Akers-Douglas Report Minutes*, evidence of: Major General Sir Ian Hamilton, point 819; Lt General John Fryer, point 1254, Lt Colonel S Moores, point 2379.

⁹⁸⁸ *Ibid.*, evidence of: Colonel AM Delavoye, point 281; Colonel WT Adair, point 3679.

⁹⁸⁹ *Ibid.*, evidence of: Major General Sir Coleridge Grove, point 534; Lt Colonel CW Carey, point 2237; Lt Colonel CC Monro, point 6870.

officers was to read a map and write a report.⁹⁹⁰ The other witness cited was former professor Verner. Having spent a great part of his career in topographical education, it is arguable that the real nub of his evidence was having an elastic approach to topographical instruction that did not try to force all cadets to do the same thing.⁹⁹¹ Therefore, the source of the committee's opinion might lie with the committee's secretary, Captain William E Cairnes, a militia officer with no active service and noted military critic for the *Westminster Gazette* during the Boer War. He anonymously wrote the critical pamphlet *An Absent Minded War* and in another anonymous publication written the year before the committee, stated 'it is absurd to expect every officer to produce a sketch map of a square mile of country' and that map reading and report writing were sufficient.⁹⁹² Although probably biased, the RMC Governor noted that the course was excellent for the future officer:

[...] not so much because it teaches him to "make maps" as that it trains him in the observation, in the appreciation of ground and its effects on tactical movements, in acquiring an eye for the country, in judging distance, in clearness and neatness in making reports, and in reconnaissance work generally.⁹⁹³

However, the more pertinent criticism did not relate to prominence but, again, to the lack of combined training with the other branches. In one respect, although the branches were not combined in their tuition, all of that tuition occurred across the ground and country immediately surrounding the college. On one day a tactical scheme might be carried out on a site which might be used for a 'Road Reconnaissance' or an 'Outpost Sketch' the following day. A comparison of a 'Road Reconnaissance' scheme with the 'Defence of a Post' scheme in the appendix emphasizes this point. In them the 'General Idea' of the army advancing from Aldershot to Wokingham, and the immediate environ of the Sandhurst village, is the same; the difference is in one scheme the centre of Sandhurst is set up for defence, whilst the other looks at the landscape around Sandhurst from a military intelligence point of view.⁹⁹⁴

Nevertheless, while there was a section on reconnaissance in the Tactics course, and the ground in the area would be familiar from constant field work, it did not appear to have been carried out in a structured way, as at the RMC Kingston. There, for example,

⁹⁹⁰ Lord Raglan, 'The Militia in 1897', *Journal of the Royal United Service Institution*, 41 (Jan 1897) 254-295 (pp.257, 260); *Akers-Douglas Report Minutes*, evidence of Lord Raglan, point 6132.

⁹⁹¹ *Akers-Douglas Report Minutes*, evidence of Lt Colonel WWC Verner, point 4000.

⁹⁹² 'Cairnes, William Elliot (1862-1902)', in *Concise Dictionary of National Biography*, 3 vols. (Oxford: Oxford University Press, 1992), I, pp.436-7; William Elliot Cairnes, *The Army from Within* (London: Sands and Co., 1901), p.158.

⁹⁹³ *Akers-Douglas Report 1902*, Appendix XXXII, 'Replies to Questions for the Staff, RM College.', answer 24.

⁹⁹⁴ See Appendix 3 Annex 4.i.

the three branches might work together as follows. On the first day the ground would be surveyed, the following day the ground would be studied in relation to a tactical scheme, the day after, field works would be constructed, and on the fourth, the tactical exercise would be carried out under the guidance of staff.⁹⁹⁵ A similar method was carried out at the Royal Naval College, where the staff instructed in all three branches.⁹⁹⁶ It is true that certain RMC staff did transfer between branches, for example Henry C Reynolds and Walter E Lascelles transferred from Tactics to Military Topography. Similarly, two instructors transferred from Topography to Tactics; Captain C Barter and Captain H Mortimer, and another to Fortification, Augustus F Mockler-Ferryman.⁹⁹⁷ These transfers did not, however, create a culture of co-operative working. Verner noted the feeling that if a further hour was wanted to finish a sketch this would be like 'robbing my brother officer of an hour's law'.⁹⁹⁸ This, he believed, was symptomatic of the system at the RMC where time devoted to each subject was taken to have the equivalent military value. Thus, four hours of outdoor topography (which required many miles of walking), from the point-of-view of regulating the studies was seen as equivalent to four hours continuous indoor lectures in Military Law. This sort of weighting was complained of by the Professor of Tactics, Major J E Caunter, whose entire branch was allocated one-third weighting but consisted of four subjects. This point was rightly highlighted by the committee and emphasised by Mahaffey.⁹⁹⁹

IV. RMC Instructional Staff

A certain amount has been written above alluding to the impact of the staff on the course of instruction. However, it is necessary to elaborate particularly on the recruitment and quality of staff as it was they who breathed life into a syllabus on paper; expounding it with talent for communication and infusing it with personal experience. It is serious, then, that the staff came in for particular criticism at the Akers-Douglas committee. To summarise, the criticisms were; the staff were not capable of imparting good instruction because they were not the best men for the task. This arose because instructorships and their incumbents were looked down upon – a feeling which grew out of there being insufficient inducements in terms of pay and rewards. So, this deterred the best applicants and those who did apply were looking for a quiet life for a few years whilst married or before retiring. Of course, this in turn reinforced the perception of the status of instructors. There was also the point that instructors were never removed due to poor

⁹⁹⁵ *Akers-Douglas Report Minutes*, evidence of Colonel G Kitson, point 2912.

⁹⁹⁶ *Ibid.*, evidence of Colonel WT Adair, points 3680-1, 3685.

⁹⁹⁷ *Harris Committee 188*, Evidence of Colonel AS Cameron, point 1001; SCA, RMC Staff Register, 1806-1939.

⁹⁹⁸ *Akers-Douglas Report Minutes*, evidence of Lt Colonel WWC Verner, point 4009.

⁹⁹⁹ *Ibid.*, evidence of Major JE Caunter, point 5571; Mahaffey, 'The Fighting Profession', p.119.

performance.¹⁰⁰⁰ However, as with other aspects of the committee's findings, the picture was more nuanced and complex. It is interesting to note that the cadet college was not the only institution that suffered, as the Staff College also found it difficult to recruit staff. Indeed, many of the committee witnesses stated that instructors throughout the Army were held in low esteem.¹⁰⁰¹

However, although it is true that there was a problem recruiting staff in the 1880s, it is not correct to imply, as Mahaffey did, that this continued through to the period of the Akers-Douglas committee.¹⁰⁰² Rather than trying to put themselves 'on the shelf' many of the instructors requested for either active service on the campaigns of the late 1870s/early 1880s, or to serve on the staff in some capacity. However, requests to go on active service were in the main refused, while requests for staff employment were noted and met at the expiration of appointment.¹⁰⁰³ Presumably, therefore, it started to become common knowledge that an appointment at the RMC would result in being taken off the roster for war service. For example:

I am anxious for more active employment than that of an instructor, and it was with this in view that I went to the Staff College. I hope therefore that I shall not seem ungrateful in declining an appointment at the RMC. I hope that if, unfortunately, there should be a war on the North West Frontier, I may see some active service before my time is up.¹⁰⁰⁴

By 1885, it had got to the stage where a War Office committee sat to consider the problem. As a consequence, letters were sent by the Governor to various districts soliciting applications and the DGME was also suggesting certain officers who had returned from campaigns. By the end of 1887, there were over 200 officers on a waiting list for appointment; in 1890 a candidate was advised: 'there are few vacancies and many

¹⁰⁰⁰ *Akers-Douglas Report 1902*, p.20.

¹⁰⁰¹ *Akers-Douglas Report Minutes*, evidence of: Captain WH James, point 2814; Major General Sir Coleridge Grove, point 502; Major Edmondson, points 1124-5.

¹⁰⁰² Mahaffey, 'The Fighting Profession', pp.112-113.

¹⁰⁰³ WO152/43/90.2775, Letter from Captain RO De Montmorency to Commandant, annotated refused request for service in South Africa, 30.5.1878; WO152/45/90.3085, WO letter Refusing Captain Bunbury to proceed to South Africa, 18.2.1879; WO152/45/90.3123, Montmorency applied for Brigade Major Aldershot but post was already filled, 5.3.1879; WO152/49/90.4018, WO letter refusing Captain HT Wing's request to serve in South Africa, 28.2.1881; WO152/52/90.4672, WO letter refusing Major HTW Allatt's request to rejoin Regiment in Egypt, 28.7.1882; WO152/52/90.4681, WO letter refusing Captain EJ Courtney's request to rejoin his regiment in Egypt, 2.8.1882; WO152/52/90.4707, WO letter that no vacancy to re-join his regiment in Egypt, 28.8.1882; WO152/20/88.1937, WO letter regarding Employment of Captain FG Stone, 23.4.1885; WO152/56/90.5145, WO letter on Major Allatt's request for Staff Employment, 11.10.1886; WO152/55/90.5106, WO letter on Captain Mortimer's request for Staff Employment, 12.8.1886; WO152/58/90.5577, WO letter on Captain Mortimer's request to serve in South Africa, 16.8.1888.

¹⁰⁰⁴ WO152/22/88.2169, letter from Major Wilkinson to RMC Governor, 13.8.1885.

applicants.¹⁰⁰⁵ This meant that the college could be more selective; a fact that was important when a certain number had to be unmarried and live adjacent to the cadets as Divisional Officers. For example, Captain A Barkworth in a letter chasing an application he had made two years previously, restated his qualifications of; having passed Staff College, been a garrison instructor for five years, passed the Chatham fortification course with distinction and having over 20 years experience. The Assistant Commandant responded: 'the next appointment in fortification will probably go to a bachelor.'¹⁰⁰⁶ This fact became known and application letters from candidates frequently adverted to their being unmarried.

This meant that the college was able to get instructors with at least reasonable professional qualifications or experience in staff and/or active service. Out of 116 staff, 65 had prior staff service, and an additional 17, who although they had no staff service, nonetheless had active service. This means 82 (71%) of the instructors had either prior staff or active service experience. 34 had neither staff nor active service experience, out of these; 17 had been to both the Staff College and a cadet college (at either RMA, RMC, EIC Seminary Addiscombe or the RNC); just seven had been cadets only; and four had not been cadets at all. However, out of these four, three had been to Staff College. Only Oswald J H Ball had neither been a cadet, a Staff College graduate, had seen neither active service nor held a staff appointment – nevertheless he has a positive report by his professor.¹⁰⁰⁷

One of the points in favour of an instructorship was the pay, which contrary to the findings of the Akers-Douglas committee was not inadequate. Indeed, three of their own witnesses, who were former instructors, thought the pay was a sufficient inducement.¹⁰⁰⁸ Undoubtedly it was; as there are two surviving examples of applications made which brazenly mentioned that they were applying for pecuniary reasons (a third, a cavalry officer, alluded to this).¹⁰⁰⁹ Needless to say, these officers were never appointed, so it is likely there were others for whom it was attractive but had the tact not to say. Evidence suggests that the pay was attractive to poorer officers, for example, Captain John R Young, who was highly regarded and one of a few officers who were re-engaged.¹⁰¹⁰

¹⁰⁰⁵ *Harris Committee 1888*, evidence of Colonel AS Cameron, points 904-908; WO152/26/88.1769, letter to Captain OJH Brookes, 16.10.1890.

¹⁰⁰⁶ WO152/68/90.1258, Minutes on letter from Captain A Barkworth, 7.1.1897.

¹⁰⁰⁷ WO152/61/90.6188, Comments of G Le M Taylor on OJH Ball, 23.8.1891; Appendix 5.

¹⁰⁰⁸ *Akers-Douglas Report Minutes*, evidence of: Colonel Lonsdale Hale, point 2738; Lt Colonel W Verner, point 4033; Lt Colonel GFR Henderson, points 6401-2.

¹⁰⁰⁹ WO152/47/90.3462, letter from Captain Ponsonby, 9.2.1880; WO152/49/90.4163, Letter from Captain WC Lloyd, 29.6.1881; WO152/51/90.4563, letter from Captain C Norton, 5th Lancers, 23.5.1882.

¹⁰¹⁰ *Harris Committee 1888*, points 904-908; *England & Wales, National Probate Calendar (Index of Wills and Administrations)*, 1858-1966, entry for 'John Robert Young', 1916.

The feeling was that it was not the pay but rather the want of acclaim for successful officers. When put to Verner that ex-instructors were rewarded by being noted for special service, he responded with wonderful sarcasm: 'It is truly a delightful consolation to have your name noted there [the War Office].'¹⁰¹¹ However, as Henderson observed:

[The detriment to an officer's career] is considered so by the Army at large, but it is not at all considered so by the military authorities; if an officer does very good work at an educational establishment, his claims are always considered for advancement.¹⁰¹²

The Military Secretary concurred with this to the same committee.¹⁰¹³ The nature of Verner's testimony and lecture style pointed to an individual of wit, intelligence and dedication to his work; but he was prone to flippancy and exaggeration for the sake of humour. For example, he stated:

[...] I have absolutely ruined my career by, at the desire of Lord Wolseley, becoming a professor, instead of waiting for the command of my battalion in the Rifle Brigade, and I am only one of a number who have done that sort of thing.¹⁰¹⁴

The truth was that by becoming involved in instruction, first in Ireland then at Sandhurst; he invented a successful pattern of compass and sketching board, wrote a textbook for NCOs as a private venture, secured a professorship with a salary of at least £500 a year and then went to the South African War as DAAG Topography.

Indeed, Verner's publishing was a trait exhibited by other staff, with many publishing material related to their instructional branch. Many staff saw service overseas and some, while they did not write works on doctrine, wrote about colonial military history and geography. For example, two staff wrote the intelligence report on the Second Afghan War (Captains Albany R Savile and Ferdinand H W Milner); Savile had also written on Cyprus, and Mockler-Ferryman wrote about West Africa. Others focused on a particular technology, such as LK Scott, H Kitchener or H Allatt.¹⁰¹⁵ Indeed, David French saw the Victorian army not as a technological anachronism, but suggested that, as a result of its continuous colonial warfare, Britain was at least on a par, if not ahead, of its continental

¹⁰¹¹ *Akers-Douglas Report Minutes*, evidence of Lt Colonel W Verner, point 4029.

¹⁰¹² *Ibid.*, evidence of Lt Colonel GFR Henderson.

¹⁰¹³ *Ibid.*, evidence of General Sir C Grove, point 508.

¹⁰¹⁴ *Ibid.*, evidence of Lt Colonel W Verner, point 4028.

¹⁰¹⁵ For a selected bibliography of these and other works see Appendix 4.

neighbours in adopting new weapons.¹⁰¹⁶ So, it appears that, on a small scale, this is reflected in the writings of the RMC staff itself. While it is partly acknowledged in the biographies of notable military theorists Frederick Maurice and George F R Henderson that they were involved with the RMC, it is interesting to note the contribution of more minor figures to the development of Victorian army doctrine.¹⁰¹⁷

Of course, the majority of staff did not write anything, but the fact that many did suggests there was a higher degree of professional motivation than has hitherto been acknowledged. Data shows that out of 111 officers, 81 (73%) went on to further staff appointments and 44 of these also went on to active service. The total going on to active service is 48 (or 43%).¹⁰¹⁸ Although the active service figure is lower, it must be borne in mind that opportunities for active postings would be far more uncertain and out of the control of the War Office. There was a perception that an officer would be 'on the shelf', that is, they stayed too long to the detriment of both their career and the college. However, the foregoing has suggested this is not the whole picture. True, there was the potential for this as the initial standard posting length was seven years. Sometimes this was exceeded if an instructor progressed to be professor of his branch. However, after seven years had been reached instructors were then moved on to a new posting – requests to remain beyond this date were refused.¹⁰¹⁹ So, often they remained somewhere between four and six years, resigning at a convenient time rather than be compelled at an inconvenient one. Therefore, at the Akers-Douglas committee the notion that instructors went to the RMC to retire was refuted or cast doubt on by several witnesses.¹⁰²⁰

Of course, wanting a stint of settled service is not mutually incompatible with being a good instructor. The intermediate rank of captain equated with that intermediate phase of life of a newly wed. This fact seemed to suggest that, if anything, it actually enhanced competition, which is why unmarried officers were always in demand. In any case, not only the junior officers were affected, but the more senior staff would also move between the Staff College, the RMC and Aldershot.

As for recruitment, in all cases attempts were made to find suitable men and this was done by making enquiries as to their qualifications and disposition; anyone lacking

¹⁰¹⁶ David French, *The British Way in Warfare 1688-2000* (London, Unwin Hyman, 1990), p.143; Also, Ian F W Beckett, *Victorians at War*, pp.182-183, 187.

¹⁰¹⁷ Luvaas, *Education of an Army*, Chapters 6 and 7 on Maurice and Henderson respectively. See Appendix 4.

¹⁰¹⁸ See Appendix 5: RMC, 1870-1902, RMC Staff Records of Service.

¹⁰¹⁹ For refusals see; WO152/50/90.4205, WO letter on Major Craigie Halkett, 29.7.1881; WO152/29/88.2807, WO letter on Lt Colonel HM Moorsom, 16.4.1884; WO152/23/88.2930, WO letter on Major RE Goad-Adams, 26.4.1894.

¹⁰²⁰ *Akers-Douglas Report Minutes*, evidence of: Colonel AM Delavoye, point 316; Major General Sir C Grove, points 504, 507; Lt Colonel GFR Henderson, point 6405.

tact would certainly not be employed.¹⁰²¹ The variables to be considered were; marital status, whether they had passed Staff College or another type of course, their relative rank or seniority and what their personal characteristics were. For example, Major Edward Essex applied for an appointment in June 1880 and again in June 1883, and on both occasions was informed his application had been duly noted. When an unmarried officer was needed, and seeing that Essex was, his Staff College report was applied for. As it was very satisfactory, he was appointed in September 1883 (two years later he was posted to Egypt).¹⁰²² Conversely, a certain Captain Geathead's report recorded him below par in surveying and unsuited to educational work. Similarly, the report on Captain Hutton concluded that he was 'of short stature, and very juvenile appearance, not possessing as far as I can judge much intellectual capacity or acquirement.'¹⁰²³ In this way the Governor was reliant on the observations of the Staff College staff whilst candidates were under instruction there. Other references were received from commanding officers.

Although frequently instructors were Staff College graduates, occasionally they were not. This was because passing the Staff College was no guarantee of their being a good instructor, indeed the quality of the Staff College output was an ongoing issue between the 1860s and 1880s. The RMC authorities preferred to take a superior regimental officer than an inferior Staff College man.¹⁰²⁴ This was to the annoyance of the War Office. Wanting to increase the value of the Staff College by giving employment to its graduates, the War Office was dismayed when non-graduates were selected.¹⁰²⁵ Admittedly, non-graduates tended to be mainly in the Military Topography branch; in the Tactics branch staff were nearly always graduates, and in Fortification they were mostly engineers or artillery men.

Although they might meet the technical knowledge and other requirements, however, without successful prior experience as a garrison instructor it could not be known how they would perform until in post. With reference to the monitoring of instructors' performance, the Akers-Douglas committee reported that no attempt was made to remove unsatisfactory instructors. In agreement with this the college correspondence certainly does not show any instances of instructors being forcibly removed. This led the committee to assert the probationary report was just a formality with little real value. However, probationary reports were chased up consistently by the War

¹⁰²¹ *Ibid.*, evidence of Colonel AM Delavoye, point 329.

¹⁰²² WO152/28/88.2372, Letter from RMC Governor, Lt General RCH Taylor to DGME, 7.9.1883.

¹⁰²³ WO152/53/90.4899, Memorandum on Non-appointment of Captain Geathead, 23.8.1883; WO152/54/90.5007, Memorandum on Non-appointment of Captain Hutton, 17.12.1884.

¹⁰²⁴ *Harris Committee 1888*, evidence of Colonel AS Cameron, point 898.

¹⁰²⁵ WO152/48/90.3900, WO letter refusing to appoint Lt JR Young, 2.12.1880; WO152/22/88.2142, WO letter on Captain Talbot's appointment, 8.9.1885; WO152/20/88.1901, WO letter to RMC, 12.3.1885.

Office and it became policy that no instructor on probation could act as a professor in his absence.¹⁰²⁶ Both points tended to suggest they were of some value.

Instructors were appointed on a year's probation and were reported on by their respective professors. A number of covering minutes survive which show they were satisfactory and were confirmed in post by the Governor.¹⁰²⁷ For example: 'Certainly I recommend that Captain WE Lascelles may be confirmed in his appointment. He is a good instructor and very keen in his work. He takes great pains with those placed under him for instruction.'¹⁰²⁸ There are instances of officers being irksome to the authorities but there was only one case where an instructor was reported as being poor, Major FS Inglefield.¹⁰²⁹ Inglefield was given a further six months' probation whereupon he was reported on satisfactorily. Of course, it could be argued that all concerned were simply turning a blind eye to poor performance. Perhaps, to those who were performing poorly it was simply quietly intimated that they should leave before pushed, or worse, just tolerated. However, given the general spirit in which the regulations were adhered to, this seems unlikely. What is more likely is that instructors, whilst they may have been of a variable standard at first, were coached and trained up in their duties by the professors of the three branches. At the Harris committee the Professor of Fortification, LK Scott, thought it took a year to become proficient and the Professor of Tactics, Albany R Savile, stated: 'If I have a new instructor I have to be constantly at his elbow showing him how to do his work properly.'¹⁰³⁰ The Commandant's job was to take evidence from the professors and make observations in order to write the confidential reports. Colonel AS Cameron felt the best instructors could maintain the strictest discipline and attention of their class, and that an instructor became more efficient over subsequent terms.¹⁰³¹ For example, the Professor of Fortification requested two instructors to remain slightly longer:

[...] as it is extremely difficult for me to watch over and guide two new instructors at the same time, particularly at practical work, and at the present time I have two

¹⁰²⁶ WO152/65/90.7083, Memorandum from Assistant Commandant to RMC Staff on Status of Probation, 7.4.1894; For examples of reports required see: WO152/62/90.6467, WO letter chasing Captain CG Morrison report, 10.10.1892; WO152/64/90.6782, WO letter chasing Captain CM Lester report, 1.9.1893; WO152/64/90.6899, WO letter chasing Captain AF Mockler-Ferrymen report, 14.12.1893; WO152/65/90.7057, WO letter chasing WGB Western report, 21.3.1894.

¹⁰²⁷ For example, WO152/62/90.6478, WO letter to RMC Governor, 20.10.1894; WO152/65/90.6929, WO letter to RMC Governor, 4.1.1894.

¹⁰²⁸ WO152/24/86.2579, letter from Lt Colonel GA Lewes to Assistant Commandant, 30.1.1896.

¹⁰²⁹ SCA, RMC Governor's Confidential Letter Book, 1863-1894, RMC Governor, Major General CJ East to DGME, 31.1.1894; Report from Major Chippindall on Inglefield to Governor, 1.2.1894; WO152/67/90.7342, WO letter to RMC Governor, 15.9.1894.

¹⁰³⁰ *Harris Committee 1888*, evidence of: Lt Colonel LK Scott, points 1514-1521; AR Savile, point 1407.

¹⁰³¹ *Ibid.*, evidence of Colonel AS Cameron, 865-875.

probationary instructors on my hands, so that if the above two named [Wynyard and Gatliff] are replaced, I shall, next term, have four comparatively new hands.¹⁰³²

The selection, initial training and reporting ameliorated the risks of employing failing instructors. Out of the remaining evidence of the RMC documents and biographies, excluding Inglefield, the vast majority gave positive views of the instructional staff. For example, Edward Abbot-Anderson, although atypically employed for a staggering 25 years, was extremely well regarded as a professor.¹⁰³³ Many others received a positive reference too.¹⁰³⁴ Evidence from memoirs is perhaps unsurprisingly less strong. Although Willcocks lost faith in the staff after being rebuked while surveying, Repington, from the same intake, thought: 'We had a capital staff of officer instructors and professors.'¹⁰³⁵ Few instructors, apart from Boughey and De Gruyther (the latter regarded as a 'first class teacher of military subjects'), are mentioned by name.¹⁰³⁶ Only when former RMC staff were teaching at Staff College were they singled out. Henderson was '[...] a charming individual and had a wonderful gift of interesting his audience. It was an intellectual treat to listen to his lectures.'¹⁰³⁷ Another thought Lonsdale Hale, Henderson and Cooper-King were 'first-class lecturers.'¹⁰³⁸ Lastly, Frederick Maurice and Henry C Reynolds were both well thought of.¹⁰³⁹

With such positive evidence, how, then, is G F R Henderson's view explained when asked the following?:

Do they get the best men as instructors at Sandhurst and Woolwich?

No, and that is really the reason why they have not got on afterwards – because they are not the best men; not the men who would get on wherever they might be placed.¹⁰⁴⁰

¹⁰³² WO152/68/90.7635, letter from Major WH Chippindall to Assistant Commandant, 22.4.1897.

¹⁰³³ *Harris Committee 1888*, evidence of Colonel AS Cameron, point 753.

¹⁰³⁴ *Harris Committee 1888*, point 1001 (HC Reynolds and E A Ball); points 904-8 (JR Young); SCA, RMC Governor's Confidential Correspondence Folio, 1895-1901, B14/1, Letter on SJM Jopp, 19.5.1896; B13, Letter on JL Armitage, L Conway-Gordon, James E Caunter, and R Wynyard, 1896; B19/1, Letter on AF Gatliff, 5.2.1897; WO152/61/90.6188, Comments of G Le M Taylor on OJH Ball, 23.8.1891; WO152/69/90.7783, Exam report on gym & WN Bolton, 6.1897; WO152/68/90.7542, Comments on ST Banning, 11.2.1897; WO152/29/88.3115, Comments on WO Cavenagh, 23.12.1895; WO152/15/86.2955, Comments on LE Kiggell, 28.11.1896; WO152/24/86.2579, Comments on WE Lascelles, 28.1.1896; WO152/70/90.7869, Comments on AF Mockler-Ferryman, 7.9.1899.

¹⁰³⁵ Willcocks, *From Kabul to Kumassi*, pp.2-3; Repington, *Vestigia*, p.38.

¹⁰³⁶ Sir Stewart Symes, *Tour of Duty* (London: Collins, 1946), p.2.

¹⁰³⁷ Godley, *Life of an Irish Soldier*, p.64.

¹⁰³⁸ Youngusband, *Soldier's Memories in Peace and War*, p.125.

¹⁰³⁹ Repington, *Vestigia*, p.76-77; Gleichen, *Guardsmen's Memories*, p.115.

¹⁰⁴⁰ *Akers-Douglas Report Minutes*, evidence of Lt Colonel GFR Henderson, point 6399.

The key phrase was 'best men'. The fact was that men like Henderson and Maurice – top of their game at Military History, Strategy and Tactics – real thinkers and reformers, were in effect wasted at Sandhurst. A memoir on Henderson noted that at the RMC his:

[...] usefulness was limited: the utmost he could do was the influencing of young minds [...] by turning their thoughts to the serious study of their profession. But at the Staff College, he had as pupils the best brains of the army, requiring no incentive to study.¹⁰⁴¹

It took a certain strength to be an instructor at the cadet level and the memoir noted that at this early stage Henderson's health began to fail. Indeed, in contradiction to prevailing perceptions of an easy life, instructional work was taxing and monotonous.¹⁰⁴² Maurice's comment on how it was the hardest year of his life is typical of the instructor who had to read up on the latest developments in fortification, tactics and administration, to be able to lecture. This point was made to the Harris committee, who focussed on the contact hours during teaching and did not appreciate the hours of preparatory work or the additional activity in administering cadets' clubs. In defence of the long holidays it was stated: 'they [instructors] require rest from the drudgery and monotony of teaching batches of cadets the same elementary details of drawing and field fortification over and over again.'¹⁰⁴³

Conclusion

The foregoing has suggested a more complex picture of the RMC in the late Victorian period. It has certainly called into question the view that the RMC was an out-of-date, unthinking institution where cadets were lazy and the staff apathetic. In this way, the view typified by J F C Fuller's comment on its 'Crimean' atmosphere, appeared more anachronistic, and the opinion of James Willcocks was probably much closer to the true situation:

The college, as it then was, has been condemned by many as obsolete and out of date; but, personally, I have much to be thankful for its training. The work was practical and most interesting, the course was not too long, and discipline was, perhaps, sufficiently severe to keep us in order.¹⁰⁴⁴

¹⁰⁴¹ GFR Henderson, *The Science of War: A Collection of Essays and Lectures 1891-1903*, ed. by Colonel Neill Malcolm, (London: Longmans, Green and Co, 1916), p.xxvii.

¹⁰⁴² *Akers-Douglas Report Minutes*, evidence of Lt Colonel WWC Verner, point 4020.

¹⁰⁴³ *Harris Committee 1888*, evidence of: Lt Colonel LK Scott, point 1493; Colonel AS Cameron points 780-783.

¹⁰⁴⁴ Willcocks, *From Kabul to Kumassi*, p.2.

Much of the evidence presented supports Willcocks's view. Although he wrote about a time 20 years before Fuller was a cadet at the RMC, the evidence suggests that over the course of those intervening 20 years, staff made strenuous efforts to adapt the syllabus to not only be commensurate with prevailing doctrine but played a part in developing and consolidating that doctrine. It is also apparent that, despite later perceptions, the watchword was increasing practicality. Moves in this direction were taken in the three principal branches. Indeed, when there were difficulties in this area it often was a result of outside involvement. If it was not the unhelpful visits of the Boards of Visitors then it was the frequent examples which have been shown where the professors tried to push through improvements, only to be met with pecuniary stringency. A state of affairs which was tolerable when the Commandant and Adjutant were functioning posts, but which became problematic once they had been abolished.

The Akers-Douglas committee certainly identified many of the wider problems in the education of the junior officer, and apprehended certain shortcomings at the RMC. When they failed to appreciate certain points, it might be explained by the methodology of the committee. For example, it lacked a historical perspective in that it did not take evidence from any of the previous Director Generals of Military Education, RMC Governors, Commandants or professors; nor did it undertake any quantitative analysis of exam results or cadet removals. They interviewed cadets, but transcripts were not published, and neither was the full range of replies from commanding officers – as complained about in the blistering attack on the committee's competence by Colonel Lonsdale Hale, who also thought they misrepresented the evidence.¹⁰⁴⁵ This point was echoed by the principal Civil Service Commissioner witness, WJ Courthorpe.¹⁰⁴⁶ Indeed, the difficulties were hinted at in a letter from Dr Edmond Warre who complained: 'the enquiry is being rather labyrinthine and the threads will become more and more difficult to pick up unless we adopt method.'¹⁰⁴⁷ It cannot have helped that the most senior military officer resigned from the committee leaving only a Lieutenant-Colonel remaining. Also, it should be borne in mind that throughout the committee's deliberations the secretary was Captain WE Cairnes, a home based journalist and author of several books, which, as Spiers noted, were spiced with pungent, critical and sarcastic asides.¹⁰⁴⁸ His 'valuable assistance' was acknowledged by the committee, particularly his 'knowledge, tact and

¹⁰⁴⁵ T Miller Maguire, 'On Military Education in England from a National and an Imperial Point of View', *Journal of the Royal United Service Institution*, 46 (July 1902), 1007-1046, comments of Colonel Lonsdale-Hale pp.1033-1037, also Major General Webber RE, pp.1041-1042; Major General AB Tulloch, pp.1042-1043.

¹⁰⁴⁶ WJ Courthorpe, 'The Report of the Military Education Committee', *The Times*, 12 June 1902, p.6.

¹⁰⁴⁷ Eric Alexander, *Chief Whip: The Political Life and Times of Aretas Akers-Douglas 1st Viscount Chilston* (London: Routledge & Kegan Paul, 1961), p.297, excerpts of a published letter of Dr Warre to Aretas Akers-Douglas, dated 23.6.1901.

¹⁰⁴⁸ Spiers, *Late Victorian Army*, p.308.

ability [which had] greatly facilitated their enquiry.¹⁰⁴⁹ Also, whilst they interviewed 73 witnesses, 51 did not have direct experience of the college as staff or students/cadets. Out of the 22 who did, nine were current staff serving from, at most, within the last five years, another six were students/cadets/sub-lieutenants pre-1877, and a further three had been staff or cadets but were not probed during questioning.¹⁰⁵⁰

Indeed, some important and influential witnesses confessed their ignorance as to what went on at the RMC. For example, Major General Sir Ian Hamilton said 'I have not paid very much attention' to the curriculum there and his remarks on the cadets at Hythe were derived from the limited experience of its commandant (see below).¹⁰⁵¹ Similarly, Lieutenant General Lyttelton stated: 'I do not know what the syllabus is in the least', and, 'I do not know what garrison instruction there is nowadays'.¹⁰⁵² Colonel Kitson stated: 'I feel rather at a loss in criticising Sandhurst, because I have not really had an opportunity of knowing, except by hearsay, what is done there now'.¹⁰⁵³ Lieutenant Colonel Pennington conceded his remarks on cadets at Hythe were based entirely on one class during wartime conditions with the second one being 'considerably more satisfactory'. Lastly, the Inspector General of Cavalry confessed to knowing 'very little' of the Riding course.¹⁰⁵⁴

Nevertheless, the committee did succeed in identifying various problems. These included, the lack of musketry, the shortness of the course in relation to the subjects, and the unfavourable weighting of marks. However, these were contingent on the timing of the report in the lifecycle of the college and thus were an accurate reflection of the previous two, and in some cases, up to the last five years. Still, the committee did apprehend the preponderance of drill and the particularly pertinent problem being the separation of instruction into three branches, which probably became more problematical once the director of studies function had been removed. Hence, Brevet Colonel Crispin Bonham-Carter criticised the military education he received as a cadet, stating: '[a cadet was] never encouraged to weld together the various bits of knowledge which he gained'.¹⁰⁵⁵ In 1903 the three branches of study were abolished and all officers were company officers and instructors. Drill was also problematic, not because the basics were taught by NCOs,

¹⁰⁴⁹ *Akers-Douglas Report 1902*, paragraph 162, p.39.

¹⁰⁵⁰ Serving (or very recently serving) staff were Major JE Caunter, Captain FRH Chapman, Lt Colonel AFS Clarke, Major HE Elliott, Captain AC Lovett, Lt General Sir E Markham, Lt Colonel JS Talbot and Lt Colonel WWC Verner. Major General Sir Ian Hamilton, Colonel G Kitson, Colonel HR Mends, Colonel TC Porter, Field Marshal FS Roberts and Lord Raglan had experience pre-1877. Colonel WT Adair, Major Beamish Barter and Colonel CC Monro had experience but were not asked.

¹⁰⁵¹ *Akers-Douglas Report Minutes*, evidence of Major General Sir Ian Hamilton, points 673, 688.

¹⁰⁵² *Ibid.*, evidence of Lt General NG Lyttelton, points 1060, 1079.

¹⁰⁵³ *Ibid.*, evidence of Colonel G Kitson, point 2870.

¹⁰⁵⁴ *Ibid.*, evidence of: Lt Colonel RLA Pennington, points 6754-6, 6765; Major General HF Grant, point 8119.

¹⁰⁵⁵ Brevet Colonel Crispin Bonham-Carter, 'The Royal Military College, Sandhurst', *Army Quarterly*, 3 (Oct 1921-Jan 1922), 105-113 (p.105).

but because too much time in the senior terms were spent on parade drill and not advanced battlefield drills. If, however, this approach was essentially too drill orientated, where actions were automatic and not connected with an overarching theory or combined doctrine of war, as Nick Evans argued with regard to the late Victorian army, then the college was just promulgating it in a way which matched practice out in the field army.¹⁰⁵⁶ This could also be argued about the nature of the exams. Again, this was a problem which would be tackled in the Edwardian era.¹⁰⁵⁷ The committee followed Sir Evelyn Wood's view of the prominence of Military Law and Administration. This view was perhaps inevitable in light of the recent war experience. However, a number of witnesses supported the importance of training in these superficially less 'martial' subjects.¹⁰⁵⁸ Whilst some argued that they could be picked up at the regiment, the case was probably quite the opposite.¹⁰⁵⁹

Certainly, it was almost universally acknowledged that it would be extremely difficult for the regiments to provide a syllabus similar to that taught at Sandhurst. The lack of officers, NCOs and men at a regiment with whom to train and to organise the course was a major part of the problem. Other factors included the continual need to provide drafts for overseas and the constant variable state of the training of those left behind.¹⁰⁶⁰ The committee took a good deal of evidence from the public school and university sector, but a great deal of this, in the case of the former, related to the curricula and entrance exams, or in the case of the latter, to hypothetical military education proposals.¹⁰⁶¹ Dr Warre, the headmaster of Eton, was particularly keen on exploring alternatives to Sandhurst. In a RUSI paper, prior to his appointment to the Akers-Douglas committee, he stated that he dreamt of a time when Sandhurst 'as now constituted shall be no more', and a university style institution take its place.¹⁰⁶² He saw the militia as a means to augment the training at universities. However, the militia as a route to a regular commission was not without its difficulties. As far back as 1887, during the Select Committee on Army Estimates, the Accountant General of the War Office, Ralph Knox,

¹⁰⁵⁶ Nicholas Evans, 'From Drill to Doctrine: Forging the British Army's Tactics 1897-1907' (unpublished PhD thesis, King's College London, 2007), pp.2-5, 27-29, 286, 298, 330-331.

¹⁰⁵⁷ Duncan, 'Military Education of Junior Officers', pp.40-43.

¹⁰⁵⁸ *Akers-Douglas Report 1902*, Appendix XV, 'Answers to Questions of the Military Education Committee by Dr TM Maguire', point 8; *Akers-Douglas Report Minutes*, evidence of: Lt Colonel S Moores, point 2379; Major JE Caunter, points 5607-8.

¹⁰⁵⁹ *Akers-Douglas Report Minutes*, evidence of: Colonel Lonsdale Hale, point 2688; Captain WH James, point 2814; Lt Colonel WWC Verner, point 4000; Lt General Sir E Markham, point 570.

¹⁰⁶⁰ Spiers, *Late Victorian Army*, pp.261-2; *Akers-Douglas Report 1902*, Appendix XV, Answers to the Questions of the Military Education Committee, by Dr T Miller Maguire, nos. 5, 38, 39; *Akers-Douglas Report Minutes*, evidence of: Lt Colonel FC Annesley, points 1354-5, 1358, 1380; Lt General NG Lyttelton, points 1041, 1074, 1079; Lt Colonel CW Carey, points 2286-2291, 2293, 2318; Lt Colonel Horatio Mends, points 2176-7, 2180-5, 2187-2192; Major General Sir Ian Hamilton, points 761, 764, 835; Field Marshal Lord Roberts, points 8477a, 8478; Lt Colonel WWC Verner, point 4098; Lt Colonel GFR Henderson, points 6412, 6413, 6415, 6419-22.

¹⁰⁶¹ *Akers-Douglas Report 1902*, paragraphs 53 and 55, pp.11-12.

¹⁰⁶² Edmund Warre, 'On the Relation of Public Secondary Schools to the Organisation of National Defence', *Journal of the Royal United Services Institution*, 44 (Jul 1900), 1238-1268 (p.1248).

felt Sandhurst was a waste of money when officers could be trained and selected via the militia.¹⁰⁶³ However, whilst the Military Secretary did not conform to this view, it did not stop Sandhurst's budget being cut.¹⁰⁶⁴ In one sense the militia provided practical experience of barrack life, command, drill and in camp.¹⁰⁶⁵ This, coupled with the high rate of competition between militia subalterns for a regular commission, meant they could know their military subjects very well – to an extent which the keen proponents of the militia, such as the famous tutor Captain W H James, felt made them superior to the RMC product.¹⁰⁶⁶ However, there was a sense that militia training was insufficient.¹⁰⁶⁷ Difficulties included: i) the shortness of the training period, ii) constraints on the time of professional men, iii) problems getting militia officers onto instructional courses, iv) practical restrictions at the regiment similar to those at a regular battalion, and v) the variable commitment or competence of the militia battalion commanding officer and/or adjutant.¹⁰⁶⁸ The shortcomings of this training were recorded in several biographies.¹⁰⁶⁹ The state of things prompted some to advocate militia officers going to Sandhurst during the non-training period or by competition from the militia.¹⁰⁷⁰ Given that the RMC possessed the staff and

¹⁰⁶³ 216, *First Report from the Select Committee on Army and Navy Estimates; Together with the Proceedings of the Committee and Minutes of Evidence* (London: Hansard, 1887), p.143, evidence of Mr R Knox, points 2207-2210.

¹⁰⁶⁴ *Harris Committee 1888*, evidence of Lt General Sir George Harman, Military Secretary, points 2266-7, 2285-7.

¹⁰⁶⁵ *Akers-Douglas Report Minutes*, evidence of: Major General Sir C Grove, point 534; Colonel Sir GS Clarke, point 924; Lt General NG Lyttelton, points 997-1001; Lt Colonel CW Carey, points 2236-7, 2240-1; Colonel Lonsdale Hale, point 2693; Lt Colonel WWC Verner, points 4100, 4104-6; Major JE Caunter, point 5614; Major General HF Grant, point 7985; Field Marshal FS Roberts, point 8595.

¹⁰⁶⁶ Captain WH James, 'Military Education and Training', *Journal of the Royal United Service Institution*, 26 (Jan 1883), 370-395 (373); *Harris Committee 1888*, evidence of Colonel SE Orr, points 1981-4; *Akers-Douglas Report Minutes*, evidence of: Lt Colonel S Moores, points 2383, 2387; Colonel Lonsdale Hale, point 2703.

¹⁰⁶⁷ Spiers, *Late Victorian Army*, p.102; C5922, *Report of the Committee Appointed to Enquire into Certain Questions that have Arisen with Respect to the Militia* (London: HMSO, 1890), para. 5, p.vii, paras. 60-64, pp.xxiii-xxiv, serial 8, p.xvii; Colonel GG Walker, 'Our Militia and How to Improve it', *Journal of the Royal United Service Institution*, 24 (Jan 1881) 445-478; Colonel Alexander B Tulloch, 'Battle Training of Regimental Officers', *Journal of the Royal United Service Institution*, 33 (Jan 1889), 769-802 (pp.771-772); Captain R Holden, 'The Education and Training of Infantry Militia Officers', *Journal of the Royal United Service Institution*, 35 (Jan 1891) 519-546 (p.523); Major General Alexander B Tulloch, 'The Education and Training of Naval and Military Cadets', *Journal of the Royal United Service Institution*, 41 (Jul 1897), 807-843 (p.829).

¹⁰⁶⁸ Colonel WT Dooner, 'The Provision of Officers and Men for the King's Army', *Journal of the United Service Institution*, 45 (Jan 1901) 509-540 (p.518); Lord Raglan, 'The Militia in 1897', p.259; *Akers-Douglas Report Minutes*, evidence of: Colonel AM Delavoye, points 425-7; Major General Sir Coleridge Grove, points 535-7; Lt General John Fryer, point 1253-4; Lt Colonel CW Carey, points 2246-7; Earl of Selborne, points 5999-6005; Lord Raglan, points 6115-6; Captain TC Benson, points 6261-2, 6264, 6299-300, 6302; Major General AE Turner, points 5768, 5777, 5828, 5832; Colonel Lonsdale-Hale, points 2707-3, 2726-7; Lt Colonel GFR Henderson, points 6342, 6345.

¹⁰⁶⁹ Major the Hon. Gerald French, *The Life of Field-Marshal Sir John French* (London: Cassell and Co. Ltd, 1931), pp.20-21; Major General Nigel Woodyatt, *Under Ten Viceroy: The Reminiscences of a Gurkha* (London: Herbert Jenkins, 1922), p.34; Sir Frederick Sykes, *From Many Angles: An Autobiography* (London: George G Harrap and Co., 1942), pp.38, 40, 45-46.

¹⁰⁷⁰ Major A B Williams, 'The Evolution of the Militia as the Basis of the Army', *Journal of the Royal United Service Institution*, 41 (Jan 1897) 23-47 (p.32); Lord Raglan, 'The Militia in 1897', pp. 257, 294; Colonel James D Legard, 'Army Reorganisation: With Special Reference to the Infantry of the

facilities to do this training, it was perhaps inevitable that the committee would eventually recommend the retention of the college.

The argument here has been, however, that it was not simply in lieu of anything else that it was retained, but that for approximately 20 years within the late Victorian period the RMC was a reasonably effective tool for giving the basic military knowledge necessary for a new second lieutenant in an appropriate manner. This is perhaps the reason that 50 out of 87 commanding officers, whose experience went beyond the immediate time parameter of the report, stated a strong preference for the cadet. There were many witnesses too, who, whilst they might criticise one or more aspects of the college, spoke in strong terms of its retention.¹⁰⁷¹ For example, Lieutenant General John Fryer, GOC Cork, stated:

The present training of the Sandhurst cadets, is, in my opinion, in every sense superior as a training school for young officers, most distinctly. The training of the militia is merely automatic at the present time; he knows nothing but how to drill a squad [...] He knows probably how to go round a barrack-room and all that sort of thing, but if you take him outside the barracks into the practical work of soldiering he absolutely knows nothing at all. Now, the Sandhurst boy is taught topography, reconnaissance, map reading etc. in fact, I look upon him as a perfect Moltke in comparison with the militia subaltern.¹⁰⁷²

However, the committee's report caused a sensation: *The Times* stated, 'from start to finish the report is a sweeping condemnation of the methods by which young officers are generally educated before joining the army' and considered it a 'severe indictment' of Sandhurst.¹⁰⁷³ *The Spectator* felt the report dealt 'drastically, adequately and fearlessly' with its subject, but differed from *The Times* by recommending abolition of the RMC and sending candidates direct to regiments.¹⁰⁷⁴ *The Saturday Review* felt vindicated by the report's 'almost uniformly condemnatory' position which was similar to its own, and an article in the *Manchester Daily Despatch*, stated:¹⁰⁷⁵

Line and Militia', *Journal of the Royal United Service Institution*, 42 (Jan 1898) 233-262 (p.242); *Akers-Douglas Report Minutes*, evidence of General Sir Evelyn Wood, points 12-13, 29-30.

¹⁰⁷¹ *Akers-Douglas Report Minutes*, evidence of: General Sir Evelyn Wood, points 5, 7-8, 10; Colonel AM Delavoie, points 384-5; Lt Colonel FC Annesley, points 1262-4, 1267-8, 1278-80, 1320; Lt General J Fryer, points 1253-4; Colonel Sir GS Clarke, points 929, 935, 937; Major General Sir T Fraser, points 7819, 7822; Colonel JC Dalton, points 7017-9; Colonel TC Porter, points 1399-1404; Colonel RBW Fisher, point 1693; Colonel HR Mends, point 2106; Colonel Lonsdale Hale, point 2688; Lt Colonel GFR Henderson, points 6338, 6341.

¹⁰⁷² *Akers-Douglas Report Minutes*, evidence of Lt General John Fryer, point 1254.

¹⁰⁷³ 'Report of the Military Education Committee' (From a Military Correspondent), *The Times*, 9 June 1902, p.4.

¹⁰⁷⁴ 'The Education and Training of Military Officers', *The Spectator*, 1 June 1902, pp.906-7 (906).

¹⁰⁷⁵ 'The Verdict Against Sandhurst', *Saturday Review*, 21 June 1902, pp.798-9 (p.798).

[in Sandhurst] every evil, down to personal uncleanliness, is rampant. The thing which is most foreign from the Sandhurst curriculum is military education in any useful form.¹⁰⁷⁶

As Eric Alexander, the 3rd Viscount Chilston, noted, the publication of the report was emphasised by the rustication of 29 cadets and the dismissal of the Governor in 1902.¹⁰⁷⁷ The report and its reaction were probably just what the country needed to feel that something constructive was being done to prevent the mishaps of the war being repeated. The 'new broom' in the form of Colonel Gerald Kitson as Commandant added to this. However, the storm of this controversy has obscured the view of the institution in the late Victorian era. Perhaps 'perfect Moltke' was putting the abilities of the Sandhurst cadet rather too strongly, but it is hoped that the above has revealed why some might think it so.

¹⁰⁷⁶ Alexander, p.298, quote from *Daily Despatch*, 'Yet Another Scandal', 22 May 1901.

¹⁰⁷⁷ *Ibid.* p.299.

Chapter 5 Development of Leadership and 'Officership'

In chapter three the 'neo-feudalist' view was raised as a factor which affected the necessity and type of training for cavalry and infantry officers. This view emphasised character as the key requisite for an officer.¹⁰⁷⁸ Such a viewpoint can be set against a strictly attainment-based view of a profession; one where qualifications, verified by a body of the profession's peers, guaranteed the competence of the individual to practise. These professional standards would be arrived at by discussion and consensus through professional journals and societies, and frequently crystallised by an institution which not only protected its members and encouraged their education, but also censured poor practice and fostered public trust.¹⁰⁷⁹ Examinations, standardised training, centralised control and the development of a conscious self-identity are common to professions which transact their services on the open market (the 'market model') and those which serve the government and people, such as the clergy, armed forces and civil service (the 'service model').¹⁰⁸⁰ In both models, an individual's character should count for little beyond the industry to learn the required professional attainments. A system where those with the best attainments are chosen ought to preclude favouritism, incompetence and even corruption.

Conversely, given that great importance was attached to character attributes for an army officer, certainly in the early to mid-Victorian period, it is tempting to set him apart as a 'gentleman amateur' rather than a professional. However, Beckett argued that the officer profession was not altogether dissimilar to other Victorian professions; with its desire for material reward and advancement, its officers of the same educational and cultural background, and a network of patronage just as pronounced as elsewhere in Victorian society.¹⁰⁸¹ In fact, the principle of similarity could be carried further with the suggestion that character might have been as important for other professions. For example, Reader identified the high standards of honesty, exactness and devotion to a clients' interests (or probity), which unified all professions.¹⁰⁸² Turning to character-based skills, such as communication ability, then the ability to deliver a sermon was a key requirement for success in the Church. Such erudite delivery of views must also have been important for barristers; whereas an empathetic bed-side manner could arguably be important for

¹⁰⁷⁸ Spiers, *Army and Society*, pp.1-2, 151; Harries-Jenkins, *Army in Victorian Society*, pp.103-105.

¹⁰⁷⁹ Reader, *Professional Men*, pp.161-165; Robert A Buchanan, *The Engineers: A History of the Engineering Profession in Britain 1750-1914* (London: Jessica Kingsley Publishers, 1989), pp.50-51, 201-202; F M L Thompson, *Chartered Surveyors: The Growth of a Profession* (London: Routledge & Kegan Paul, 1968), pp.146-150; L T C Rolt, *The Mechanicals: Progress of a Profession* (London: Heinemann, 1967), pp.10-11, 16-19.

¹⁰⁸⁰ Ian FW Beckett, *A British Profession of Arms: The Politics of Command in the Late Victorian Army* (Norman, Oklahoma, USA: Oklahoma University Press, 2018), p.5.

¹⁰⁸¹ *Ibid.*, pp.8-9, 13-14, 38. See also, Reader, *Professional Men*, pp.190-191, 193; Mahaffey, 'The Fighting Profession', pp.25-26.

¹⁰⁸² Reader, *Professional Men*, pp.158-159; see similar point by Spiers, *Army and Society*, pp.1-2.

physicians also to get business.¹⁰⁸³ However, with a clergyman potentially fulfilling so many different vestigial roles from the eighteenth century, perhaps it is his character which had to be the most multi-faceted; with amongst others, teaching abilities in the village school, tact and political sensibilities when dealing with the squirearchy and judiciary, as well as preaching sermons.¹⁰⁸⁴

Whatever the case, if character is accepted as important for other professions, perhaps for the army officer the outstanding difference was in the nature of these character requirements. True, like the clergyman an officer might equally have to be an astute politician, but perhaps the key difference was he was expected to have leadership qualities, most particularly in battle. In peacetime, on the other hand, it might be more broadly termed 'officership'. This latter notion might be thought of as encompassing, amongst others, selflessness, man-management, integrity, and moral and physical courage.¹⁰⁸⁵

Whereas the previous four chapters have examined the formal studies of the cadet colleges, this chapter looks at the formal and informal ways in which the colleges fostered the personal traits necessary for officership. The cadet colleges provided only a certain number of first commissions and so it must be considered what it was the colleges contributed, or lacked, in generating leaders with the requisite qualities of character. This chapter will cover both colleges throughout the majority of the nineteenth century, but there will, however, be an emphasis on the RMC. This is partly because of space, but also because they shared similar features and duplication of the same aspects would be repetitive.

At first glance it appears difficult to trace the development of these characteristics because very little was explicitly written about it in either the contemporary military literature or by the army's educational authorities. For example, the concern of bodies such as the Council of Military Education (CME) and the Director General of Military Education (DGME) were primarily focused on entrance exams, course timetables and course content. But looking closer, elements of what might be identified as leadership and management were wrapped up in other terms such as 'moral influence', and of course, 'discipline'. The latter was seen by the CME and the DGME as in the purview of the college authorities whose authority in turn was the Commander-in-Chief. Elements may also appear in publications with titles such as 'Hints to young officers'. It was not until the mid-twentieth century that the army began to run courses on leadership.

¹⁰⁸³ Reader, *Professional Men*, p.19.

¹⁰⁸⁴ Anthony Russell, *The Clerical Profession* (London: Society for Promoting Christian Knowledge, 1980), pp.40-41, 46-49, 85-86, 93-94, 191-195.

¹⁰⁸⁵ For a full discussion of the term of 'officership' see Patrick Mileham, 'Fit and Proper Persons: Officership Revisited', *Sandhurst Occasional Papers*, 10 (2012).

In order to understand how leadership and man-management were developed in the nineteenth-century cadet, and officers more broadly, it is necessary to assume a broader, more social-historical approach. The whole range of influences on an officer's early life need to be considered. The term 'gentleman' is called upon frequently to ascribe the qualities an officer should have. However, what were these qualities and why were they seen to be necessary for a leader? Did these characteristics change over time? General education played a part, and moreover the place where this was acquired. Christian faith and consideration for others were also very important. Yet, a physically unfit gentleman would be of no use given the rigours of army life and so a high value was also placed on physical development and, more specifically, physical courage, via gymnastics, sport, athletics and hunting. Lastly, the propensity to fit in and be a part of the camaraderie of fellow officers was also requisite. On this last point, it is worth considering the extent to which the practices of bullying and 'fagging' existed and what role they played in the behavioural acculturation process.

This chapter will examine the degree to which all these various factors were developed at the cadet colleges. They will be treated in turn, but in reality, they melded together to form the definition of a gentleman and the qualities of an officer. The first section will examine whether there was any leadership doctrine at the time. It will consider its origins and the degree to which it was taken up. The second part deals with public schools and gentlemanly behaviour, how this came to be valued as a basis for the preferred officer qualities and whether the RMC evinced the same qualities. Then a consideration of the primary contribution of the cadet colleges will follow – what might be termed 'military acculturation' or 'professional socialisation', that is, the intangible but particularly military qualities to be developed. Part of this includes a lengthy analysis of the origin of the cadet 'mutiny' at Sandhurst as this epitomises the fundamental breakdown of the system. Bullying will also be considered in this section, but will be dealt with in the relevant chronological time period; firstly, within the pre-Crimean era with reference to public school ethos, and secondly, in the late Victorian period with reference to poor management by college staff. Lastly, the two aspects of Christianity and sport will be considered.

Before commencing on the social and cultural factors which fostered characteristics of 'officership', it is worth considering whether any written doctrine existed which encouraged these attributes. As may be expected, *unofficial* comments and works on the ideal behaviour of officers were promulgated from the middle of the eighteenth century, and probably before. Interestingly, they always followed enduring themes:

Look upon the soldiers under your command as servants to the same Royal Master with yourself, and not as slaves: a light they are too often placed in by a great number of young officers. Consider that without *them* you would be of no consequence; and that their good or bad behaviour reflects either glory or shame upon you; therefore make it your study to obtain their obedience by love, rather than by fear.¹⁰⁸⁶

This book from 1760 went on to propound the virtues required of an officer; and other publications offered similar advice.¹⁰⁸⁷ In the early nineteenth century the *United Service Magazine* also ran articles stating the same (see later). Colonel Rolt's series in this periodical on 'Moral Command' embodied just the sort of approach as in the above quote and was eventually published.¹⁰⁸⁸ This work and all the others were unofficial publications and consequently were only taken up by the kind of officer serious about their profession. A good example is the former RMC cadet Arthur Wellesley Torrens, who in 1851, published a series of lectures on professional topics. In 1847, he delivered a lecture based on Rolt's work to fellow officers entitled 'Discipline'. He highlighted the development of soldiers' education and the discontinuance of flogging. Torrens emphasised that 'moral influence has become and must ever continue to be the ordinary disciplinary engine [...] the attainment of moral influence is the great object to which officers must aspire.'¹⁰⁸⁹ This was to be attained by:

[...] imprinting on the mind of the soldier a feeling of confidence in us; by leading him to trust in our justice, our temper, our integrity, and our knowledge of our profession, and therefore in our ability to guide and instruct him.¹⁰⁹⁰

¹⁰⁸⁶ *Cautions and Advices to Officers of the Army: Particularly Subalterns. Very proper to be Read by all Gentlemen of that Rank and Profession by an Old Officer*, (London: Thomas Payne, 1760), p.27.

¹⁰⁸⁷ Bennett Cuthbertson, *A System for the Compleat Interior Management and Economy of a Battalion of Infantry* (Dublin: Boulter Grierson, 1768); E S N Campbell, *A Dictionary of the Military Science* (London: James Maynard, 1844), pp.vii-xi, 258; J H Stocqueler, *The British Officer: His Position, Duties, Emoluments and Privileges* (London: Smith, Elder and Co., 1851), pp.1-6; Hew De Ross, *The Young Officer's Companion: Or, Essays on Military Duties and Qualities; with Examples and Illustration from History*, 2nd edn, (London: John W Parker & Son, 1857), pp.v-viii, 283-299.

¹⁰⁸⁸ Lt Colonel John Rolt, 'On Moral Command', *United Service Journal*, 1 (1836), 23-34, 195-200; Colonel John Rolt, *Rolt on Moral Command* (London: W Clowes and Sons, 1842).

¹⁰⁸⁹ Torrens, *Six Familiar Lectures for the Use of Young Military Officers*, pp.1-2.

¹⁰⁹⁰ *Ibid.*

Gradually, more semi-official works appeared. The first one of significance emanated from the RMC by the Superintendent of Studies, Major Patrick MacDougall. In *Theory of War* he enumerated and explained the behaviours which a young officer should display in conducting the minutiae of regimental life, e.g. 1) ceremoniously returning soldiers' salutes – 'a soldier will be more likely to respect himself when he sees that his officer respects him'; 2) diligent inspections – 'A gentleman should consider it to be as disgraceful to sign his name at the bottom of a report of which the items are not strictly true' and, 3) acquiring influence over the men, which 'cannot be acquired without a knowledge of the names of the soldiers and the study of their individual characters.' He widened his remit by reaffirming the behaviour expected of a gentleman generally, such as deploring the practice of practical joking which 'cannot for one moment be tolerated among gentlemen [and is] always foolish and beneath the dignity of a man.'¹⁰⁹¹ He praised General Sir Charles Napier for the influence he had over his men and the following year a biography was published of this notable British hero which contained his thoughts on 'officership'.¹⁰⁹²

As well as man-management, MacDougall also talked about the personality attributes of great commanders. At the time, however, neither were incorporated into the cadets' course. An opportunity would have been available with the introduction of Military History, but it cannot be ascertained whether 'Generalship' was incorporated as little evidence survives. Walker's textbook from 1868 has a section on this but he did not teach it as instructed by the CME.¹⁰⁹³

Works also came out of the RMA Woolwich, firstly, *Soldierly Discipline* in 1849 by Frederick Eardley Wilmot while Captain of the Cadet Company. Later in 1863, *The Subaltern Officer and his Duties* was published by a Lieutenant of Gentleman Cadets, Edward Sandys. This work quoted from MacDougall but also exhorted officers to encourage sports clubs among the men.¹⁰⁹⁴

The publication by Wolseley of his *Soldiers' Pocket Book*, in 1869, re-affirmed the principles of man-management of over 100 years before by 'an Old Soldier'.¹⁰⁹⁵ A recent

¹⁰⁹¹ MacDougall, *Theory of War*, pp.289-293.

¹⁰⁹² Sir William Francis Patrick Napier, *The Life and Opinions of General Sir Charles James Napier*, 4 Vols (London: John Murray, 1857), I (1857), pp.250-252.

¹⁰⁹³ Walker, *Military Elements*, pp.19-23; WO152/35/90.1735, Council of Military Education Memorandum to Royal Military College, 3.4.1868.

¹⁰⁹⁴ Frederick M Eardley Wilmot, *Soldierly Discipline; Or Hints to Officers on Entering the Army. Founded on the Regulations of the Royal Military Academy* (Woolwich: [n.pub.], 1849); Edward W Sandys, *The Subaltern Officer and His Duties; Or, A Practical Guide to the Junior Officers of the Army* (London: W Mitchell, 1863), pp.16-18, 20-23.

¹⁰⁹⁵ Garnet Wolseley, *The Soldier's Pocket-Book for Field Service*, 2nd edn (London: MacMillan and Co., 1871). pp.1-7.

biography claimed he was forward thinking, as evidenced by his 'startling' ideas on the relationship between officers and soldiers.¹⁰⁹⁶ There was in fact nothing new here at all, except the timing. As Kochanski noted, this was a watershed; the growth in rifled arms, requiring soldiers to use initiative, coincided with a better educated lower class and the 1870 Education Act. Furthermore, due to a gap in the literature, the *Soldiers' Pocket Book* was issued to every officer by the War Office and was updated throughout the rest of the century.¹⁰⁹⁷ The important point to bear in mind is that for the first time officers were issued with a small aide-memoire on behavioural standards – although a mere seven pages. The subject was also broached with particular reference to tactics in Robert Home's comprehensive compilation of 1872. This valued compendium, produced by the Intelligence Department for use in promotion exams, was revised twenty years later by Lieutenant Colonel Sisson C Pratt (a former Instructor at both the RMC and RMA) with this aspect maintained.¹⁰⁹⁸

Given all this, it is surprising to note, therefore, that in the college textbooks no such advice about manner or behaviour was mentioned in connection with conducting officer duties. An opportunity existed to raise ethos in Clery's *Minor Tactics* as Home had done. Similarly, Captains John Boughey or Stephen Banning might have encouraged the cadets to perform their mundane regimental duties in a way such as MacDougall had done. However, these publications, particularly Boughey's, are brief and descriptive. Under 'Disgraceful Conduct' it merely stated that according to the Articles of War an offence by an officer counted if his conduct was of a 'scandalous nature' or 'unbecoming the character of officers and gentlemen.'¹⁰⁹⁹

This did not seem to bother J F C Fuller who stated about his time at the RMC 'we were not taught how to behave like gentlemen, because it never occurred to anyone that we could behave otherwise.'¹¹⁰⁰ So, if no formal instruction was given, how were these leadership and man-management qualities developed?

It is fair to say that although a great deal of work has been done on the source of officer recruitment and the norms of officer behaviour, this is not so for the development of the deliberate inculcation of leadership and man-management in the nineteenth century.

¹⁰⁹⁶ Halik Kochanski, *Sir Garnet Wolseley: Victorian Hero* (London: The Hambledon Press, 1990), pp.42-43.

¹⁰⁹⁷ *Ibid.*, pp.42, 60, 76, 175, 179.

¹⁰⁹⁸ Sisson Cooper Pratt, *A Precis of Modern Tactics, originally compiled in 1873 by Col. R Home and revised and re-written by Lt Colonel S C Pratt* (London: HMSO, 1892) pp.1-10, 16-19.

¹⁰⁹⁹ John Boughey, *The Elements of Military Administration and Military Law* (Yorktown: W Webb, 1874), p.93.

¹¹⁰⁰ Quoted from *The Queen's Commission – a Junior Officer's Guide* (privately printed at Sandhurst), p.15 in Stephen Deakin, 'Education in an Ethos at the Royal Military Academy Sandhurst', in *Ethics Education in the Military*, ed. by Paul Robinson, Nigel de Lee and Don Carrick (Aldershot: Ashgate, 2008), pp.15-30 (p.19).

Historians and contemporary commentators alike assumed that irrespective of whether or not great leaders were born, they were nevertheless intrinsically followed by virtue of their higher class or rank in society – a fact which made the concept of the ‘gentleman ranker’ (gentlemen enlisting into the ranks) so anomalous and unpopular.¹¹⁰¹ This stratum had pedigree and education whereas the rank and file had neither. They exhibited ‘gentlemanly’ behaviour, a vaguely defined but clearly understood concept in society. It was certainly clear who was not a gentleman when, for example, society scoffed at the ‘lesser’ men occasionally resorted to when officering Volunteer regiments.¹¹⁰² The qualities looked for were honour, integrity, selflessness and courage. It was not intelligence as such, but having the education commensurate with a gentleman.

It was not in itself how an individual officer was viewed by his men but the entire structure and weight of expectation of society which played a role. At the beginning of the nineteenth century, and even before, some suggested that the regiment might be viewed as a version of landed society; whereby the officer was the landowner and the soldiers were tenants and agricultural labourers. This did not seem unreasonable given that initially the best recruits were often rural labourers – seen as healthy, hardy and pliant, and the best officers – the hunting, riding and shooting gentry, who assumed roles such as local judiciary. However, as society became more complex in the mid- to late-Victorian period and the middle class grew, the agricultural analogy lost some of its weight. Nevertheless, with more middle or upper middle class officers in the army, having attended one of the increasing numbers of public schools, the stratification was maintained. The Clarendon Commission (and the Taunton Commission) saw the public schools as the pinnacle of the school system with the bottom two tiers teaching a working or artisan class.¹¹⁰³ Thus, the paternalistic view of the landed gentry was preserved as an obligation throughout the, now rather more diverse, upper echelons of society and the officer corps.

Accepting breeding, education and manners as a given, the enduring point which is often missed about leadership, is the possession of relevant competence or knowledge. Particularly in the purchase era and certainly before the commissioning exams of 1849, it behoved the ‘old and bold’ to proffer sage advice to those would-be officers not destined

¹¹⁰¹ Byron Farwell, *For Queen and Country: A Social History of the Victorian and Edwardian Army* (London: Allen Lane, 1981), pp.49, 71, 74-75; Harries-Jenkins, *Army in Victorian Society*, pp.14-16; Strachan, *Wellington's Legacy*, pp.110-111, 141; Spiers, *Army and Society*, pp.1-2; Andrew Orgill, ‘The Sandhurst Generation of 1881’, *Wish Stream*, (2007), pp.85-88.

¹¹⁰² Hugh Cunningham, *The Volunteer Force: A Social and Political History 1859-1908* (London: Croom Helm, 1975), pp.53-57.

¹¹⁰³ Harries-Jenkins, *Army in Victorian Society*, pp.37-38; Strachan, *Wellington's Legacy*, pp.110-111; Colin Shrosbree, *Public Schools and Private Education: The Clarendon Commission, 1861-64, and the Public Schools Acts* (Manchester: Manchester University Press, 1988), pp.217-220; Charles B Otley, ‘The Social Origins of British Army Officers’, *Sociological Review*, 18 (1970), 213-239 (p.233).

for the RMC. Behavioural advice of the kind mentioned in the first section was given, but also another lesson. Essentially, the moral was this: men under an officer's command would only have confidence in, and thus follow, those who knew their duties properly.¹¹⁰⁴ This competence begetting confidence endured into the Edwardian army and beyond.¹¹⁰⁵ Given that the role of the RMC was to impart this specialist military education it might be automatically assumed that RMC-trained officers would gain a positive reputation as leaders in their regiments. Anecdotal evidence suggested the picture was more complex. Sometimes there was a culture clash between ex-cadets 'raring to go' after three years advanced college education and the non-college officers of a regiment.¹¹⁰⁶ Sydney Herbert felt that the specialist education cadets obtained made them conceited.¹¹⁰⁷ The college's advantage lay in teaching cadets what could not be taught at their regiments, principally fortification and surveying; it did not, however, teach cadets interior economy or military law. Drill was taught and a great many of the cadets went on to hold the responsible position of adjutant. However, this was not immediate, and only after a period of two or three years had elapsed, did the Sandhurst education start to play a role.¹¹⁰⁸ In such circumstances the education acquired was not of immediate or obvious benefit, and so the new college-trained ensign was then competing on the same level with an individual who purchased their commission after education at a public school. The difference between the two would, therefore, be down to the training in character during their pre-commission education.

What was this character training and in what way did it differ? Before the public school-army relationship came to be established in the manner so well elucidated by Ian Worthington, officers and the military press were not averse to a boy attending a public school as part of his military education. Indeed, the same applied to the navy, where, 'from the number of associates, boys acquire a certain manliness of character and gentlemanlike feeling. Fagging prepares them to bear with good humour the hardships which they may expect [...]'.¹¹⁰⁹ This stood in contrast to the environment of a small private school or a private tutor at home. Another article reinforced this:

¹¹⁰⁴ 'Hints to Young Officers', *Naval & Military Magazine*, 2 (1827), 8-23 (p.9); 'The Major and the Cornet', *United Service Journal*, 3 (1839), 491-497 (p.497); Colonel Charles Shaw, *Personal Memoirs and Correspondence of Colonel Charles Shaw*, 2 vols (London: Henry Colburn, 1837), I (1837), pp.7-8; 'Increase of Pay to the Officers of the Army and Examinations of Candidates for Commissions', *United Service Magazine*, 2 (1844), 614-616.

¹¹⁰⁵ Gary D Sheffield, *Leadership in the Trenches: Officer-Man Relations, Morale and Discipline in the British Army in the Era of the First World War* (London: Macmillan, 2000), p.11; Alfred Higgins Burne, *Talks on Leadership Addressed to Young Officers* (Woolwich: Royal Artillery Institution, 1940), pp.4-5. ['Basilisk' recorded as author, and first published 1921].

¹¹⁰⁶ SCA, Elton, 'Recollections of Sandhurst', p.1.

¹¹⁰⁷ *Dufferin Commission Minutes 1870*, Appendix II, G (ii) 'Extract from a Speech on Military Education by Sidney Herbert, 5.6.1856'.

¹¹⁰⁸ *Sandhurst Select Committee 1855*, Evidence of Lt Colonel GW Prosser, points, 298, 309, 310.

¹¹⁰⁹ Worthington, 'Antecedent Education and Officer Recruitment'; 'Preliminary Naval Education', *United Service Magazine*, 1 (1830), 59-61.

a couple of years at Eton, Westminster, Winchester or Harrow will be of great advantage [not in classical education] [...] but in the preparation he gains in the miniature world of a public school for what he may expect in his maturer years [...] he learns the necessity of helpfulness; it renders him manly in his ideas, and, above all, enables him to form friendships, which, as they are contracted while the heart is yet fresh in its impressions, are not unfrequently [sic] the most valuable of our after lives.¹¹¹⁰

In such a context the RMC had to operate and so it offered a mixture of public school and military education. The RMC's academic military studies have already been covered, and so here the life and discipline of the college with reference to the public schools will be explored.

Until 1857, cadets were admitted between the ages of 13 and 15 and remained at the college usually around three years. Some had, in fact, been to a public school previously and the culture was not altogether different. Given the age difference, the course length and that five cadets shared one room, the conditions were suitable for adopting public school practices such as fagging and, to an unclear extent – bullying. It also had the potential of forming meaningful lifelong friendships. For example, General Sir George Greaves recalled how his fighting opponent in his cadet days eventually became a lifelong friend.¹¹¹¹ Sir George Pomeroy Colley became very close to a fellow cadet, Lea Birch, with whom he was later stationed in Ireland. Birch's departure for the Crimea left him depressed and the sorrow of his death there was still detected in Colley's letters 13 years later.¹¹¹² Another remembered a fellow cadet, his best friend, possessing 'the sweetest temper, the kindest disposition, a warm affectionate heart that nothing but the sharpest provocation could stir to displeasure.'¹¹¹³ A pronounced camaraderie is discernible in the memoirs of John Ewart who recounted the names and numbers of the cadets in his various rooms and their eventual fates.¹¹¹⁴ John Mann was a contemporary of Ewart's who kept in touch with his former comrades and gave an impression of the relationships. A letter from an ex-cadet recounted in his memoir stated:

Cureton is here with the 12th Lancers. He is an excellent soldier and as good a fellow as when we knew him together. [...] How some of our college acquaintances have got on in this war! Percy Herbert, now QMG, Stede, Lord

¹¹¹⁰ 'Military Education', *United Service Journal*, 1 (January 1834), 40-50 (p.40).

¹¹¹¹ Greaves, *Memoirs of General Sir George Greaves*, pp.10-12.

¹¹¹² Butler, *Life of Colley*, pp.15-17.

¹¹¹³ SCA, Elton, 'Recollections of Sandhurst', p.3.

¹¹¹⁴ Ewart, *Story of a Soldier's Life*, pp.32-34.

Raglan's secretary [...] What a great man McMurdo has become. Mansfield a Brigadier General on the Bosphorus.¹¹¹⁵

Similar friendships were formed at Woolwich at the same period.¹¹¹⁶ Even if deep friendships were not formed, the acquaintances and knowledge of their former institutions meant ex-cadets could acclimatise to their new postings more easily, as Robert Portal did in Ireland.¹¹¹⁷

Similarly, close relationships in an all male environment had the potential to become, or at least be interpreted as, homosexual. In this regard the only case surviving brought before the RMC Board of Commissioners consisted of two cadets 'sitting on each others' knees' in 1853. The Captain of the Cadet Company was alerted by servants a month after he had assembled the Under Officers and Corporals and admonished them to '[prohibit] all approach to indecent familiarities between the cadets of their division.'¹¹¹⁸ Incidents of this nature were possibly quite rare, as, out of the 628 cadets admitted between 1840 and 1850, only five were withdrawn for 'immoral conduct' and, three were withdrawn for writing 'immoral' or 'improper' letters to junior cadets.¹¹¹⁹ This last offence was associated with the 'taking up' of a younger boy by an older boy in public schools. Of course, what constituted 'immoral' or 'improper' is open to interpretation. In the 1830s, and as late as the 1860s, such terms were not used to allude particularly to sexual vice.¹¹²⁰ However, by the Royal Commission of 1869, the terms related to venereal disease and 'loose women'.¹¹²¹ Even after the admission age had been raised, a society which adopted a more moralising posture to such practices, coupled with a closed community of young men, was like dry tinder waiting to be lit by the imagination of local trouble makers. For example, an anonymous source wrote to the Horse Guards accusing a college gatekeeper of being 'one of the boldest and most vile sodomites breathing', and that he performed in 'female attire' at the Jolly Farmer where 'it was a common observation amongst drunken men round the country go to the [Jolly Farmer] they take you out the back there.'¹¹²² The writer's intention was supposedly to alert the authorities of the cadets' danger; but the lurid and crude details are suspiciously exaggerated, and after investigating, the authorities were satisfied that the accusations were groundless.

¹¹¹⁵ SCA, Mann, 'Sandhurst in the Thirties', [no. page ref.].

¹¹¹⁶ For example, between Hamley and Gleig in, Alexander Innes Shand, *The Life of General Sir Edward Bruce Hamley* 2 vols. (Edinburgh: Blackwood & Sons, 1895), I (1895), pp.20-23; between Charles Gordon and Strange, see, Bland Strange, *Gunner Jingo's Jubilee*, pp.25-28.

¹¹¹⁷ Hampshire Record Office, 6A08/A5/4, Letter from Robert Portal to father, 10.5.1841.

¹¹¹⁸ WO99/9, Minutes of the Supreme Board, No.88, 21.3.1853; WO99/17, Box 21:

'Correspondence regarding the removal of cadets from the college', 1850-1853.

¹¹¹⁹ Figures compiled from WO151 RMC Cadet Register, Vol.1 1806-1864.

¹¹²⁰ John Chandos, *Boys Together: English Public Schools 1800-1860* (London: Hutchinson and Co., 1984), pp.284, 297-299.

¹¹²¹ *Dufferin Commission Minutes 1870*, evidence of Colonel EG Hallewell, points 3690-3691.

¹¹²² SCA, Governor's Confidential letter book 1864-1894, Letter from WCE Napier, RMC Governor, to Lt General Beauchamp Walker, DGME, 17.10.1881.

Certainly, when incidents of this nature were genuinely suspected, there is no sense of a 'cover-up'. This was the case after rumours circulated about immoral conduct by a cadet at his previous school, which proved to be true; his father was asked to remove him.¹¹²³

Nevertheless, the point here is that, in the main, a culture existed within the RMC, particularly in the era of the lower admission age, of promoting long-term friendships. The sharing of rooms and the fagging system went some way to create this feeling. In the first year or two newly joined cadets, known as 'Johns', did various odd jobs: keeping lookout, making the beds, cooking snacks, fetching and carrying. John Ewart thought this fagging 'did no harm' and recalled meeting 'My old fag, Charley King [...] and we had a long chat about college days.'¹¹²⁴ Indeed, Mann noted: 'neither rank, title or money counted as anything at the college – each one had to serve his time as a "John."¹¹²⁵

Yet, there was the potential for fagging and the age difference to encourage bullying. However, it is difficult to establish whether the occurrence of bullying was any more or less than in a regular public school. Ewart (cadet 1835-1838) recalled a 'vast amount of bullying', on the other hand, a contemporary of his thought the tales of bullying were greatly exaggerated and expressed surprise when some of his 'tormentors' warmly shook his hand and wished him a pleasant Christmas.¹¹²⁶ Conversely, in 1842, a parent wrote anonymously to *The Times* complaining that bullying had gone too far and the authorities should take action.¹¹²⁷ Therefore, the college must have had a certain amount of bullying and seemingly got a reputation on this account. For example, a Charles Dickens character, Major Bagstock, from the novel 'Dombey and Son' (published 1846-8), did not recommend sending the delicate Master Paul to Sandhurst as 'none but the toughest fellows could live through it'.¹¹²⁸ The principal challenge in assessing the severity of bullying is that the authorities were not informed. Ewart noted it was 'dishonourable to report another cadet' and so bullying of all sorts could take place 'with the greatest impunity.'¹¹²⁹ This was borne out by the fact that, out of 628 cadets admitted and retired between 1840 and 1854, a mere four were removed for 'ill-treatment' of another cadet. Also, if it were assumed that four cadets who deserted the college at this time was a result of ill-treatment, then it would also tend to suggest that such treatment was tolerated by the

¹¹²³ SCA, Governor' Confidential letter book 1864-1894, Letter from WCE Napier, RMC Governor, to General Dillon, DGME, 7.5.1879; Letter from WCE Napier, RMC Governor, to Major Berry, 10.5.1879.

¹¹²⁴ Ewart, *Story of a Soldier's Life*, pp. 31, 93.

¹¹²⁵ SCA, Mann, 'Sandhurst in the Thirties', p.6.

¹¹²⁶ Ewart, *Story of a Soldier's Life*, p.24-25; SCA, Mann, 'Sandhurst in the Thirties', p.6.

¹¹²⁷ 'To The Editor of the Times [from] The Parent of a Cadet', *The Times*, 22 September 1842, p.5; 'The Royal Military College, Sandhurst [from] The Parent of a Cadet', *The Times*, 27 December 1842, p.6.

¹¹²⁸ Mockler-Ferryman, *Annals of Sandhurst*, p.55.

¹¹²⁹ Ewart, *Story of a Soldier's Life*, p.25.

majority.¹¹³⁰ Whatever the case, there was sufficient cause, in 1843, to separate the cadets by age, with those over 15 going into the left wing of the college and those under, into the right wing.¹¹³¹ Interestingly, after this date, ex-cadets neither mentioned bullying nor positively say it, or even fagging, existed.¹¹³² In 1852 Tulloch stated that fagging was unknown.¹¹³³ Perhaps, this resulted from warning parents, whose sons may have already attended a public school, that fagging was officially prohibited.¹¹³⁴ Also, cadets' letters from the mid-1840s onward did not mention any bullying.¹¹³⁵

Of course, bullying could have been kept from parents too, but it is possible that by the early 1850s, although it might have been a 'robust' place, where juniors knew their place and seniors had their privileges, it ceased to be the harrowing environment painted by Dickens and Ewart. Certainly, a memoir penned in 1900 and Godwin-Austen's pointed to this.¹¹³⁶ Also, it may have been that by this time, as the RMC claimed, it effectively used its ranks of Under Officers and Corporals, along with heads of rooms, to keep cadets in order. In addition, the authorities might have been assisted by the servants employed which rendered fagging unnecessary. Also, while cadets resented the surveillance of college sergeants, these were still a check; and the lack of flogging, or any corporal punishment prevalent in public schools, must have fostered a sense of trust even to a small extent.¹¹³⁷

In conclusion, the pre-1857 era of the cadet colleges generated a feeling, and in many cases affection, in former cadets for their *alma mater*. One recalled over 50 years later being able to trace the peg in the hall allotted to his rifle, belt and bayonet.¹¹³⁸ Importantly, unlike a public school, virtually all the cadets were destined for the army. The overall spirit was in harmony with what could be promoted within a regiment. Take for example the relationship that developed between ex-cadet Audley Lempriere and his commanding officer Colonel Egerton, who looked upon the young and short statured

¹¹³⁰ Figures compiled from WO151 RMC Cadet Register Vol.1 1806-1864.

¹¹³¹ SCA, [no ref.], 'Early Records of the Royal Military College', unpublished bound manuscript, n.d. c.1880, p.62; Mockler-Ferryman, *Annals of Sandhurst*, p.56.

¹¹³² Moorehead, *Life of Godwin-Austen*, p.36; Tulloch, *Recollections of Forty Years' Service*, p.11; Butler, *Life of Colley*, pp.7-8; Sir Mortimer Durand, *The Life of Field-Marshal Field Marshal Sir George White*, (Edinburgh and London: Blackwood & Sons, 1915), pp.16-20.

¹¹³³ Tulloch, *Recollections of Forty Years' Service*, p.11.

¹¹³⁴ SCA, CAYMA:78.234.2, 'Fagging Prevention Letter', 1854.

¹¹³⁵ Letters of Charles E Knight (cadet in 1851); Robert Poore (cadet in 1849); Arthur Ewen (cadet in 1849), Audley Lempriere (cadet in 1852).

¹¹³⁶ James A Bloomfield, 'Some Reminiscences of the Fifties, Part 1', *Royal Military College Magazine and Record*, 30 (1927), 41-48 (p.45); James A Bloomfield, 'Some Reminiscences of the Fifties, Part 2', *Royal Military College Magazine and Record*, 31 (1927), 14-20 (p.19); Moorehead, *Life of Godwin-Austen*, pp.36-37.

¹¹³⁷ *RMC Guide 1849*, pp.17, 24, 42-43; *Sandhurst Select Committee 1855*, evidence of Colonel GW Prosser, points 227-233.

¹¹³⁸ Charles Henry Gardiner, *Centurions of a Century* (Brighton: [n. pub], 1911), p.332; see also 'The Royal Military College Sandhurst by an Old Cadet', *United Service Magazine*, 1 (Mar 1843), 392-404 (p.393).

Lempriere as a son. When Lempriere was killed in the Crimea, Egerton went back to retrieve his body at risk to himself, shouting 'they'll never take my boy' after which he entered the fray around the rifle pits and was killed.¹¹³⁹ Also, the same spirit is exhibited by Colley, and his senior officer Major Gawler, reciting poetry together in Colley's patrol tent in South Africa.¹¹⁴⁰

When the entrance age was raised at both colleges in 1857, the formation of character necessarily happened more at the place of a cadet's antecedent education. Consequently, there was a feeling that qualities of leadership were acquired at a public school instead. Indeed, it was around this point that the close relationship between the public schools and the army was established. It was unanimously agreed within army circles that the character training, which was a particularly distinguished feature of such schools, was exactly the sort which an army officer required. This strong link developed because the Council of Military Education honed its army and college entrance examinations based upon what a boy could reasonably acquire at a public school.¹¹⁴¹ Later in life, ex-cadets agreed with this sentiment. Charles Harington viewed Cheltenham as the place where he learnt loyalty and unselfishness. Hubert Gough thought companionship and character were particularly well fostered and he enjoyed the fagging culture. Charles Repington and Francis Younghusband concurred in this.¹¹⁴² So it was often with disgust and regret that after leaving the companionship of a public school, resort had to be made to a 'crammer' which had none of the esprit, camaraderie and mentoring of the staff.¹¹⁴³ Percival Marling recalled a 'crammer' in Ealing where the boys, known as 'Northcott' Lambs', would pawn their mathematical instruments and go into town 'for an orgy.'¹¹⁴⁴ At the same crammer a future cadet broke both his ankles jumping out of the window. He subsequently went to the more upright Captain Lendy's Practical Military College in Sunbury.¹¹⁴⁵ Unsurprisingly, views were unanimous that the public-school route, even if a crammer had to be resorted to for a short time, was better than a private tutor or botched education followed by a bad crammer.¹¹⁴⁶

¹¹³⁹ Holly Furneux, *Military Men of Feeling: Emotion, Touch and Masculinity in the Crimean War* (Oxford: Oxford University Press, 2016), Ch. 4.

¹¹⁴⁰ Butler, *Life of Colley*, p.44.

¹¹⁴¹ Worthington, pp.149-151.

¹¹⁴² Harington, *Harington Looks Back*, p.5; Gough, *Soldiering On*, pp.25-27; Repington, *Vestigia*, pp.27-29; George Seaver, *Francis Younghusband: Explorer and Mystic* (London: John Murray, 1952), p.10.

¹¹⁴³ May, *Changes and Chances*, pp.17-18.

¹¹⁴⁴ Marling, *Rifleman and Hussar*, p.21.

¹¹⁴⁵ John Sutton Edward Western, *Reminiscences of an Indian Cavalry Officer* (London: Allen & Unwin, 1922), pp.18-19.

¹¹⁴⁶ *Dufferin Commission Minutes 1870*, evidence of: Colonel JA Addison, point 3793; Colonel EG Hallewell, point 3666; *Harris Committee 1888*, evidence of: Colonel Aylmer S Cameron, point 795; Lt General Sir George Harman, Military Secretary, points 2272-4.

So strong was the influence of their public schools that, with the raising of the entrance age, their *esprit* drifted into the college with the cadets. Often cadets joined the college already familiar with a number of others, having been at the same school. A good example is the United Service College at Westward Ho! which was viewed as an affordable school with a good army side and from which many passed direct into the RMC.¹¹⁴⁷ Cadet W L Maxwell wrote: 'An old Westward Ho! fellow was exceedingly kind, showed me all about the place, gave hints and advice.'¹¹⁴⁸ When Lionel Dunsterville passed in, so did five or six others from Westward Ho!, and he remarked that it was good to have a nucleus of old friends. The same was remarked upon by Charles Repington about his Eton friends.¹¹⁴⁹ Similarly, Lovett wrote: 'It is awfully jolly knowing so many of the fellows, as I am never in the least way lonely.'¹¹⁵⁰ Lastly, Edwardes noted: 'One of the fellows I have in my room is rather a jolly fellow I knew him slightly in Heidelberg. There are about 30 chaps I know here.'¹¹⁵¹ The relationship also worked the other way, in that Sandhurst cadets would visit their old schools.¹¹⁵² They might write to younger brothers still at school encouraging them to visit and advise how to pass the entrance exams.¹¹⁵³

From the 1860s onwards, then, the cadet colleges' key contribution was one of military acculturation. Whenever the colleges had been threatened, this particular characteristic was a factor in their survival.¹¹⁵⁴ Before considering the post-1860s military influence of the RMC, it is worth elaborating further on this particular aspect which, prior to 1857, made it distinct from public schools. It will also serve as a point of reference to the military culture of the 1860s when this key feature of the cadet colleges broke down.

At the RMC the cadets wore a military uniform, they were paraded to lessons by bugle call, they mounted guards at the entrance, they drilled and had riding instruction. Many of the staff and professors were officers, some with active service, and 'on Sunday the parade was [the] grand spectacle, when the whole armed force of Sandhurst turned out in *grand tenue*.'¹¹⁵⁵ Moreover, the cadets were in two companies each under a 'Captain' (sometimes held by a major) and three sergeants. Under the Captain were the cadet ranks of Under Officer and Corporal. These mirrored the role of actual officers employed in the interior economy of a regiment; they commanded divisions at drill, took

¹¹⁴⁷ Godley, *Life of an Irish Soldier*, pp.8, 10.

¹¹⁴⁸ National Army Museum, 7402-28-3-15, Letter from WL Maxwell to his mother, 3.9.1882.

¹¹⁴⁹ Dunsterville, *Stalky's Reminiscences*, pp.57-8; Repington, *Vestigia*, p.38.

¹¹⁵⁰ SCA, [no. ref.], Letter from RB Lovett to his mother, 16.2.1890.

¹¹⁵¹ National Army Museum, 9405-138-256, Letter from JG Edwardes to his mother from RMC, 19.9.1889.

¹¹⁵² SCA, [no. ref.], Letter of AH Russell to his Father, 20.9.1886; Wiltshire and Swindon Archive, 1720/848, Letter from Audley Money-Kyrle to his Father, 15.12.1863.

¹¹⁵³ Wiltshire and Swindon Archive, 477/75, Letter from Wadham Locke to his Brother Ernest Locke, 6.5.1864; and two others without date.

¹¹⁵⁴ *Harris Committee 1888*, p.iii, para.3; Cd. 982, *Report of the Committee Appointed to Consider the Education and Training of Officers of the Army* (London: HMSO, 1902), pp.10-11.

¹¹⁵⁵ *RMC Guide 1849*, pp.43-4; Gardiner, *Centurions of a Century*, p.333.

charge of the library and news room, prevented disturbances, reported irregularity or placed cadets in arrest.¹¹⁵⁶ Perhaps most importantly was the belief that in order to be able to command men, cadets themselves had to learn complete subordination.¹¹⁵⁷ It was in this way that the cadet colleges were different from public schools, for whilst prefects and monitors were analogous, they were not exactly the same. As the following instructions from a Cadet Corporal to Cadet Mann would suggest: 'Obey orders strictly, don't attempt to argue whether the order is right or wrong, you do it, the person giving the order is the responsible man, you only have to act.'¹¹⁵⁸ Presumably, through experiencing the levelling effect of becoming a private soldier, an insight and empathy could be gained interacting with soldiers. A similar lesson was learnt through observing the behaviour of the Captains of Cadet Companies.

The Captains probably had the most immediate impact on the military discipline and bearing of the cadets. Initially, they tended to be aged or wounded veterans who served at the college for some time, and they were something of a mixture. On the one hand Captain Charles Diggle seemed to be ideal for the task. He commanded the 2nd battalion of the 52nd Light Infantry which was especially noted for the efficient training of its young officers. He had also served in the Peninsular War and been wounded at Waterloo, and evidence suggests was interested in the cadets' welfare.¹¹⁵⁹ Others such as Captains Daly and Dalgety were more mixed. Daly had lost a leg in action in India and was noted as 'kind and good-natured', but poor at drill; whereas Dalgety 'had a queer temper' but was good at drill.¹¹⁶⁰ A spat between Daly and another officer on the parade ground in the presence of the cadets as to who was the most senior to hold the parade, could hardly have promoted the emulation of officer-like behaviour in the eyes of the cadets.¹¹⁶¹ Not a great deal of evidence survives to illuminate the relationship between the cadets and their Captain, but it seems likely that as the boys grew older the relationship with the Captain probably became more akin to that of a tutor or mentor. This is evident in the letters from Cadet Ewen in the way he mentioned his Captain, Garnet Man, in the support given after an unpleasant incident.¹¹⁶²

¹¹⁵⁶ *Sandhurst Select Committee 1855*, evidence of: Major GW Prosser, points 303-308; Major WH Adams, points 1129-1140; Ewart, *Story of a Soldier's Life*, p.36; SCA, Mann, 'Sandhurst in the Thirties', p.6.

¹¹⁵⁷ *Sandhurst Select Committee 1855*, evidence of Major WH Adams, points 1134-1135; 'The Good Soldier', *RMC Magazine*, 1.1 (March 1891), 6; Thomas Washington Metcalfe, *Memorials of the Military Life* (London: Ivor Nicholson & Watson, 1936), p.48; Sheffield, p.7.

¹¹⁵⁸ SCA, Mann, 'Sandhurst in the Thirties', p.3.

¹¹⁵⁹ Shaw, pp.5-6; Ewart, *Story of a Soldier's Life*, p.19; Hampshire Record Office, 39/M89/F120/1, Letter from Charles E Knight, RMC, to mother, August 1851.

¹¹⁶⁰ Bloomfield, 'Some Reminiscences of the Fifties, Part 1', p.46.

¹¹⁶¹ SCA, WO99/9, Minutes of Supreme Board, no.96, 14.7.1855

¹¹⁶² Berkshire Record Office, D/EE/C2/4, Letter from L'Estrange Ewen to his mother regarding Cadet A Ewen, 12.3.1854; D/EE/C2/5, two Letters from Cadet A Ewen i) to his mother, and ii) to his father, both dated 15.5.1854.

In 1858, with the raising of the admission age and the proposal to amalgamate Woolwich and Sandhurst, came a shift in emphasis at the RMC. The CME urged a revision of the timetables as '[...] the establishment is no longer a school for small boys, but a college [...] for grown up lads and in some cases young men.'¹¹⁶³ They expressed optimism that young men having finished their general education will 'value the prize set before [them]' and work in their leisure time to secure a commission as soon as possible. It is possible that as a consequence discipline became a little too lax.¹¹⁶⁴

In October 1862, a 'mutiny' occurred at the RMC when cadets marched into a field redoubt, refused to leave, and abused their officers until the Commander-in-Chief remonstrated with them. In the same way that the Indian Mutiny was attributed in popular memory to the biting of cartridges, the Sandhurst version was attributed to bad food.¹¹⁶⁵ The causes in both cases were far more complex of course. Often treated as amusing fodder in popular Sandhurst historiography, the incident revealed, however, a fundamental failure to inculcate subordination and a shattering of that necessary template of military culture.

The heart of the problem was apprehended by the 1869 Royal Commission – even if their conclusion of the purported idle element among the cadet body and the lack of authority of the Governor were probably given undue prominence.¹¹⁶⁶ Perhaps more accurate is their appreciation of the lack of moral superintendence and what they saw as the predominance of the military element over the educational element. However, a more nuanced assessment would be the total split between the disciplinary military staff from the instructional branch in the relations with the cadets. In this the witnesses were unanimous.¹¹⁶⁷ There were several aspects to this. Some felt there existed a conflicting relationship between the roles of the Commandant (responsible for discipline) and the Superintendent of Studies (theoretically responsible to the Commandant for the studies); and that these posts should be merged.¹¹⁶⁸ Indeed, a tension seems discernible between Colonel Scott and Colonel Napier at the beginning of the decade. Still sensing this, the Commandant affirmed the total '*d'accord*' existing between himself and the Superintendent.¹¹⁶⁹ The instructional branch felt inferior and subordinate in importance to

¹¹⁶³ WO152/18/89.1317, Letter from Horse Guards enclosing CME Memo, 14.4.1860.

¹¹⁶⁴ *Dufferin Commission Minutes 1870*, evidence of Bt Lt Colonel Whitworth Porter, point 2274.

¹¹⁶⁵ Shepperd, *Sandhurst and its Predecessors*, p.66; Thomas, *Story of Sandhurst*, p.115.

¹¹⁶⁶ *Dufferin Commission Report 1869*, p.14.

¹¹⁶⁷ *Dufferin Commission Minutes 1870*, evidence of: Major General WCE Napier, Vice-President of the CME, point, 645; Lt Colonel W Porter, Professor of Fortification, points 2172-3, 2330; Captain L A Hale, Instructor of Fortification, point 2972; Colonel JE Addison, Superintendent of Studies, point 3854.

¹¹⁶⁸ *Dufferin Commission Minutes 1870*, evidence of: Brevet Major WR Farmar, Captain of a Cadet Company, points 3160, 3178-9, 3234; Captain LA Hale, points 2970-2.

¹¹⁶⁹ *Ibid.*, evidence of Colonel EG Hallewell, Commandant, 3321-2.

the military branch and had limited powers of discipline.¹¹⁷⁰ This was manifest in apparently minor ways, such as the confusion as to whether they should be saluted, or the instance when the Commandant requested their wearing military uniform in consequence of the 'extraordinary costumes' they were wont to wear.¹¹⁷¹ Of more significance was that the better personal knowledge of the cadets possessed by teaching staff was not being taken into account by the disciplinary staff who were responsible for the cadets' well-being.¹¹⁷² The pernicious feeling caused the Captain of a Cadet Company to remark that neither the military nor civil professors supported them, and that they showed a 'deplorable want of *esprit* for the college.'¹¹⁷³ The Commandant also noted the custom prevalent among some of the professors of 'cavilling at, criticising and objecting' to orders.¹¹⁷⁴

The split ran into other areas. The instructors' knowledge of the cadets, it was felt, was not taken sufficient advantage of when making the appointment of Under Officers and Corporals. In its worst case the Commandant might simply appoint a cadet who was popular but turned out to be ineffective.¹¹⁷⁵ There was also the point that some of the civilians, who taught Mathematics, Landscape Drawing, French or German, and science, had not the command to keep order in the classes. A memoir recalled: 'Our conduct in class varied with the character of the instructors. We never attempted any tricks with the regular officers, but took full advantage of any weakness shown by the civilian instructors.'¹¹⁷⁶ One of these civilian instructors was Henry Greer who was asked to resign.¹¹⁷⁷ Another, a German master, was reported for having a conversation of a highly immoral nature with some cadets, which affected his career.¹¹⁷⁸ The instructional branch was probably also undermined by the low qualifying standard for a non-purchase commission.

Indeed, apart from the low standard there were other elements of the course of instruction that would have adversely affected discipline. For example, those cadets not

¹¹⁷⁰ Ibid., evidence of: Captain LA Hale, points 2969-71; Lt Colonel W Porter, point 2320.

¹¹⁷¹ WO152/34/90.1598, Letter from Revd Robert Walker to Colonel Lacy, RMC Superintendent of Studies, 16.8.1864, Letter from Horse Guards to RMC Governor, 18.8.1864; WO152/31/90.1294, Letter from Horse Guards to RMC Governor, 27.12.1865; WO152/35/90.1720, Letter from Captain LA Hale, 20.2.1868.

¹¹⁷² *Dufferin Commission Minutes 1870*, evidence of Major General WCE Napier, point 1069.

¹¹⁷³ Ibid., evidence of Brevet Major WR Farmar, Captain of a Cadet Company, points 3256, 3282.

¹¹⁷⁴ WO152/33/90.1394, Comments of Col EG Hallewell on Memo by Captain LA Hale, 1.3.1866.

¹¹⁷⁵ *Dufferin Commission Minutes 1870*, evidence of: Lt Colonel W Porter, points 2226-7, 2323-5; Captain E Walker, point 2837-8; Captain LA Hale, 3036-8; Colonel JE Addison, point 3861.

¹¹⁷⁶ Francis Howard, *Reminiscences 1848-1890* (London: John Murray, 1924), pp.30-31; *Dufferin Commission Minutes 1870*, evidence of: Lt Colonel W Porter, 2246; Bt Major WR Farmar, points 3162-7; Colonel EG Hallewell, points 3342-3344; Ensign E Dering, point 4016.

¹¹⁷⁷ WO152/35/90.1665, Letters from Henry R Greer to Superintendent of Studies, 17.10.1867 & 26.10.1867; WO152/35/90.1730, Letter from Horse Guards to RMC Governor, 25.3.1868.

¹¹⁷⁸ WO152/17/89.1250, Horse Guards to RMC Governor, 4.6.1859; SCA, Governor's Confidential Letter book 1863-1894, Letter from Lt General Sir HD Jones, RMC Governor, to Horse Guards, regarding Dr Ehrenbaum, 31.3.1863.

taking up a voluntary study were simply dismissed to 'independent study', which was widely acknowledged as a waste of time in which cadets would lounge about the grounds smoking.¹¹⁷⁹ Also, even with the addition of a third term in 1867, the course was generally felt by all that it was hurried over. Parts of it were not particularly relevant, such as Chemistry and Geology. Other parts such as Gymnastics, Riding and Drill were not given their due weight by being allocated marks. Lastly, while there may have been debate over the viability of teaching law, interior economy and regimental work; the fact that it was absent cannot have helped the cadets feel they were preparing for their professional future. Certainly, in the last chapter it was noted how pleased the cadets were, in the late Victorian era, to throw off the subjects of general education and start the exciting new professional subjects.

The problems above were exacerbated by the short course duration which was only a year for most of the 1860s. This meant less time for the Captains of Companies to know the character of cadets and make up for the disadvantage of having so many under them. It also meant the Under Officers and Corporals were not of a sufficient difference in age to have moral authority over the younger cadets – a fact which the staff widely acknowledged. This did not seem to have been ameliorated by exclusively selecting third-term cadets. Even the Commandant conceded that whilst the Under Officers were good on duty and patrol; amongst the cadets, however, during recreation and in the dormitories, they were too much on the same level.¹¹⁸⁰ These factors might have been offset had the staff lived closer to the college, but one captain and three of the subalterns lived three-quarters of a mile away, and all of the professors lived some distance too.¹¹⁸¹ There may also have been chaplaincy issues, a point upon which will be returned to below.

These factors provided the general context of the 'mutiny', but it is difficult to know the exact cause; because, at the meeting of the Supreme Board a day or so after the event, the Commander-in-Chief expressly ordered the proceedings to not be recorded.¹¹⁸² Given the wide variety of confidential subjects normally discussed at the meeting and recorded, it is probable that the Lieutenant Governor, Colonel C Rochfort Scott, was in some way criticised for his handling of the cadets in general and at the incident in

¹¹⁷⁹ *Dufferin Commission Minutes 1870*, evidence of: Captain E Walker, points 2885-2891; Bt Major WR Farmer, points 3182-88; Colonel EG Hallewell, points 3396-3401.

¹¹⁸⁰ SCA, Governor's Confidential Letter Book 1863-1894, Letter from Colonel CR Scott to RMC Governor, 30.12.1863; *Dufferin Commission Minutes 1870*, evidence of: Lt Colonel W Porter, point 2321; Revd FW Vinter, point 2719; Captain E Walker, point 2868; Captain LA Hale, points 2996, 3034; Bt Major WR Farmer, points 3202-3, 3238; Colonel EG Hallewell, point 3459; Colonel JE Addison, point 3909.

¹¹⁸¹ *Dufferin Commission Minutes 1870*, evidence of Colonel JE Addison, points 3885-7.

¹¹⁸² WO99/10, Minutes of the Supreme Board, No.138, 4.10.1862.

particular. Certainly, memoirs painted a bad picture of him.¹¹⁸³ Something of his character is discernible in his correspondence, which seemed to show that the CME had more confidence in the Superintendent of Studies, Colonel WCE Napier. Napier was attempting to reduce the number of studies and discontinue general history, in this the CME noted: 'his opinion [...] is nearly in accordance with their own.'¹¹⁸⁴ More pertinently Scott did not refer to the grievances of the cadets, who had been accepted under pre-1857 regulations, and felt that they were now at a competitive disadvantage with new cadets, who had a sounder mathematical education.¹¹⁸⁵ Scott did not, in fact, go until April 1864 and was replaced with a new Commandant who had a more progressive posture on managing the cadets. Colonel EG Hallewell brought in recreation rooms for billiards, smoking and procuring beer. However, attempts were made before Hallewell's appointment. A gymnasium was planned in 1862 but was not completed until early 1863. In 1863 the benefit of staff capable of dealing with cadets in the correct manner was certainly recognised. So too was the need to give sufficient incentives to obtain the best Under Officers.¹¹⁸⁶ Yet, some notable disciplinary incidents recurred even after Hallewell was appointed. It was apparent to the authorities that there was some difficulty in striking the correct balance in dealing with these older cadets. For example, the mass insubordination to a company subaltern in the dormitory seemed to stem from his being generally disliked on account 'of his very strict attention to duty, looking for absentees who may have been reported present, but who afterwards slipped away from chapel parades.'¹¹⁸⁷

A similar 'mutiny' occurred the previous year at the RMA Woolwich. Space does not permit to enter into the full details but the admonishing address of the Duke of Cambridge's is worth quoting in full:

I must remind you that your coming to the academy is your own voluntary act – that you are bound by that act if you remain to abide by the rules which existed when you came and further that though you may, under the tuition you receive here, become accomplished artillerists and skilful engineers, if you have not learnt that which is the foundation of the success of all armies – discipline – if you have

¹¹⁸³ John Parrant, 'Reminiscences of an Old College Employee', *RMC Magazine and Record*, 17 (1922), 55-57; Edward Spenser Mott, *A Mingled Yarn: The Autobiography of Edward Spencer Mott*, (London: Edward Arnold, 1898), p.43.

¹¹⁸⁴ WO152/17/89.1149, Colonel CR Scott Memo to CME, 9.9.1858; 89.1153, CME to Scott, 21.9.1858 and Scott to CME, 29.9.1858; 89.1161, CME to RMC Governor, 7.10.1858; 89.1256, Scott to RMC Governor, 5.7.1859; 89.1261, CME Memo to RMC Endorsing Napier's plan, 18.5.1859, Scott to CME, 22.5.1859.

¹¹⁸⁵ WO152/17/89.1268, Colonel CR Scott to RMC Governor, 10.8.1859.

¹¹⁸⁶ SCA, Governor's Confidential Letter Book 1863-1894, Letter from Lt General Sir HD Jones, RMC Governor forwarding application of Lt FBN Craufurd to be Captain of Cadets, to Horse Guards, 1.4.1863; SCA, Governor's Confidential Letter Book 1863-1894, Letter from Colonel CR Scott, Lieutenant Governor, to RMC Governor, 24.12.1863.

¹¹⁸⁷ WO152/32/90.1332, "Proceedings of a Court of Enquiry Assembled on the 12th June 1865 at the RMC by order of the Governor, for the Purpose of Investigating and Reporting upon Such Matters as may be Brought Before It.", 12.6.1865.

not learnt to obey orders, you are useless as soldiers and unfit to enter the service of Her Majesty.¹¹⁸⁸

These remarks put officers and other ranks on the same footing. Cadets were reminded that they were not a breed apart, but soldiers. Moreover, it demonstrated the prevailing opinion mentioned above, that to command there must at first be subordination. Whilst this was perceived as true, it also highlighted the failure of the authorities themselves to follow the prevailing view of the paternalistic officer to develop the mind, body and soul of the cadets.

At the RMC matters did not improve until the disconnect between the two branches was resolved in 1871. Separate Company Officers were abolished, the civilian instructors were made redundant and a strictly military course was pursued. Now, the Company Officer was combined in the same person as the instructor, and this had the potential to function well. Take for example the personal relationship which grew up between Ian Hamilton and Captain John Boughey; Boughey said to Hamilton he would be to him like Dr Benson had been to them both at Wellington College.¹¹⁸⁹ But the sub-lieutenant era was a difficult time for the instructors to develop personal relationships with their charges; J S E Western, a former sub-lieutenant, recalled: 'I am sure we were trouble enough [...] and I do not think the position of an officer of a company at the Royal Military College was a much to be envied berth in those days.'¹¹⁹⁰ Indeed, their behaviour caused the Company Officers to resign en-masse.¹¹⁹¹ There is more evidence of a better relationship with staff in the cadet era (1877 onwards). For example, according to Stanley Maude's biographer, 'the intimate association with officers who formed the staff, and the strict military discipline maintained during official hours delighted him.'¹¹⁹² The biographer of William Forbes Gatacre, an instructor whose tenure straddled both the sub-lieutenant and cadet eras, stated: 'The cadets in his class were fascinated by this singular and brilliant personality, and loved him with a 'schoolboy heat'.' He apparently treated them as gentlemen rather than schoolboys and opted for an informal rebuke rather than using official means.¹¹⁹³ The first Governor, William Napier, and the Commandant, Frederick Middleton, were remembered fondly by some cadets; whilst others might remember a certain instructor who was an inspiration.¹¹⁹⁴ At Woolwich the trend was similar, where the discipline and tone were said to be good and staff might invite the more promising cadets

¹¹⁸⁸ WO150/49/74, AG to RMA Governor, 21.11.1861.

¹¹⁸⁹ Hamilton, *When I was a Boy*, pp.154-156, 258, 279, 284-285.

¹¹⁹⁰ Western, *Reminiscences of an Indian Cavalry Officer*, p.33.

¹¹⁹¹ WO152/38/90.2030, Minute Paper on Resignation of Officers, 6.4.1873; WO152/38/90.2036, HG letter to RMC Governor, 30.4.1873.

¹¹⁹² Callwell, *Life of Sir Stanley Maude*, p.11.

¹¹⁹³ Beatrice Gatacre, *General Gatacre: The Story of the Life and Services of Sir William Forbes Gatacre 1843-1906* (London: John Murray, 1910), p.36.

¹¹⁹⁴ Gleichen, *Guardsmen's Memories*, p.15; Willcocks, *From Kabul to Kumassi*, p.2; Haldane, *Soldier's Saga*, pp.26-27.

to their homes for supper.¹¹⁹⁵ Indeed, the Woolwich atmosphere in 1875 was more congenial than Rugby School, where it was felt there was little staff/pupil intercourse and no mingling at games. The same was still felt in 1905, with military instructors who were more sympathetic than the academic masters at Rugby.¹¹⁹⁶

Whilst individual officers may have exerted their own characters for positive benefit, the whole structure of the late Victorian RMC was also geared toward the preparation of cadets for entry into military life. As in the British army where the regiment was owed allegiance, so at the RMC it was the Cadet Company (known as a division in 1877). The officer in charge of the division, who was also an instructor, lived in the college, messed with the cadets and was responsible for them in every respect. He had to become acquainted with their characters:

[...] being always ready to give friendly advice, which they will encourage the cadets to seek from them. They will endeavour to the utmost, by gaining the confidence of the cadets, to promote that honourable and gentlemanlike tone which ought to prevail among them; and should at the same time, with tact, discretion and good temper, accompanied by firmness, enforce a strict compliance with the standing orders [...] they are enjoined to bring to the notice of the Governor, through the Commandant, all matters whatever affecting the comfort or welfare of the cadets.¹¹⁹⁷

Another 13 paragraphs of the standing orders detailed the duties of the officer and, as the cadets had these orders and witnessed the behaviour of their officer, they were being practically instructed in officer behaviour. This was how it was perceived at the time and Churchill remembered the example set.¹¹⁹⁸ Regimental mess life, which was not a part of public school life, was also imitated as far as possible – with officers and cadets assembling in the anteroom, and upon dinner being announced, the senior officer present would process in first.¹¹⁹⁹ Often there would be sports trophies won by the company on the table. The *esprit de corps* that this generated was reflected in a letter signed by a company who wished to take their trophies to a new mess location. The Assistant Commandant also noted the strong company *esprit* in relation to the need to develop a

¹¹⁹⁵ May, *Changes and Chances*, pp.21-22; Abye, *Recollections of a Military Life*, p.296; Nichol, *Field Marshal Lord Milne*, pp.8-9.

¹¹⁹⁶ May, *Changes and Chances*, p.16; James Marshall-Cornwall, *Wars and Rumours of Wars: A Memoir*, (London: Leo Cooper, 1984), p.4.

¹¹⁹⁷ SCA, [no ref.], *Standing Orders, Royal Military College, Sandhurst* (London: HMSO, 1877), pp.5-6.

¹¹⁹⁸ *Harris Committee 1888*, evidence of Major Edward Arthur Ball, point 1742; Winston L S Churchill, *My Early Life: A Roving Commission*, (London: Thornton Butterworth Ltd, 1930), p.63.

¹¹⁹⁹ *Harris Committee 1888*, evidence of Major HTW Allatt, point 1682; Major Edward Arthur Ball, point 1722, 1741-1742; For the effect, see also, Metcalfe, *Memorials of the Military Life*, p.64.

college *esprit*.¹²⁰⁰ The C-in-C wished this style of messing to be introduced into the RMA.¹²⁰¹

However, this was the ideal, but there is evidence that sometimes this did not work. Because of the inconvenience and the hard work involved, the post of Divisional Officer was unpopular. The Governor had great pains to make appointments to the point where he had to issue orders, causing the Duke of Cambridge to state that the voluntary principle should be adhered to as much as possible. As two divisions shared one mess, it was possible for an officer to absent himself and dine elsewhere, leaving the remaining officer in charge. This did not please the Governor and could lead to problems.¹²⁰² For example, two cadets at mess drunk to excess and had to be stopped by a Cadet Corporal. Their initial behaviour escaped the notice of the Captain, so it was the Corporal that was actually praised for having the moral courage to intervene.¹²⁰³ Dealing with high-spirited future officers took moral courage on the part of Divisional Officers, as was exemplified by the behaviour of Captain Moore on the night of C Company receiving the Hockey Cup. This was a typically raucous occasion for any company, but the officer let matters get out of hand with mess and government property being destroyed. He was relieved of his command as a Divisional Officer but continued as an instructor.¹²⁰⁴

In five years of virtually unbroken confidential correspondence, these two relatively minor incidents seem to suggest the system generally worked well. However, Divisional Officers could not always be present, and the way the accommodation was laid out meant that if one was absent there would be opportunities for 'rows'.¹²⁰⁵ Consequently, there were occasional instances of 'ragging' or bullying. As discussed with regard to the pre-Crimean era, it is difficult to establish how serious and widespread these were. Biographies of a number of cadets did not mention such problems at all.¹²⁰⁶ On the other

¹²⁰⁰ WO152/59/90.5755, Letter from OC 'F' Company to Assistant Commandant, 23.2.1889; 'Letter to editor by Lt Colonel Montagu Wynyard, 18.2.1891', *Royal Military College Magazine*, 1.1 (March 1891), p.12.

¹²⁰¹ WO152/56a/90.5322, Letter from Horse Guards to RMC, 28.9.1886.

¹²⁰² WO152/42/90.2420, Various replies of unmarried officers, 13.7.1877; WO152/42/90.2428, Letter from Captain RL Leir, 16.8.1877; WO152/42/90.2527, Letter from Horse Guards to RMC, 14.11.1877; SCA, Commandant's Confidential Letter Book 1881-1885, Letters to Captain RL Leir and Captain Rosser from RMC Comdt Colonel Middleton, 2.6.1882; WO152/29/88.2856, Minute of RMC Governor to DGME, 2.2.1884; WO152/67/90.7366, Memo to Division Officers About Duty, 11.10.1894.

¹²⁰³ SCA, Governor Confidential Correspondence 1895-1901, 7611/7160, 8.10.1894.

¹²⁰⁴ SCA, Governor Confidential Correspondence 1895-1901, B/45/4, Confidential Memorandum by General Sir Edwin Markham, 9.4.1899.

¹²⁰⁵ *Harris Committee 1888*, evidence of: Colonel Aylmer S Cameron, points 792-793; Major HTW Allatt, points 1881-1884; Major Edward A Ball, point 1744.

¹²⁰⁶ No mention is made of bullying in: Birdwood, *Khaki and Gown*, pp.28-29; Churchill, *My Early Life*, pp.73-74; Chapman-Huston and Rutter, *General Sir John Cowans*, I (1924), p.57; Dunsterville, *Stalky's Reminiscences*, pp.57-58; Fuller, *Memoirs*, pp.5-6; Gough, *Soldiering On*, pp.29-30; Haldane, *Soldier's Saga*, Ch.4; Harington, *Harington Looks Back*, pp.7-8; George Barrow, *The Life of General Sir Charles Carmichael Monro* (London: Hutchinson & Co, 1931), p.20; Montgomery-Cuninghame, *Dusty Measure*, pp.12-15; W F Stirling, *Safety Last*, (London: Hollis and

hand there is evidence that it was carried on. At the more moderate end, George Younghusband revealed practical joking and teasing, but on the other, Lord Gleichen painted a rumbustious portrait of the institution and referred to 'ruffians' there, who 'loom[ed] more vividly in my memory than all the other excellent fellows put together.'¹²⁰⁷ Similarly, Percival Marling recorded 'an awful row the last night of term, as we took an unpopular under-officer and threw him into the lake.'¹²⁰⁸ Such incidents could have as their source the differences in social origin, a situation facilitated by open competition and the various benevolent cadetships available. For example, Charles Repington, an Eton boy, recalled there were 'some dreadful outsiders amongst us' and described how he and some others punished several cadets for dining with the Commandant's cook. Although officially rebuked, the Commandant appeared to condone Repington's action.¹²⁰⁹ If this behaviour was not taken with good humour, it marked an individual for extra treatment. A Queen's Cadet, a type of cadetship characterised by those with disadvantaged backgrounds, who was subjected to this, made a complaint and stormed out of the college. He was allowed back, but was ostracised by the other cadets. Even though the Governor encouraged him to stay, he was concerned for a boy who, if unable to cope with this behaviour, should not be in the army.¹²¹⁰ Indeed, this was a valid concern, for there were cases of bullying or ragging of young officers who, for whatever reason, were deemed to not fit in at their regiment.¹²¹¹ Still, despite the Commandant's intimation to Repington, it did appear reports of misbehaviour were dealt with firmly. For example, on an occasion when offenders played a practical joke on a cadet and had their commissions delayed a month. The Governor defended this punishment for the reasons of maintaining 'the tone and discipline of the place', and because the cadet in question held the responsible post of Under Officer.¹²¹² Such action was probably taken because of the need to establish at the RMC a benchmark of discipline. There was a sense that, whatever happened afterwards at the regiment, the authorities did not want to be accused of endorsing poor behaviour at the start of a cadet's career.¹²¹³

It is an interesting indication of the nature of this culture when foreign cadets were introduced. The experience of Prince Alemayu in 1879 was evidence for the need to have a strong character. This prince of Abyssinia was taken into the care of the British

Carter, 1953), p.7; Maxse, *Seymour Vandeleur*, pp.7-8; Willcocks, *From Kabul to Kumassi*, pp.2-3; Wilkinson, *To All and Singular*, pp.28-29; Seaver, *Francis Younghusband*, pp.15-17.

¹²⁰⁷ Younghusband, *Soldier's Memories in Peace and War*, pp.19-31; Gleichen, *Guardsmen's Memories*, pp.16-17.

¹²⁰⁸ Marling, *Rifleman and Hussar*, p.24.

¹²⁰⁹ Repington, *Vestigia*, pp.38-39.

¹²¹⁰ WO152/57/90.5473, Letter from Mrs Julia Daubuy to RMC, 28.3.1888 and Memorandum on GC Daubuy by Lt General D Anderson, Governor RMC, 27.2.1888.

¹²¹¹ Farwell, *For Queen and Country*, pp.70-71; Spiers, *Late Victorian Army*, p.106.

¹²¹² SCA, Governor's Confidential Letter Book 1864-1895, William Napier to Shute, 25.7.1880.

¹²¹³ See for example discussion on billiards, smoking and drinking in WO152/32/90.1285, RMC minute on CME Memorandum, 27.11.1865.

government after the assault on Magdala fortress to obtain the return of European hostages. The prince had been subsequently educated at Rugby School and was furnished with a glowing reference ideally suiting him to a career in the army.¹²¹⁴ Once at the RMC, however, his career did not go well and a report surfaced in a London newspaper stating: 'They make this poor black youngster drunk, then they stripped him, flung him onto his bed, and these "officers and gentlemen" deliberately proceeded to whitewash him.'¹²¹⁵ The Governor responded: 'I need hardly say that the whole story is a complete falsehood from beginning to end. No such occurrence ever happened and Prince Allemayu has always been treated with the greatest consideration by his fellow cadets.'¹²¹⁶

Given the robust environment of the RMC, and the inherently racist nature of Victorian society, it is tempting to assume such an outrage occurred. However, given that Napier's confidential correspondence is uninterrupted for this date, and where such incidents occurred there was a full investigation, the incident seems less likely. What is more, correspondence between an instructor and Lord Napier suggested that, despite being a black African, probably because he was royalty, a Christian, and enjoyed official government and royal patronage; the authorities expected him to obtain a commission in HM service. The instructor stated to Lord Napier, there was no bullying 'as we should understand it' but the problem was his alleged 'thin-skinned-ness', and reluctance to associate with his fellows.¹²¹⁷ He was probably teased like every other cadet, but was unable to cope. Interestingly, there are examples of other foreign cadets who did perform well. The careers of Prince Duleep Singh, Duc D'Orleans, Prince Izmet Bey and the Prince of Asturias (a sub-lieutenant in 1874) passed without much record. Others, such as the Prince Imperial (at the RMA) and the Crown Prince of Siam, were exceptional in their performance.¹²¹⁸

A point not readily recognised was the role of the Commander-in-Chief, HRH the Duke of Cambridge, in maintaining the moral code. In all the surviving correspondence relating to serious disciplinary matters ran the final judgement of the duke. His evident affectionate, but just and firm, disposition to the cadets was in line with Willoughby Verner's depiction of him as 'The Soldier's Friend.'¹²¹⁹ The decisions he took were the final seal of this 'gentlemanly code' of honour and integrity. His remarkably consistent

¹²¹⁴ WO152/44/90.2837, Letter from Thomas William Jex-Blake to RMC, 29.7.1878 and to Sir Stafford Northcote, 7.1878.

¹²¹⁵ SCA, Governor's Confidential Letter Book 1864-1894, Letter from Governor Lt General William Napier to General Dillon, War Office, 18.6.1879.

¹²¹⁶ *Ibid.*

¹²¹⁷ WO152/46/90.3274, Captain Charles Cooper King to RMC Governor, 24.7.1879.

¹²¹⁸ RMA Register shows Prince Imperial passed 8th out of 37; WO152/70/90.7835, Reports on the Progress of the Crown Prince of Siam, 31.1.1899.

¹²¹⁹ Verner, *Military Life of the Duke of Cambridge*, I (1905), pp.xi-xiii.

decisions ensured he became an enduring moral guardian that lasted from one Governor to the next. There are too many examples to list which demonstrated this, but it is clear that he did not baulk at chastising the Governor and the authorities of both colleges. One example from each will suffice. At the RMC he censured the authorities for a lack of vigilance in allowing gambling to take place. He then admonished the cadets who tried to cover-up the events, thus:

HRH is much concerned to observe among the cadets such a want of proper military feeling [...] their sense of what is due to themselves as a military body should have led them to report the charge against gentleman cadet King to their superior officers, with whom alone rests the propriety of dealing with such a charge.¹²²⁰

At the RMA a cadet was thrown into a bath with his clothes on for reporting Corporals who arbitrarily punished cadets they did not favour. As this 'outrage' was performed by Corporals, in the presence of an ineffective Under Officer, they all had their commissions delayed by six months. The Inspector of Studies was also admonished for being aware of this practice amongst the corporals.¹²²¹

These examples point to a desire to maintain integrity through moral courage; loosely termed as 'honour' at the time. So, it is hardly surprising that the award that recognised this behavioural attribute was not a medal, but a sword, named the 'sword of honour'. At the RMC each half-year a sword was awarded for the highest total marks in the subjects of examination – known as the 'General Proficiency Sword' in summer and the Anson Memorial Sword in December. The sword of honour was awarded 'to the Under Officer who [was] considered to have had the best influence amongst the cadets generally, and to have exerted himself most successfully in maintaining discipline.'¹²²² The sort of behaviour attracting the award was demonstrated by a Woolwich Under Officer who got his division to petition the RMA authorities to grant an academically brilliant, but injured, cadet, a commission in the Royal Engineers.¹²²³

This idea of selflessness and the subordination of self to a greater team or body, was an ideal reflected in other evidence. The ultimate sacrifice was of course recorded in the chapels of the cadet colleges. In the RMC chapel names are arranged by campaign,

¹²²⁰ WO152/60/90.6030, Letter from Horse Guards to RMC, 7.12.1889.

¹²²¹ WO150/54/145, 153, Letters from Horse Guards to RMA Governor, 20.11.1865, 27.11.1865.

¹²²² WO152/68/90.7503, Memorandum to DGME by Assistant Commandant, 23.2.1896.

¹²²³ WO150/55/72, Letter from GC S Buckle to Major Thring, OC 'A' Division, 22.5.1866; WO150/55/128, Letter from War Office, 19.6.1866; Similar action taken by cadets of 2nd RMA class, see, WO150/58/159, Letter from GC W Dunlop to RMA Inspector of Studies, 12.6.1867.

others are dedicated to individuals by families, mentioning their gallant death.¹²²⁴ An example of this is the memorial to Gentleman Cadet Geoffrey Burton who drowned whilst saving the life of his sister. His brother, a lieutenant, wrote: 'He died most nobly. [he] at once and without hesitation dived into the sea with his clothes on [...] Our only consolation is that he died doing his duty and no man could do more.'¹²²⁵ A most poignant illustration of the ideal is represented by the following inscription:

To the Memory of Walter Edward Alexander Kinloch, who was drowned on the occasion of the loss of the SS 'Normandy' by collision in the Channel, March 17th, 1870, in the 20th year of his age. This tablet is erected by his brother cadets of the 'C' Company Royal Military College, in token of their esteem for his private character and their admiration of his noble conduct in sacrificing his life by refusing, although offered a place in the ship's boat, to quit the sinking vessel until all the women on board were rescued.¹²²⁶

For those who did survive, it was important that acts of selflessness should be recognised. Cadet Channer was allowed to wear the bronze medal of the Royal Humane Society – the body which recognised acts of bravery in saving life.¹²²⁷ Another cadet, who did not receive a medal but rather a certificate, was to have his presented to him in as public a way as possible.¹²²⁸ In the 1880s at the RMC, Cadet Prinsep was awarded an astounding two Royal Humane Society medals; while an instructor, Captain Edward G Wynyard, was awarded one for rescuing a man from under the ice in Switzerland.¹²²⁹ Conversely, those who were perceived to put themselves first, as Lieutenant Carey was seen to have done when the Prince Imperial was killed in 1879, became a social pariah.¹²³⁰

Whilst it might be argued that to a degree this sense of selflessness was derived from the paternalism and *noblesse oblige* inherent in the upper strata of society, it is arguable that Christianity fed such motives. This also gave the cadets an ethical code which could in no means be taken for granted in the second half of the twentieth century.¹²³¹ The influence of Christianity in the life of the cadet colleges, and its impact on developing officership, might be characterised as acting in two ways. Firstly, it could be

¹²²⁴ For example, memorials to John Compton Pyne, Alexander Limond, Francis Hoel Probyn, in Mockler-Ferryman, *Annals of Sandhurst*, p.84.

¹²²⁵ WO152/23/88.3079, Lieutenant Burton to RMC Governor, 31.8.1893.

¹²²⁶ Mockler-Ferryman, *Annals of Sandhurst*, pp.82, 85.

¹²²⁷ WO152/67/90.7431, Letter from Horse Guards to RMC, 13.11.1894.

¹²²⁸ WO152/25/86.2503, Letter from Horse Guards forwarding parchment to T Eckersley, 15.5.1895. Also medal award to GC DW Maxwell, WO152/67/90.7431, HG to RMC, 13.11.1894.

¹²²⁹ Keith Warsop, *The Early FA Cup Finals and the Southern Amateurs* (Nottingham: Tony Brown, 2004), p.40; WO152/65/90.6989, Letter from Horse Guards to RMC, 13.2.1894.

¹²³⁰ Donald Featherstone, *Captain Carey's Blunder: The Death of the Crown Prince Imperial June 1879* (London: Leo Cooper, 1973), pp.148-158; Farwell, *For Queen and Country*, pp.106-108.

¹²³¹ Deakin, 'Education in an Ethos', pp.17-19.

seen to a limited extent in the behaviour of staff towards the cadets. Secondly, evidence can be seen of its effect on the moral character of cadets as future officers. In both cases evidence can be found, but when compared to the official course of instruction, it is more disparate. This is probably to be expected given that the religious characters of cadets and staff would be formed outside of the institution, either at home, at school or university. Take for example the letters of Robert Portal which display a piety before entering the RMC, recollecting his confirmation he stated: 'I hope and trust that by the grace of God I shall be able to fulfil those vows which I took upon myself.'¹²³² His post-Sandhurst letters revealed his attention to theological matters, particularly an anxiety over the growing influence of Roman Catholicism on the Church of England.¹²³³ A number of biographies recognised the influence of a Christian parent; indeed Charles Repington recalled that his father 'would have died for the Church of England.'¹²³⁴ Others recognised, and remembered fondly, the pastoral influence of their school chapel.¹²³⁵ The colleges were, therefore, a venue for the exercising of pre-existing influences superimposed upon by any effect the chaplain or staff may have.

In terms of staff influence, the best documented example is that of Captain Frederick Eardley Wilmot at the RMA. In 1847, this devout officer was picked to be the new Captain of the Cadet Company at Woolwich after a tumultuous period of indiscipline. His philosophy was to trust in the cadets' better nature, treating them as gentlemen and opposing the system of espionage practised by the sergeants. He encouraged them to see themselves not as boys, but future officers. However, at first, he was disappointed and complained of finding it difficult to 'get at' the cadets, sensing that they saw him as an aloof official. He, therefore, sought to get them to identify with him.¹²³⁶ For example, when the cadets offended an inhabitant of the local neighbourhood, he went in company with the cadets to apologise on their behalf and in their presence. He invited cadets to dine with him and he encouraged their sports and amusements. Further, he took an approach to punishment which was proportionate, consistent and reformatory in spirit. In effect, his views, role and circumstances were very similar to those of Dr Arnold at Rugby School.

These circumstances of intense bullying and a lack of chaplaincy were not duplicated at the RMC and so there was no one who had an impact comparable to Eardley Wilmot. Nevertheless, evidence suggests there were some who did take on a similar role because of faith. The most notable was Major Richard H Williams, who was

¹²³² Hampshire Record Office, 6A08/A1, Letter from Robert Portal to Miss Hildyard, 27.10.1835.

¹²³³ Hampshire Record Office, 6A08/A2, Letter from Robert Portal to his mother, 16.3.1840.

¹²³⁴ Repington, *Vestigia*, p.8; Harris, *Life of Sir John Ardagh*, p.vi; Lane-Pole, *Watson Pasha*, p.8; Birdwood, *Khaki and Gown*, p.25; Huston and Rutter, *General Sir John Cowans*, 1 (1924), p.53, 2 (1924), p.297; Butler, *Life of Colley*, p.11; Seaver, *Francis Younghusband*, p.14.

¹²³⁵ Wilkinson, *To All and Singular*, pp.20-22; Austin, *Rambles of a Sapper*, p.25.

¹²³⁶ Eardley Wilmot, *Memorials of Eardley Wilmot*, pp.66-71.

known as 'Pi Bill' or 'Religious William'.¹²³⁷ This was the same officer, who, as an instructor at the School of Military Engineering in 1871, had befriended the young Herbert Kitchener. Upon him Williams exercised the influence of a high churchman; they attended evensong together, fasted and Kitchener obtained a taste for pre-Reformation practices. When Kitchener was subsequently posted to Aldershot, and Williams was at the RMC, they worked together with a like-minded army chaplain to transform the Aldershot garrison church.¹²³⁸ Williams also designed memorials in the RMC chapel.¹²³⁹ There is not a great deal of specific evidence of Williams's work with the cadets; but, as he was a Divisional Officer, an Instructor of Fortification (later Professor) and Honorary Secretary of the Rugby Club, he presumably was able to exert influence.¹²⁴⁰ It is known, however, that officers and their families assisted in the running of the Sunday school for the children of NCOs and servants. This was part of a general school for children and the whole of which was important for the Chaplain in his spiritual work. The point to observe here is that a glimpse is obtained of the RMC as a thriving Christian community.¹²⁴¹ Other examples supported this picture. A later Professor of Fortification, Major John Adam Fergusson, was also a pious man. He held an interest in ecclesiastical affairs and openly promoted temperance within the army to the extent which saw him reprimanded for writing critically to *The Times*.¹²⁴² Another instructor, Major William Western, whilst apparently exhibiting no outward religious activity at the RMC, later as a major general in Palestine organised the 'Roman Catholic Soldiers' Congress' in August 1918. This saw 1,500 soldiers on a pilgrimage coinciding with the Feast of Our Lady's Assumption.¹²⁴³ The instance of the devotion of another instructor survived due to the circumstances surrounding his death. Captain Cecil M Lester contracted a grave illness, which, after being unsuccessfully treated by conventional medicine, was treated by Christian Scientists through prayer. The Coroner censured the Christian Scientist and it became one of two important occurrences that brought the Christian Scientist movement into disrepute in Britain.¹²⁴⁴

Turning to the official sources of religious provision, that is, the Chaplain, both institutions were provided for. This compared favourably with the prevailing situation in the

¹²³⁷ National Army Museum, 7402-28-3-15, Letter from William Lockhart Maxwell to his mother, 3.9.1882; Haldane, *Soldier's Saga*, p.24.

¹²³⁸ John Pollock, *Kitchener: The Road to Omdurman* (London: Constable, 1998), pp.27-29.

¹²³⁹ D F Carey, 'Memorials in the RMC Chapel', *The Royal Military College Record*, 2 (July 1913), 30-31 (p.30).

¹²⁴⁰ Mockler-Ferryman, *Annals of Sandhurst*, p.159.

¹²⁴¹ WO152/39/90.2161, Minute of Revd Sydney Clark on Third Report of Sandhurst Committee, n.d. c.1875.

¹²⁴² Lt Colonel JA Fergusson, 'The Fatal Field Day', *The Times*, 30 June 1900, p.16; SCA, Governor's Confidential Correspondence 1895-1901, B/62, Letter from Lt Colonel JA Fergusson to RMC Governor, 3.6.1900.

¹²⁴³ James Kitchen, *The British Imperial Army in the Middle East: Morale and Military Identity in the Sinai and Palestine Campaigns, 1916-1918* (London: Bloomsbury, 2014), pp.80-81.

¹²⁴⁴ 'The Christian Scientists: Censure by a Jury', *Morning Post*, 10 October 1898, p.3; Claire F Gartrell-Mills, 'Christian Science: an American Religion in Britain, 1895-1940' (PhD thesis, Oxford University, 1991), pp.64-68.

wider army, where the system of regimental chaplains was desultory and took some time to reform. It was not until the appointment of Reverend George R Gleig, as Principal Chaplain, in 1844, that matters started slowly to improve.¹²⁴⁵ Comparing the RMC and the RMA, however, it was the latter that was in a poorer position. Surprisingly, the building provided for the academy in 1806 on Woolwich Common did not include a chapel and, by the middle of the early Victorian period, the Chaplain post had fallen vacant. A Chaplain was however appointed at the same time as Eardley Wilmot. The latter's more evangelical leanings and concern for his charges caused him to persuade the Chaplain, supposedly not without some difficulty, to adopt an approach in worship more tailored to the cadets. He wanted a less formal, more familial, style featuring special prayer; such as including an 'exposition' every morning of about six minutes in which 'a great deal can be said'.¹²⁴⁶ Interestingly, this echoed a general order of 1811, stipulating Sunday service should end with a 'short practical sermon suited to the habits and understandings of the Soldiers'.¹²⁴⁷ It seemed that even well-educated cadets still needed a pithy and edifying lesson. In fairness to the Chaplain, he was the first in post for over a decade and his task was an unenviable one. Firstly, there was the difficulty of incorporating scriptural instruction, despite the Inspector of Studies being 'strongly impressed with the importance of [it], [and being] most anxious to facilitate it'.¹²⁴⁸ Secondly, there remained the difficulty of using the dining hall as a chapel, put eloquently by the Reverend Fraser:

Ideas of sociability and pleasant colloquy are necessarily connected with the place wherein meals are habitually taken. As in entering a church the influence of the place sensibly tends to solemnity and to the repressing of levity; so in entering the hall, the influence of the place tends to the encouragement of thoughts earthly and ordinary. These are evils to which the young are especially exposed.¹²⁴⁹

By 1863 cadets were, however, marched to the chapel recently built for the Woolwich garrison. Reverend Fraser requested to perform divine service at these services in order that he could maintain the prestige and influence among the cadets.¹²⁵⁰ A chapel was not built until 1902 despite repeated requests in the late Victorian era.¹²⁵¹ Nevertheless, the efforts of the RMA Chaplain were seen to have an effect and his salary was raised.¹²⁵² A semi-fictionalised account survives of his work in which an incarcerated cadet

¹²⁴⁵ Roy David Burley, 'An Age of Negligence? British Army Chaplaincy, 1796-1844' (unpublished MPhil dissertation, University of Birmingham, 2013), pp.121-124.

¹²⁴⁶ Eardley Wilmot, *Memorials of Eardley Wilmot*, p.78.

¹²⁴⁷ John Handby Thompson, 'The Free Church Army Chaplain 1830-1930' (unpublished PhD thesis, University of Sheffield, 1990), p.30.

¹²⁴⁸ WO150/33/132C, Letter from Lt Col WD Jones, Inspector of Studies, to RMA Governor, 3.5.1847.

¹²⁴⁹ WO150/34/5, Letter from Revd Alex C Fraser, Chaplain, to RMA Governor, 3.8.1847.

¹²⁵⁰ WO150/51/22, Letter from Revd Alex C Fraser, Chaplain, to RMA Governor, 19.1.1863.

¹²⁵¹ SCA, RMA Governor Letters Out, A-18, Letter to Horse Guards, 22.10.1869.

¹²⁵² WO150/35/3, Ordnance Office to RMA Governor, 3.3.1848.

experienced a kind of epiphany in which the Chaplain's words prompted reflection over the pain he had caused his loved ones.¹²⁵³

A similar role was played by the Chaplain at the RMC since its inception. The longevity of the post may be explained by the fact that he was the superintendent of the classical instruction as well as the librarian. He also benefited from a purpose-built chapel right at the heart of the college complex. It was the largest enclosed space in the main building; situated opposite the main entrance and below the examination room. All persons traversing the corridors would have felt its presence and outside it regulated movement with its clock and bell tower. The longest serving Chaplain was the Reverend William Wheeler (in post 1806-1841) who was recorded in a superlative obituary as an 'excellent and venerable clergyman' possessing an 'unaffected piety and benevolence' whose former pupils would remember, '[...] the kind monitor of their boyhood and the warm friend of maturer years' and 'the earnest labours in the religious instruction of his classes, [and] the wholesome influence of his example and teaching at the institution.'¹²⁵⁴ Apart from this eulogy there is scant evidence of his influence, either positive or negative, in the surviving records of the RMC. It is known prayers were held in the morning, evening and at dinner. Cadets were prepared for confirmation and there were classes for religious instruction for which a prize was offered.¹²⁵⁵ However, a cadet of the late 1830s thought the religious instruction 'was of too formal a character' and that a devout fellow cadet never thought to 'ask comfort and guidance from the chaplain.'¹²⁵⁶ On the other hand, another stated Wheeler was a 'fine looking old man' who 'attended to our spiritual wants.'¹²⁵⁷ Other memoirs and letters are silent on his capacity. One example of a sermon by Wheeler survives from 1813, and it demonstrated the application of scriptural teaching to the cadets. The lessons were essentially ones of courage, self-control and assiduity. Using the psalms of King David – 'the pious compositions of a soldier', Wheeler exhorted the cadets to emulate his righteous work and speak the truth else '[the cadets] will never obtain the courage which distinguished David.' Also, cadets 'as good soldiers of Jesus Christ' should bring 'every evil thought into subjection' and Wheeler further warned: 'learn that necessary discipline, and energy, and, obedience, which comprise excellence in your profession.'¹²⁵⁸

¹²⁵³ *Thoughts of a Gentleman Cadet in Solitary Confinement*, (Woolwich: WP Jackson, n.d.), pp.10-13.

¹²⁵⁴ 'Obituary', *United Service Journal*, 3 (1841), p.591.

¹²⁵⁵ Durand, *Life of FM Sir George White*, p.15; *RMC Guide 1849*, p.20.

¹²⁵⁶ SCA, Elton, 'Recollections of Sandhurst', p.7.

¹²⁵⁷ SCA, Mann, 'Sandhurst in the Thirties', p.9.

¹²⁵⁸ *The Queen's Most Gracious Speech, upon the Presentation of Colours by Her Majesty to the Gentlemen Cadets of the Royal Military College on Thursday 12th August 1813 with the Consecration Prayer and a Sermon, Preached on the Subject on the Following Sunday by Reverend William Wheeler MA* (London: T Egerton, 1813), pp.11, 14, 16.

After Wheeler's death in 1841 the position was filled by Reverend Havilland Le Mesurier Chepmell. He was previously the Latin, History and Geography master and took up the teaching of it again once appointed Chaplain. His book on history and his method of teaching were criticised as rather dry.¹²⁵⁹ A cadet participating in Chepmell's religious instruction classes asked the Lieutenant Governor if he could drop them as they were a 'waste of time'. He continued under family pressure and was elated when he finished so that he could take up Fortification.¹²⁶⁰ After the 'mutiny' of 1862, the duties and chaplaincy of Chepmell were scrutinised by the C-in-C, the Board of Commissioners and notably the Chaplain General, Reverend Gleig.¹²⁶¹ Gleig stressed that the RMC Chaplain should view himself as the incumbent of a parish; visiting families as well as convalescents in hospital, and that he should be the:

[...] adviser and religious instructor [to the cadets] not merely in Lent or prior to Confirmation; but at all seasons [...] and invite [cadets] to meet him by groups and read with them the scriptures [...] to show them why they are Christians and [...] members of the Church of England.¹²⁶²

Chepmell retorted that the professors and civilians attended a different church and that attempts in the past year to get cadets to attend less formal group instruction had failed. Even with staff attending as encouragement, only one or two had given up their leisure time and 'even these fell off when the time of the examinations drew nigh'.¹²⁶³ He observed, too, that whereas a soldier may take an interest in religious instruction – because he has known suffering, been an invalid, is married and/or has a family; the cadet 'unfortunately looks upon [it] as something which keeps him still a schoolboy, and puts him below the condition of young officers or grown up young men', even though, as Chepmell paradoxically noted, the '[cadets] all are of an unreflecting age, with little or no experience of life to make him think seriously'.¹²⁶⁴ This spat revealed the ignorance of the Horse Guards of the task they had now set themselves; that is, the education of young men in a short time, rather than boys, over a long time. By 1868, an army chaplain had been appointed who reportedly took a 'very great interest' in the moral state of the cadets, who was apparently zealous in his duties and for whom the cadets had a 'very great regard'.¹²⁶⁵ Two former cadets stated that in their experience of 1864-5, and 1867, Chepmell had little to do with them and was only seen in chapel or hospital; one perceived

¹²⁵⁹ SCA, Mann, 'Sandhurst in the Thirties', p.11; Gardiner, *Centurions of a Century*, p.334.

¹²⁶⁰ Berkshire Record Office, D/EE/C2/2, Letter from cadet AJA Ewen to Mother, July 1852; letter to father, 12.9.1852.

¹²⁶¹ WO99/10, Minutes of the Supreme Board of Commissioners of the Royal Military College, no.141, 1.8.1863.

¹²⁶² WO152/33/90.1506, Memorandum by Reverend GR Gleig, 2.1.1863.

¹²⁶³ WO152/33/90.1506, Memorandum by Reverend H Le M Chepmell, 5.1.1863.

¹²⁶⁴ *Ibid.*

¹²⁶⁵ *Dufferin Commission Minutes 1870*, evidence of Colonel EG Hallewell, points 3495-3497.

that he had little influence over them, and another that he was 'a very nervous man'.¹²⁶⁶ Yet, irrespective of Chepmell, evidence suggests Christian faith ran through the lives of RMC cadets in the 1860s in any case. For example, Gentleman Cadet Wadham Locke wrote to his younger brother Ernest about his RMC exam: '[...] I pray God I may qualify [...] I cannot say that I have any chance of qualifying at Christmas, I shall do my best and leave the rest to God. I am very glad to hear of your confirmation.'¹²⁶⁷ Similarly, in the letters of Audley Money-Kyrle to his father: 'I thank God for keeping us all through this long half and pray that he will bring us in safely together again.'¹²⁶⁸ Also, 'I am sure I cordially join with you in praying that he may do well [his brother in his new regiment]'.¹²⁶⁹

In the late Victorian RMC, there was an uninterrupted series of army chaplains and some cadets reacted to their influence in a positive way.¹²⁷⁰ For example, in the letters from Richard B Lovett:

This morning I have to chapel, with my company. The chaplain Murphy, preached a splendid sermon from the text 'choose ye which ye will, as for me and my house, we will serve the Lord.' Evening service is at 6.15.¹²⁷¹

Also: 'Parade and chapel have passed off as usual, Murphy preaching a very excellent sermon on 'belief'.¹²⁷² Another remarked: 'I always do and have since my confirmation read a few verses every evening out of the Bible, the daily application is what is hard.'¹²⁷³ There was also a sense of divine justice, as evidenced by a cadet, who, having succumbed to a morphine habit, wrote to his brother: 'It will serve me right for having been so weak. Ah! How heavily some of our sins are punished.'¹²⁷⁴ It seemed, too, that these chaplains took an interest in the habits and welfare of the cadets, although, suggestions as to the amount of beer allowed at the collegiate mess were not particularly welcomed.¹²⁷⁵ No written sermons survive, but it is likely that the theme of the privations of King David as a warrior recurred. For example, Gentleman Cadet Maxwell wrote: 'I have begun my letter at this early hour when my inner man is completely under the subjection of the Power to whom David is so constant a slave – "Starvation."¹²⁷⁶

¹²⁶⁶ Ibid., evidence of: Ensign E Daring, point 4189; Ensign CA Mott, point 4440; Mott, *Mingled Yarn*, p.53.

¹²⁶⁷ Wiltshire and Swindon Archives, 477/75, Wadham Locke to Ernest Locke, 22.11.1864.

¹²⁶⁸ Ibid., 1720/848, Audley Money-Kyrle to his father, December 1863.

¹²⁶⁹ Ibid., 1720/848, Audley Money-Kyrle to his father, 12.3.1864.

¹²⁷⁰ Montgomery-Cuninghame, *Dusty Measure*, pp.13-14.

¹²⁷¹ SCA, [no ref.], Letters of RB Lovett to mother, 16.2.1890.

¹²⁷² SCA, [no ref.], Letters of RB Lovett to mother, 12.10.1890.

¹²⁷³ SCA, [no ref.], Letter from AH Russell to father, 27.11.1886.

¹²⁷⁴ WO152/65/90.7021, Letter from Cadet J Menzies to his brother, 1.3.1894.

¹²⁷⁵ SCA, RMC Commandant's Confidential Letter Book 1881-1885, Letter from Commandant Colonel Frederick D Middleton, to Revd W Sykes, 29.11.1883.

¹²⁷⁶ National Army Museum, 7402-28-3-15, Letter from WL Maxwell to his mother, 3.9.1882.

The foregoing evidence related only to the established church, and the dissension from this Anglican, or indeed theistic view, must be considered. Firstly, there was always a smaller contingent of Roman Catholic (RC) cadets. The exact number is not recorded in the RMC cadet register, but it must have been low as it was sufficient to pay an allowance to an émigré French priest and language master, Abbé Buffet, to minister to them.¹²⁷⁷ This was an established practice at this time whereby civilian ‘officiating clergy’ augmented army chaplains for a fee. This was permissible as Roman Catholicism was one of the recognised Churches in the army.¹²⁷⁸ At some stage this was discontinued, and it is not clear exactly when provision was started again. For a period in the 1860s it is known that on Sundays, after roll call, most cadets would go to the chapel and the RC cadets would go to the guardroom.¹²⁷⁹ By 1875 a RC church was constructed in Camberley and cadets and soldiers attended, where again a paid ‘officiating clergyman’ ministered to them.¹²⁸⁰ Apart from the hiatus in RC church provision, there is little evidence of sectarian tension at the cadet colleges. The interaction between the two denominations did, however, surface in other ways. For example, Evelyn Wood, although not a cadet but a student at the Staff College, was told by his potential father-in-law that he had to convert to Roman Catholicism. Writing in 1906 Wood displayed an empathetic disposition to his in-laws and in the event, his was a happy marriage unaffected by religious differences.¹²⁸¹ WA Tilney (RMC cadet 1888-9), on the other hand, was an Anglican whose father and early experiences made him suspicious of Roman Catholics, a feeling exacerbated by his work in Ireland in 1917 but had no cause for expression whilst a cadet.¹²⁸²

In the nineteenth century, of course societal pressure, if not doctrinal pressure, would have been lessened had Anglicanism not been the dominant denomination. The pressure to conform to the established church is evidenced by various instances. Cadet Auchinleck (uncle of the famous field marshal) wished to convert to Roman Catholicism but his father wrote that he would use everything in his power to prevent it.¹²⁸³ Thus, the religious conscience could be suppressed, but it could persist – as exemplified by the former RMC cadet, General Sir John Cowans. His RC mother and brother influenced his character but he himself (and his wife) did not convert to Roman Catholicism until one month before his death.¹²⁸⁴ To understand this late ‘deathbed’ conversion it must be borne in mind that RC doctrine at this time upheld that non-RC adherents, albeit Christian,

¹²⁷⁷ WO99, RMC Board of Commissioners Minutes, Index of Minutes, Entry for Buffet.

¹²⁷⁸ Thompson, ‘Free Church Army Chaplain’, p.9.

¹²⁷⁹ Howard, *Reminiscences*, pp. 29, 33; Mott, *Mingled Yarn*, p.53.

¹²⁸⁰ WO152/39/90.2141, Letter from R Thompson, Pall Mall, 22.3.1875.

¹²⁸¹ Evelyn Wood, *From Midshipman to Field Marshal*, 2 vols (London: Methuen, 1906), I (1906) pp.210-211.

¹²⁸² *Colonel Standfast: The Memoirs of WA Tilney 1868-1947: A Soldier's Life in England, India, The Boer War and Ireland*, ed. by Nini Murray-Philipson (Norwich: Michael Russell, 2001), p.144.

¹²⁸³ WO150/49/83, Letter from Revd John Auchinleck to RMA Governor, 25.11.1861.

¹²⁸⁴ Huston and Rutter, *General Sir John Cowans*, I (1924), p.297.

would not be saved from hell – an anxiety that must have heightened toward the end of Cowans' life.

The same pressure is seen to act on those with agnostic or atheist views. The holders of these views saw themselves as disconnected from Christianity and might keep silent. Or they may propound their views openly with mixed results. An example of the former is evident in Ivor Maxse's letter to his father:

That repulsive church parade is just over: it is the one thing I dislike on Sunday [...] At the end of the service we had a sickening piece of British Jingoism - the parson in solemn tones began a servile eulogy of Her Gracious Majesty's life, [...] but the praise of her 'divine' qualities by a man placed in the pulpit to tell the 'truth' is rather too bad and the evident satisfaction and even delight which was seen on all faces makes the matter worse.¹²⁸⁵

The 'audible satisfaction' heard among the cadet congregation upon hearing the sermon exemplified the general unity of those participating in this established communal worship – and it confirmed Maxse's detachment was the exception, rather, and not the rule. His biographer explained this by his father's attitudes which encouraged heated after-dinner debate.¹²⁸⁶ A similar example is seen in the character of J F C Fuller, who recalled as a child questioning the punishment for 'millions of years' of the sinful.¹²⁸⁷ This might be another example of Fuller's iconoclastic proclivity toward his late Victorian origins, but it is corroborated by his biographer who noted Fuller's questioning attitude to religion. He also characterised him as a slight, solitary boy who did not fit in with the Victorian public school system – and perhaps, by extension therefore, the RMC culture.¹²⁸⁸ Those who expressed their doubts might be viewed as peculiar, especially if they did so vociferously – as Lord Gleichen recalled of a cadet in his intake.¹²⁸⁹ Or they might be pressurised to conform through official channels, as is evidenced by a cadet at the RMA who told the Chaplain his cessation of faith. Later in the correspondence the Chaplain reported with satisfaction that the cadet was praying again.¹²⁹⁰ Another cadet at Woolwich set himself apart by professing to be an atheist and 'made himself conspicuous for blasphemy in a by no

¹²⁸⁵ West Sussex Record Office, Maxse Papers, File 208, Letter from FI Maxse to father, 5.3.1882.

¹²⁸⁶ John Baynes, *Far From a Donkey: The Life of General Sir Ivor Maxse* (London: Brassey's, 1995), p.17.

¹²⁸⁷ Fuller, *Memoirs*, p.2.

¹²⁸⁸ Anthony John Trythall, *Boney Fuller: The Intellectual General 1978-1966* (London: Cassell, 1977), pp.3-5.

¹²⁸⁹ Gleichen, *Guardsmen's Memories*, p.16.

¹²⁹⁰ WO150/38/199, Letter from Revd A Fraser to RMA Governor; WO150/38/247, Letter from Revd A Fraser to RMA Governor, [n.d.].

means strait-laced [sic] community’ – nicknamed ‘the Demon’ his hair was set alight with cologne.¹²⁹¹

Unsurprisingly, there is relatively little evidence of Methodists and related denominations among the cadets at the RMC. Even if the cadet register had recorded their denominations, the disadvantaged status of what might generally be called the ‘free church’, would show the majority as Anglicans. Certainly, no correspondence, either official or otherwise, has been found to the contrary. In all likelihood it would have mirrored the RMA, as the following indicates:

Denomination	Year Cadets Admitted		
	1873	1883	1893
Church of England	118	96	92
Presbyterian	5	0	4
Roman Catholic	1	4	3
Non-Conformist	0	0	1

[Source: WO149, RMA Register, Vols 6 & 7]

From 1858 Presbyterian commissioned chaplains, were recognised in the army along with Roman Catholic and Anglican. However, not until 1881 were there closer relations with the Wesleyans. This denomination was mainly a soldiers’ phenomenon where, between 1875 and 1893, 27 Wesleyan institutes were built across the Empire for soldiers and sailors.¹²⁹² This was reflected at the RMC where returns show around 13 Methodist soldiers from the college attended the chapel in Sandhurst village.¹²⁹³ As if to reinforce the subordinate position of this denomination and nonconformists generally, a letter showed that although a non-conformist burial with a graveside sermon were permitted, it was illegal for a Baptist priest to hold a service in the Anglican chapel. The same was true of Presbyterians.¹²⁹⁴

What do the foregoing observations on the religious life tell us about the development of officership at the cadet colleges? Firstly, it shows how the religious, or in fact, the non-religious character of a cadet might be shaped before his entry. Then upon his entering, the colleges exerted an influence via the staff which was variable. At best it was reinforced by the actions of pious staff or by a talented clergyman, at worst, worship might be formal, rigid and not reach the cadets with a pastoral influence which they could imitate as officers. Still, even when the latter was the case, the cadets could carry forward

¹²⁹¹ Bland Strange, *Gunner Jingo’s Jubilee*, p.23.

¹²⁹² Thompson, ‘Free Church Army Chaplain’, pp.10-12.

¹²⁹³ WO152/49/90.4121, Letter from Reverend JR Cleminson to RMC Commandant, 27.5.1881.

¹²⁹⁴ WO152/22/88.2170, Letter from Mrs Sykes, Chaplain’s wife to Colonel S Flood, RMC Assistant Commandant, 12.8.1885; WO152/64/90.6805, Letter from Chaplain General to RMC Governor, 13.9.1893.

their devotion inherited from their home life. Indeed, there are examples of cadets developing their faith and allowing it to impact their work irrespective of their experiences at the colleges – which only amounted to a year or two's residence after 1858. So, naturally, religious activities were evident in those who were commissioned direct into the service. For example, Spiers noted the efforts of Henry Havelock and Hedley Vicars who led their men in Bible study and prayer meetings; also, there was Sir Hope Grant in the 1870s.¹²⁹⁵ There was also Francis Duncan who was commissioned directly into the Royal Artillery in 1855. In later life he joined the Order of St John and became the director of the ambulance department; before that, he taught a class of senior boys in the garrison Sunday school, Woolwich.¹²⁹⁶

Even so, the effects of Christian teaching were certainly evident in the later lives of cadets. What it meant for officership might be categorised as follows; a strong work ethic, a selflessness and thoughtfulness for others, the improvement of moral conduct and eschewing sin and vice (epitomised by extravagance, drinking and 'immorality'). In terms of work ethic, take for example, Eardley Wilmot, who viewed the appointment of Cadet Captain as being set by God because he had not looked for such a posting and was reluctant to take it up.¹²⁹⁷ Then, there was former RMC cadet, Captain Maximilian Hammond, who initially had been 'brought up in the fear of god', had lapsed in faith and then pursued a dissipating and extravagant existence. However, after a renewed Christian faith, he started taking Bible classes and was spurred on to better employ his time in training his men in surveying and tactical exercises.¹²⁹⁸ These values can also be seen in the work of Charles Gordon with his 'Ragged School' in Gravesend. Gordon had a devout mother and was also a 'disciple' of Eardley Wilmot whilst at the RMA.¹²⁹⁹ Around the same time, Charles Warren was commissioned into the engineers. Described as a 'steadfast Christian soldier', his religion infused his archaeological excavations in Palestine with zeal where he called together Bible meetings.¹³⁰⁰ With Christianity so publicly at work for good, it seemed not unusual to cite religious reasons in an application soliciting a job. For example, an interesting example survives of a half-pay officer wishing to be appointed superintendent of the RMC gymnasium. In his application he noted: 'I should especially like the appointment as it would give me an opportunity for Christian usefulness, and for spreading total abstinence doctrine in the army.'¹³⁰¹ An exception to the above Anglican examples was the behaviour of William Dobbie; who, whilst a cadet at

¹²⁹⁵ Spiers, *Army and Society*, pp.28-29; Spiers, *Late Victorian Army*, pp.113-114.

¹²⁹⁶ Henry Birdwood Blogg, *The Life of Francis Duncan* (London: Kegan, Paul, Trench, Trubner and Co., 1892), pp.66-75.

¹²⁹⁷ Eardley Wilmot, *Memorials of Eardley Wilmot*, p.66.

¹²⁹⁸ Egerton Douglas Hammond, *Memoir of Captain M M Hammond* (London: James Nisbet and Co, 1858), pp.4, 25-6, 31-39, 42, 246-247.

¹²⁹⁹ John Pollock, *Gordon: The Man Behind the Legend* (London: Constable, 1993), pp.23-25; Lord Godfrey Elton, *General Gordon* (London: Collins, 1954), pp.20-21.

¹³⁰⁰ Williams, *Life of General Sir Charles Warren*, pp.vii, 40-52(52).

¹³⁰¹ WO152/37/90.1941, Letter from Lt E Montagu Manning to RMC Governor, 1.2.1871.

Woolwich, was active in a non-conformist sect known as the 'Brethren'. He would subsequently take a great spiritual interest in his men at Chatham and later in the Boer War where he promoted hymn singing and scripture reading in the field.¹³⁰² These overt evangelical activities of relatively few officers should be contrasted with the quiet and steady devotion of probably a greater majority. For example, whilst on campaign in the Middle East, General Sir Archibald Murray (RMC cadet 1879) was more visible in his religious observance, whereas Allenby kept religion in his letters to his mother and sister. These show he studied the Bible and made parallels between the campaigns in it and those undertaken by the Egyptian Expeditionary Force.¹³⁰³ Similarly, the following biographical extract about Charles Watson is suggestive of what might be applicable to many more officers who never reached senior rank and whose thoughts and deeds do not survive:

To his early life at home, too, he doubtless owed in some degree the quietly religious spirit his mother's example inspired. Though he never talked of such things, his letters and his acts all point to a quiet trust in the purpose of God, always, provided one 'does one's duty'.¹³⁰⁴

A final example of just such a modest ranking officer, simply doing one's duty in accordance with Christian values, was Legh Battye. A cadet at the RMC in 1861, during Chepmell's tenure and a year before the 'mutiny', he was later deployed on the North-West Frontier. Here his religious life flourished and he conducted patrolling operations along, what would be recognised today as, ethical lines. For example, despite the enthusiasm of his Gurkhas to 'shoot first and ask questions later', he was deliberately more cautious which on one final occasion resulted in his death.¹³⁰⁵

If religion contributed to selfless and diligent behaviour, then sport and athletics contributed other personal qualities. Sport came to play a significant role in the life of the army generally. It was highly valued for being an adjunct to military training – developing qualities which could not be developed on the parade square or in the classroom. The role of sport in the army has until very recently received little scholarly attention. James Campbell examined the impact of both sport, including athletics, and more formal instruction encompassed by gymnastics. He concluded that army authorities felt 'participation in games and field sports gave young officers the essential traits required to lead British soldiers – moral and physical courage, physical fitness and mental agility,

¹³⁰² Sybil Dobbie, *Faith and Fortitude: The Life and Work of General Sir William Dobbie* (Gillingham, Kent: Johnston, 1979), pp.34-35, 41, 62-63.

¹³⁰³ Kitchen, *British Imperial Army in the Middle-East*, pp.77-79.

¹³⁰⁴ Lane-Pole, *Watson Pasha*, p.8.

¹³⁰⁵ Evelyn Desiree Battye, *The Fighting Ten* (London: British Association of Cemeteries in South Asia, 1984), pp. 170-172, 208-219.

loyalty and team spirit.¹³⁰⁶ Campbell, a retired US army colonel, believed the idea of a physically fit officer, who revels in outdoor pursuits and functions well in a team, but who can subordinate personal success for the greater glory of the team, are attributes which armies still search for and try to inculcate in their leaders today. This idea was criticised by Tony Mason and Eliza Riedi. They agreed that Victorian and Edwardian public schools viewed sport as 'mimic war' which developed the moral qualities required in a good soldier. Thus, officers could conveniently justify spending considerable time on enjoyable pastimes claiming it was training. However, Mason and Riedi argued this relationship between sport and war was asserted rather than demonstrated. They pointed to a fundamental tension between a game which is played fairly and for its own sake, compared to war, a 'game' which is only played to win. Sport, therefore, neither prepared officers for the horrors of war, nor provided the moral courage required to lead men in battle.¹³⁰⁷ The corollary is that the time should be spent in well-developed and thought out military training.

J A Mangan was unequivocal that sport, 'prepared men [...] for war' throughout the centuries.¹³⁰⁸ Of course, whether this preparation was all that it could be is another question. The truth probably lied somewhere between the views of Mangan/Campbell and Mason/Riedi. For example, if the latter's perspective is transferred to the cadet colleges their critique of sport and games does not really hold sway. Firstly, a great deal of time was already spent in both class-based and field-based military training. Here, then, sport and games formed a relief from professional training. As mentioned previously, much of the technical training was completed by the early afternoon after which came drill, riding, gymnastics, and sports. Secondly, Campbell readily admitted to the socialising aspect of sport and this certainly played a role at the cadet colleges. Both studies by Campbell and Mason/Riedi started from 1860 and 1880 respectively – understandably so, as after the Crimean War the application of a scientific method to the physical condition of the rank and file was part of the raft of improvements. This percolated into the cadet colleges with the building of gymnasias in 1863.

However, physical training at the colleges originated before this. There was for example a gymnastic instructor at the RMC until 1826. The course was of Swedish gymnastics and ropes and apparatus were tied to the trees in the grounds.¹³⁰⁹ Gymnastic

¹³⁰⁶ James D Campbell, *'The Army Isn't All work' Physical Culture and the Evolution of the British Army 1860-1920* (Farnham, UK: Ashgate, 2012), p.20.

¹³⁰⁷ Tony Mason and Eliza Riedi, *Sport and the Military: the British Armed Forces 1880-1960* (Cambridge: Cambridge University Press, 2010), pp.3-4.

¹³⁰⁸ James Anthony Mangan, 'Epilogue: Many Mansions and Many Architectural Styles', in *Militarism, Sport, Europe: War Without Weapons* ed. by James Anthony Mangan (London: Frank Cass, 2003), pp.281-286 (p.281).

¹³⁰⁹ WO152/16/89.1026, Letter from Horse Guards to General Sir George Scovell, RMC Governor, 27.5.1857.

poles and bars lasted until at least 1849.¹³¹⁰ In the main, physical activity and ‘manly’ games were for recreation and to build character and team spirit. Just as sport was seen as a means to avoid drink and indiscipline in the other ranks, it was also a way to develop cadets’ good behaviour. For example, at the RMA in 1848 Eardley Wilmot rebutted the criticism of his staff by noting, that given the totally inadequate sport and leisure facilities, it was a wonder there was not more indiscipline.¹³¹¹ In this regard the RMC was better placed by virtue of its surroundings. The tended grounds gave ample space for the principal games of rugby and hockey in winter, or cricket, in summer. Enhanced natural features included a boating lake, bathing lake and then the heaths for walking and running. A Fives court was provided and foils and hilted sticks for fencing and single-stick exercise. The latter, which was particularly brutal, was felt a ‘manly discipline’ – ideal for developing fair-play and honour.¹³¹² Letters of early cadets displayed an enthusiasm for the spectacle, the winning of prizes and the clear competition and emulation that these events generated. The letters of Charles Knight showed a particular pre-occupation with sport. He wrote that as much cricket as the weather permitted was played and the cadets held inter-company matches; occasionally they played teams from the local area.¹³¹³ This developed an *esprit de corps* as witnessed by an incident recorded by Robert Portal. During a cricket match the cadets showed their dissatisfaction with a German master, who previously reported one of them for swearing during the game, by hissing, hooting and groaning when the professor came to watch the next match.¹³¹⁴ The boat races were a notable public spectacle in the 1830s and later, too, were the ‘Cadet Races’. This latter event came about shortly after the introduction of athletic sports around 1850. It drew members of the public from around the district; and with its band and prizes presented by the pretty daughters of the Lieutenant Governor, naturally, the event featured prominently in cadets’ letters.¹³¹⁵

Although sport played a part before 1860, participation was not mandatory, only encouraged.¹³¹⁶ So, whilst many cadets did take up these sports, by the time of the confused period of aborted reform (approximately 1858-1863) whatever structure was in place to support these sports was probably disrupted. A college servant recalled: ‘The

¹³¹⁰ SCA, Elton, ‘Recollections of Sandhurst’, p.1; *RMC Guide 1849*, p.47.

¹³¹¹ WO150/34/179, Letter from Captain FM Eardley Wilmot to RMA Governor, 24.1.1848.

¹³¹² SCA, Elton, ‘Recollections of Sandhurst’, p.2; Bloomfield, ‘Some Reminiscences of the Fifties, Part 1’, pp.42-43.

¹³¹³ Hampshire Country Archive, 139/M89/F120/1, Letter from Charles Ernest Knight to his Mother, August 1851; 139/M89/F120/40, Letter from Charles Ernest Knight to his Brother Philip Knight, n.d.; SCA, Mann, ‘Sandhurst in the Thirties’, pp.9-10.

¹³¹⁴ Hampshire County Archive, Letter from Robert Portal to his mother, [n.d.].

¹³¹⁵ Berkshire Record Office, D/EE/C2/2 and D/EE/C2/3, Letters from Arthur JA Ewen to his mother, 3.10.1852 and n.d.; Hampshire Record Office, 39/M89/F120/40, Letter from Charles Ernest Knight to his father, c.1851; Hampshire Record Office, 4M52/117 a and b, 2 Letters from Audley Lempriere to Mrs Benn, 1.9.1852 and 2.10.1852; Bloomfield, ‘Some Reminiscences of the Fifties, Part 1’, p.41.

¹³¹⁶ *RMC Guide 1849*, p.47.

cadets hardly played games at all. All the ground in front of the college was very rough and overgrown with heather and gorse, and they played cricket just where they could find space for it.¹³¹⁷ A cadet at the time recalled, 'cricket was not much indulged in' and 'nor was there much enthusiasm over football.'¹³¹⁸ Unsurprisingly, the RMC were badly mauled by the RMA at the first match in 1865. The C-in-C hoped the RMC would put up a better side the following year, and by winter a proper ground was laid out.¹³¹⁹ According to a letter by Audley Money-Kyrle in 1865 a committee (of which he was part) was then formed to encourage cricket and other games.¹³²⁰ Interestingly, rather than a continuous upward trajectory of the growing importance of games – instead a decline is seen in the 1860s. It may have contributed to the overall discontent associated with the 'mutiny' of 1862. Not surprisingly, even before the disturbances broke out, a gymnasium was regarded as 'absolutely necessary' by the Duke of Cambridge; this was the case at Woolwich too.¹³²¹

It was not until the re-establishment of the RMC in 1877 that sport, games and gymnastics flourished. This was also in line with the growth of 'muscular Christianity'. After the middle of the nineteenth century a change was seen away from the direction of 'godliness and good learning.' This approach, which sought to place morals and religious devotion at the centre of school life, gave way to a concept championed by Reverend Charles Kingsley and others. Kingsley was the first to unite concepts of 'godliness' and 'manliness' as a reaction to what he saw as failings in the Anglican Church. In his view, he felt that young men coming to the Church for spiritual nourishment often went away with their minds bent on an unnatural otherworldliness; they focussed on the beauty of holiness, self-denial, scorning earthly loves, renouncing the love of women and setting themselves apart from other men. Kingsley contended that Man was in God's image and it was Man's duty to use his physical strength to fight in God's service, to protect the weak and conquer nature.¹³²² Such a philosophy particularly suited the army officer and Kingsley might have had some subtle influence, living as he did only about six miles from the RMC, the Staff College and Aldershot HQ.¹³²³ Certainly, in 1868 he was approached to be a member of the commission chaired by Lord Dufferin, but declined. Still, as temporary editor of *Fraser's Magazine* he wrote to Captain Henry Brackenbury, recently made Professor of Military History at Woolwich, about how to reform the RMC. His letter of the 15th July 1868 gave two options, the first of which incidentally became the rough

¹³¹⁷ Parrant, 'Reminiscences of an Old College Employee', p.56.

¹³¹⁸ Mott, *Mingled Yarn*, p.55; see also, 'The Royal Military College Sandhurst', *Boy's Own Magazine*, 3.17 (1864), 393-398 (pp.397-398).

¹³¹⁹ WO152/32/90.1346, Letter from Horse Guards to RMC, 30.5.1865; WO152/32/90.1330, Letter from Horse Guards, 24.6.1865.

¹³²⁰ Wiltshire and Swindon Archive, 1720/848, A Money-Kyrle to his father, 21.2.1865.

¹³²¹ O'Callaghan, *Guns, Gunners and Others*, pp.6-7.

¹³²² Newsome, *Godliness and Good Learning*, pp.207, 216; Olive Anderson, 'The Growth of Christian Militarism in mid-Victorian Britain' *English Historical Review*, 86 (1971), 46-72.

¹³²³ Wood, *Midshipman to Field Marshal*, 1 (1906), p.210.

scheme adopted two years after his death.¹³²⁴ The muscular Christianity ethos took on a more militaristic turn in wider society with the sustained interest in the 'Volunteer movement' and the foundation of boys' brigades, and even later boy scouts and girl guides.¹³²⁵

This philosophy percolated throughout society and was concurrent with a compatible growth in the middle classes and the incredible enthusiasm with which they embraced a range of sports. As the late Victorian period progressed such sport became more standardised and regulated with bureaucracy to facilitate the numbers participating or spectating.¹³²⁶ In the army sport was generally encouraged among the soldiers for reasons of discipline, morale, recruitment, and even to create a sense of self-reliance and initiative important for dispersed tactics – a principle adopted by Germany in the early 1900s.¹³²⁷

At the cadet colleges these trends were reflected in the regimental-style histories by Mockler-Ferryman and Guggisberg of the RMC and the RMA respectively. There is a remarkable quantity and depth of information here. In the *Annals of Sandhurst* the earliest record is of the inter-collegiate cricket match held at Lords in 1865, followed by a complete list of scores of all college sports including the names of the RMC staff acting as secretaries. This is in contrast to the view projected by Mason and Riedi who have focused strongly on equestrian sports and polo as officer sports in their study. Undoubtedly their purpose is to heighten the debate between the points of view of the sporting amateur gentleman as an officer, compared with the professionally trained one; a view which they support with reference to the Akers-Douglas report.¹³²⁸ The last chapter has already called into question aspects of this report. To portray officers as insatiable 'pig-stickers' and polo fanatics failed to take into account the often largely civilian nature of hunting parties which would include officers' friends, relatives and in-laws within the judiciary, police and civil service etc. Furthermore, a closer look at the *Annals of Sandhurst* shows polo in its proper place. A third of a page is given over to the polo club (less than the RMC flower show), compared to the 30 pages on football; split approximately equally between 15 on rugby and 15 on association. The latter, Mason and Riedi characterised as a game for soldiers, but which was clearly popular with future officers. After all, the RMC were fortunate in having two FA Cup Finalists on the staff;

¹³²⁴ Frances Eliza Kingsley, *Charles Kingsley: His Letters and Memories of His Life Edited by His Wife*, 2 Vols, 3rd edn (London: Henry S King, 1877), pp.271-273; Brice, *Life of General Sir Henry Brackenbury*, pp.55-56.

¹³²⁵ Ian F W Beckett, *The Amateur Military Tradition 1558-1945* (Manchester: Manchester University Press, 1991), pp.199-200.

¹³²⁶ John Lowerson, *Sport and the English Middle Classes 1870-1914* (Manchester: Manchester University Press, 1993), pp.1-2, 7-8, 64-65; Mason and Riedi, *Sport and the Military*, p.12.

¹³²⁷ Mason and Riedi, *Sport and the Military*, pp.16, 38, 43.

¹³²⁸ *Ibid.*, chapter 2.

Major Adam Bogle (RMC staff 1882-1889) played in the FA Cup Final for the Royal Engineers, in 1872, and Captain Wynyard for the Old Carthusians in 1881 (see below).¹³²⁹

However, Mason and Riedi made an interesting point about how important junior officers were in establishing regimental sport. Given the perceived benefits to other ranks, an officer who was an enthusiastic participant in sports clubs would know how to set up and enable these for their men. They used 'Tim' Harrington as an example of this.¹³³⁰ In point of fact, Harrington was noticeably encouraged by the sport played at the RMC and particularly at beating the RMA at cricket. Stanley Maude was affected in a similar way.¹³³¹ Harrington was fortunate to have at that time Captain Edward G Wynyard on the staff, whom he noted as being particularly good with the cadets.¹³³² Wynyard appeared to combine in one person all the qualities needed for an officer, at once reconciling the differences between the anti-intellectual and intellectual points of view. In operations in Burma in 1885-7 he was twice mentioned in despatches and awarded the DSO for successfully assaulting a position through 'the bold leading of a handful of tired men'. In his professional life he served as adjutant of the Oxford University Volunteers, was twice an instructor at the RMC and later attached to the Army Ordnance Corps in May 1915. Furthermore, his sporting feats were considerable. Apart from football, in 1894 he became European tobagganning champion, and between 1897 and 1899 he was captain of the Hampshire County Cricket team. He played in three cricket Test Matches against Australia, two against South Africa and was invited to captain England on the Test tour to Australia.¹³³³ As a talented cricketer his batting style was incorporated into a guide for the sport.¹³³⁴

Another staff member who played for Hampshire County and the army was James Spens.¹³³⁵ Edward James Courtenay played for Essex and Leonard Hamilton for Kent.¹³³⁶ A prominent rugby player, who also superintended the RMC gymnasium and instructed in Fortification, was Wilfrid Nash Bolton. His obituary stated that 'Baby' Bolton was once a household name in rugby 'for he played for England four times against Scotland, five

¹³²⁹ Warsop, *Early FA Cup Finals*, p.40.

¹³³⁰ Mason and Riedi, *Sport and the Military*, p.27.

¹³³¹ Callwell, *Life of Sir Stanley Maude*, p.11.

¹³³² Harrington, *Harrington Looks Back*, pp.8, 31-32.

¹³³³ Sir O'Moore Creagh, *The Distinguished Service Order, 1886-1923: a Complete record of the recipients from its institution in 1886, to the 12th June 1923 with descriptions of the deeds and services for which the award was given and with many biographical and other details* (London: J B Hayward, 1978).

¹³³⁴ George W Bedlam, and Charles B Fry, *Great Batsmen: Their Methods at a Glance* (London: MacMillan & Co, 1905), pp.549, 643, 672.

¹³³⁵ *The Wisden Book of Obituaries: Obituaries from Wisden Cricketer's Almanack 1892-1985* (London: Queen Anne Press, 1986), p.838.

¹³³⁶ 'Cricket: Colchester & Essex County Vs. Suffolk', *Essex Standard*, 8 August 1866; 'Cricket: Witham vs Colchester & North-Essex', *Essex Standard*, 14 June 1867; 'Col. L A H Hamilton', *The Times*, 20 March 1957, p.20.

times against Ireland and twice against Wales between 1883 and 1887.’ He was also the champion hurdler, quarter miler, and long jumper in army athletics.¹³³⁷

These examples show – and there were also a number of other minor sportsmen among the staff – that considerable sporting talent collected at the cadet colleges. This suggested sport was taken seriously which had an effect on the cadets. Taking these examples from just the intake of 1881; the most notable was Cadet James Prinsep, who played association football for England against Scotland in 1879 and in two FA Cup Finals (1879 and 1881). He held the record for the youngest international player from 1879 until March 2003 and youngest FA Cup finalist until 2004. There was also Cadet Arthur Luard who made more than 50 appearances in the Gloucestershire cricket side captained by W G Grace. In fencing, Cadet Egerton Castle became Britain’s champion fencer, captaining the 1908 Olympic squad and writing a history of fencing.¹³³⁸ Yet, whilst sport and games were important, they did not assume an undue, or injurious, prominence in the management of the college nor the lives of cadets. There was one example of an Under Officer being given leave to participate in the University Boat Race; but when Evelyn Wood’s son wanted to play for the ‘Crusaders’, he was denied.¹³³⁹ It has been alleged that officers’ confidential reports made reference to the acceptability of their sporting attributes, but almost no mention is made of this in any of the correspondence relating to staff appointments. The exception which proves the rule was in a letter of reference for the appointment of John R Young, which stated among other positive attributes, his prowess as a sportsman and cricketer.¹³⁴⁰ Conversely, the CO of the Scots Guards made a request to the RMC Commandant to send him young officers who were good cricketers because he had recently received too many of the ‘pipe-smoking type.’¹³⁴¹ Cadets’ letters and memoirs certainly showed a fondness for sport, in several cases it might be all they mention about life as a cadet – but these instances are rare.¹³⁴² Instead, the overriding concern of the authorities was the physical development of the cadets, in that they should reach the minimum height and chest size standards for an officer.

Nevertheless, academics have tended to fixate on the more ostentatious officer sports of pig-sticking and hunting. Mangan and McKenzie stated about the cadet colleges: ‘In both institutions, hunting was not only encouraged but was considered indispensable

¹³³⁷ ‘Major W N Bolton’, *The Times*, 14 August 1930, p.15.

¹³³⁸ Warsop, *Early FA Cup Finals*, p.115; Orgill, ‘Sandhurst Generation of 1881’, pp.85-88 (86).

¹³³⁹ WO152/56/5331, Letter Giving Permission for Cadet Barclay, 7.3.1887; WO152/29/88.3168, Letter from E Wood to RMC, 26.3.1895.

¹³⁴⁰ WO152/48/90.3829, Letter from CO East Yorks Regiment, [n.d.].

¹³⁴¹ WO152/47/90.3489, Letter from CO Scots Guards to RMC Governor, 24.2.1880.

¹³⁴² For example, Murray-Philipson, *Colonel Standfast*, p.16; Barrow, *Life of General Sir Charles Monro*, p.20.

for career advancement.¹³⁴³ This was based on a reference to G J Younghusband's *The Queen's Commission*. However, this inference appears incorrect. Younghusband made no special case for hunting and talked only of sport generally, thus:

We don't think that we shall be wrong in saying that the athletes in our service generally makes the best officers. The surest way to get at Soldier's hearts is to excel in their games and warlike arts; and no officer can come to much good unless he has his men thoroughly with him.¹³⁴⁴

What is more, Younghusband was clearly connecting the importance of sport with empathy and leadership.

In one way it is tempting to merely see the cadet colleges as just a continuation of school life; but there was an important difference. Firstly, sport in public schools was often a way to reinforce the power of prefects over their juniors and fags.¹³⁴⁵ Certainly, pre-1857 reminiscences of the RMC talk of juniors 'fagging out' at cricket or making up a quartet at quoits.¹³⁴⁶ However, the late Victorian period was a different matter. In institutions that heralded the start of a young man's professional career it is noteworthy that sport and games were now given official sanction as part of the essential attributes of a professional army officer. The cadets saw their military superiors with war and staff service leading and participating in their games in a way which would form a model for them, as 'Tim' Harrington did, when they got to their units.

Conclusion

The foregoing has explored ways in which the cadet colleges encouraged leadership and officership. The inculcation into a large number of potential officers in military habits, at an age when particularly susceptible, was a key function of these institutions. Corelli Barnett observed that the essential and constant factor common to the three military academies he studied (Westpoint, St Cyr and Sandhurst) was the indoctrination of tradition and the 'potent emotional conditioning in military myth, habits

¹³⁴³ James Anthony Mangan and Callum McKenzie, "'Pig-Sticking is the Greatest Fun'": Martial Conditioning on the Hunting Fields of Empire', in *Militarism, Sport, Europe: War Without Weapons* (see Mangan, above) pp.97-119 (p.103).

¹³⁴⁴ George John Younghusband, *The Queen's Commission: how to prepare for it, how to obtain it and how to use it* (London: John Murray, 1891), p.80.

¹³⁴⁵ Eric Dunning and Kenneth Sheard, *Barbarians, Gentlemen and Players: A Sociological Study of the Development of Rugby Football* (Oxford: Martin Robertson, 1979), pp.57-58.

¹³⁴⁶ Ewart, *Story of a Soldier's Life*, p.25; SCA, Mann, 'Sandhurst in the Thirties', p.10.

and attitudes.¹³⁴⁷ However, 100 years before Barnett was writing, the RMC could not really look to a long institutional military tradition to inculcate into its cadets. Instead, it was the living, breathing practices they took part in. These were in the realms of what Cathy Downes called 'professional socialisation' – the subtle, hidden aspects of training to 'inculcate certain appropriate attitudes, values and patterns of behaviour.'¹³⁴⁸

In this way the cadet colleges were not doing anything different in 1991 (when Downes was writing) to what was being done in 1891. Firstly, in essence the ideal was to create an organisation which mimicked the regiment wherein rank structure and subordination were practised so that military leaders knew what was expected of them. Secondly, within this structure, the fostering, emulation and maintenance of honourable and gentlemanly behaviour were promoted in the following ways. The appointment of cadets to certain ranks, the awarding of prizes, and the official recognition of those who were selfless, ensured such behaviour was officially sanctioned. Similarly, when dishonest and 'ungentlemanlike' behaviour was discovered it was officially censured, occasionally at the highest levels. That the colleges did not always get this right is evidenced most dramatically in the 1860s with the cadet 'mutinies' and the general bad behaviour which persisted throughout that decade. The preponderance of the older captains in the pre-1857 days was probably not the best pattern for imitation either, but nevertheless it still performed some degree of military acculturation. However, a potential disadvantage at that time, which Hew Strachan identified, was a possible need for a preparatory school along the lines of the Ordnance School at Carshalton. This would have allowed the military acculturation to be untrammelled by the need to manage fagging and bullying.¹³⁴⁹ It was not until the late Victorian period that the system was again generally satisfactory with the convergence of: combining Divisional Officers with instructors, the appointment of fixed-tenure military chaplains and the growth of sport. However, whilst this formula seemed the best, occasionally staff of the colleges did not get the balance or judgement right; as evidenced by authorities turning a blind eye to breaking arrest and the 'ragging' of corporals at the RMA, or for example, over-looking the irregularity at the RMC of tipping servants.¹³⁵⁰ Indeed, a question remains as to the severity of this after-mess 'rowing' as, by its nature, it was either not admitted to or ignored by certain staff. It was probably felt that to an extent tolerating such an environment was another level of preparation for officer culture.

¹³⁴⁷ Corelli Barnett, 'The Education of Military Elites', *Journal of Contemporary History*, 2.3 (July 1967), 15-35 (p.22).

¹³⁴⁸ Cathy Downes, *Special Trust and Confidence: The Making of an Officer* (London: Frank Cass and Co. Ltd, 1991), p.104.

¹³⁴⁹ Strachan, *Wellington's Legacy*, p.127.

¹³⁵⁰ Harrison, *Recollections of a Life in the British Army*, pp.312-314.

In addition to the military acculturation referred to above, were other factors that developed officer qualities at the cadet colleges. Whilst leadership, loyalty and selflessness were attributes that could certainly be acquired at a public school, the aspects of sport, games and religion practised at the colleges undoubtedly continued to aid it. Moreover, these practices were given a peculiarly professional slant. For example, it has been shown that sport was not viewed as simply a recreation but that it encouraged junior officers to, not only provide for the welfare of their men, but to a degree fostered an empathy with them too. Similarly, by compulsory church attendance, the work of the chaplain and the chapel memorials meant that the spiritual doctrine, forming the foundation for the ethics of the officer, was given official sanction. There is plentiful evidence of the genuine faith exhibited by cadets throughout their lives in letters and memoirs. However, this strand of the cadets' existence has not been significantly explored before. Indeed, as Michael Snape noted there is a distinct mutual aversion by military and religious historians of each other's topics.¹³⁵¹ It is also probably a symptom, then, of a more secular age when James Kitchen took a utilitarian view of religious practice, stating that senior officers 'irrespective of their personal beliefs, may have indulged in elements of Christianity for its perceived impact on morale and fostering of communal military identities.'¹³⁵² He also saw, for example, Allenby's observations on the flora and fauna as the behaviour of more of a naturalist than a crusader. However, as it has been noted:

[...] in any case [utilizing religion for professional reasons] would probably be its own undoing as soldiers are very quick to detect insincerity, and once an officer is convicted of that his influence and prestige are gone.¹³⁵³

It is arguably problematic to look for declarations of faith in letters as a quantitative exercise, however. Occasionally absence of evidence is a kind of evidence itself, if the wider context is understood; for example, if the RMC's Latin motto is considered ('vires acquirit eundo' tr. 'We gather strength as we go'). Taken in context, the more accurate translation would be 'they gathered strength as they grew' – a reference to the growth of the rumours of Aeneas's infidelity with Dido.¹³⁵⁴ However, so ingrained were the principles of Christian service, cadets could reconcile the immoral context of the motto and draw instead upon the edifying sentiment in the first translation. The point is given weight when the post-1947 motto of RMA Sandhurst is considered. This, now English, motto ('Serve to Lead'), was incorporated into the Collect carved in stone above the chapel entrance. This Collect made direct reference to the selflessness of Jesus himself – which on the one

¹³⁵¹ Michael Snape, *The Redcoat and Religion: The Forgotten History of the British Soldier from the Age of Marlborough to the Eve of the First World War* (Abingdon: Routledge, 2005), pp.1-4.

¹³⁵² Kitchen, *British Imperial Army in the Middle-East*, pp.78-79.

¹³⁵³ Burne, *Talks on Leadership*, p.17.

¹³⁵⁴ James Hamilton, *The First Six Books of the Aenid of Virgil* (London: [no pub.], 1839), Book 4, p.63, Line 175, translation on p.200.

hand suggested a centrality of Christian faith, but on the other, may have compensated for the fact that, even 70 years ago, this faith was not as immutable as it was in the days of 'vires acquirit eundo'. Similarly, the fact that the course of 'Morale, Leadership, Discipline' began for the first time, was symptomatic of this and wider changes. The 'Gentleman Cadet' title was replaced with 'Officer Cadet' and fees were no longer paid. The new course explored aspects of officership through private study, lectures and seminars; and the course book constituted an anthology of writings and lectures from various sources including notable British commanders such as Montgomery and Slim.¹³⁵⁵ In the second edition was printed a speech addressed by Field Marshal the Lord Harding of Pertherton to the senior division of RMA cadets in 1953. The text is worth quoting in full for it revealed the point where the attitudes of the 'long nineteenth century' were changing in the mid-twentieth:

There are some people who believe that leadership is something which is inborn, or which you acquire automatically at a public school; but neither of those things is true. There are certain fundamental qualities which affect leadership and which depend to a very large extent on upbringing and the moral and spiritual values which you learn in your family and in your environment as a young man; but there is no special way, nor is there any special caste or class, which has the prerogative of leadership.¹³⁵⁶

By referencing the public schools in this way Lord Harding was probably reaching out to the greater number of grammar school boys who were then at the academy.

In conclusion, the cadet colleges played their part in re-affirming the values which were brought in by the religion and schooling of the cadets. It was a happy coincidence that they came in with the ready 'Christian metaphor of vocational service' as Stephen Deakin noted, but by the 1980s senior officers expressed concern this was no longer the case. In the 1990s a statement of core beliefs was produced in *The Values and Standards of the British Army*. Deakin noted: 'The ethics of this paper straddled the demands for good (unspoken Christian) gentlemanly character with a post-Christian emphasis on values and utilitarianism.'¹³⁵⁷ Ultimately, it seemed the result which was hoped to be obtained was that echoed in a letter by an ex-cadet to his father whilst with his regiment in Burma:

¹³⁵⁵ Brigadier Mark Stuart Ker Maunsell, *Morale, Leadership, Discipline – A Study* (Aldershot: RMA Sandhurst, 1947).

¹³⁵⁶ *Serve to Lead (An Anthology)* (Camberley: RMA Sandhurst, 1959), pp.27-32 (p.28).

¹³⁵⁷ Deakin, 'Education in an Ethos', pp.19-21.

The men are all very glad to see me come back and many is the salute I have had and the hearty greeting from my own men of 'glad to see you among us again sir.' I study as I always have done to behave in the quiet and gentlemanly manner which I have always adopted for years to both officers and men.¹³⁵⁸

¹³⁵⁸ Wiltshire and Swindon Archives, 1720/853, Letter from WLE Money-Kyrle to Father, 24.2.1868.

Conclusion

It is hoped that the preceding has assisted in the understanding of how the cadet colleges operated, changed and, to an extent, made a contribution to the military education of the British army and overturned certain myths about them. The archives of these institutions have hitherto been seldom used, and by utilising them extensively for the first time it has been possible to place the colleges as the main focus of study, to in effect 'tell their side of the story'. In addition, perspectives of those at the institutions have come not just from memoirs but also contemporary cadets' letters and course work. This has enabled an understanding of what actually happened at the colleges and an indication of what it was like being a cadet under training. Hitherto, a great deal written about the colleges has come from secondary sources and politically charged parliamentary commissions and papers. Here then is the opportunity to redress the balance and set out a summary of the findings of this study.

In the chapters which treat of the course of studies during the pre-Crimean War era, at both cadet colleges, several key points come to light. The first concerns that of the actual subjects studied. In chapter one it was shown that at the RMA, instead of a plethora of subjects with out-of-date curricula, the selection was in fact judicious, logical and with a syllabus keeping abreast of changes in current technology. That this latter point should be true poses no surprise once the context of a 'landscape' of military technological establishments, of which the academy was one part, is taken into account. The advent of rifled artillery and small arms was incorporated into the Artillery and Fortification textbooks. In addition, a closer scrutiny shows that military history and a certain amount of tactical doctrine were also hidden in the detail – points that render the training generally more applied than has hitherto been typically appreciated. The chapter also revealed a body of civilian and military instructors which appeared to possess an earnest desire to improve the teaching of these subjects. The exceptions such as JJ Sylvester, who was more concerned with research and resisted increased teaching, tended to prove the rule. Naturally, there were weak points; one was that bullying seemed to take its toll on academic performance in the late 1840s. Others tend to stem from an ad hoc or piecemeal approach to change at the academy, possibly exacerbated by its longer developmental history. For example, notable was the physical separation of the 'Practical Class' – a term which of itself denoted a certain detachment in the minds of those responsible. This gave rise to, for example, a break in Plan Drawing teaching from its subsequent use in Surveying, and, a gap between studying field works and their physical construction in the Arsenal. Yet such defects should be regarded as relatively minor, especially when there was such a broad level of approval with the academy.

A similar general point was made about the RMC in chapter three for the same period. Before addressing the course content, its context should be recalled. In comparison with the RMA, conceptually it was in a slightly more awkward position. This derived from the attitude towards the nature and necessity, or otherwise, of professional military education for infantry and cavalry officers in the age of the smooth bore musket and field gun. These circumstances resulted in the late introduction of an army entry exam (in comparison with other professions) and the persistence of the purchase of first commissions. When Le Marchant sketched his plans for the RMC, it was never meant to replace the purchase of first appointments; instead, he incorporated the system by envisaging purchase candidates going through a brief RMC training course before appointment. However, due to impracticalities at the time, instead, only two out of three of his RMC departments were created and thus it was not to be a college for all officers. The Junior Department was implemented exactly along the lines he had envisaged; providing a general and military education and serving a benevolent function for officers' sons. It offered a truly liberal and modern education in that, unlike public schools, it taught boys subjects which were useful prerequisites for the study of the professional military subjects. Notable among these were Mathematics in its various branches (notably algebra and geometry), Plan and Landscape Drawing, and modern languages. Once these had been mastered the subjects of Surveying and Fortification could be studied. These latter two subjects whilst not an essential part of regimental duty might come into their own when, for example, mapping some remote part of Empire or taking part in a siege, as was the case in the Crimean War. As with Woolwich, there is evidence suggesting changes in technology were incorporated, and moreover the course was elaborated with practical pontooning and bridge-building. In fact, it is arguable that the RMC was not able to provide better Fortification training than at Woolwich due to its extensive grounds and support from the Corps of Sappers and Miners.

It is true that occasionally cadets with a talent for it studied the higher branches of Mathematics, the benefits of which were probably remote for the typical infantry officer. However, while it raised a concern in the military press over the applicability of such study, such cadets were nevertheless in the minority. The vast majority concentrated on useful arithmetic and sufficient geometry and algebra to do the calculations for laying out fortification traces and conducting surveys. True, some studied Latin, or History and Geography, but while these subjects might be criticised for their non-professional nature, Latin in particular assuaged the misgivings of those who feared cadets were losing out on a classical education. It also allowed certain cadets, particularly from public schools, the opportunity to consolidate their Latin whilst developing their mathematics.

The second point brought out by chapters one and three applying to both colleges in the pre-Crimean period, pertains to the level of teaching and the system of course management or examinations. Both colleges were created at a time when the country's education system was disjointed, inadequate and heavily focused on teaching Latin and Greek. Indeed, as the century progressed the latter still remained a problem even though certain public schools were getting better at preparing boys for the entrance exam (points highlighted in chapters one and two). This educational context was not thoroughly appreciated by historians and contemporary observers. It meant that the philosophy behind the course regulation and teaching had to take the boys' prior schooling far more into account. The regulation of the course of studies was, from the entrance exam through to the final commissioning exams, geared to giving cadets, who after all were considered gentlemen, every opportunity to improve and apply themselves. At the RMA entrance exam, a sliding scale of admission criteria was matched to what a candidate could achieve allowing for his age. The RMC opted to play it safe by keeping the admission criteria, in comparison to Woolwich, lower. This was probably inevitable given the context in which the RMC was situated – many young gentlemen desiring an infantry or cavalry commission, and who could bring influence to bear, would simply purchase a commission. The memorable statement of WH Adams (RMC Professor of Fortification) that 'a boy from any village school' could pass the entrance exam was, however, simply hyperbole, as attested by the existence of army tutors prior to 1849. When the cadets were at the institutions, a regular system of fortnightly, monthly and quarterly exams kept the cadets focused. This was arguably more advantageous than the hard study or cramming done for the half-yearly exams of the late Victorian period. Staff who remembered both systems often saw the advantage of the earlier one. However, whether such a system was more applicable to younger than to older cadets, is something which can never be known; for the age increase coincided with the introduction of written exams for entrance, regulation and commissioning. From the point of view of the institutions, the viva voce method allowed the professors conducting the exams the benefit to probe into areas, and instantaneously respond to the character of the examinee. Nevertheless, the fact that such a method, and the outcome, was partly based on the personalities on both sides, made reformers and advocates of open competition uncomfortable. Whatever the advantages of such a system, they were to be overcome by the sheer demand of processing larger numbers of admission candidates and cadets.

It is unhelpful for our understanding, therefore, to characterise the education given as simply remedying the 'defective' state of cadets' education before entry. Gaps in knowledge arose not from a lack of education, as such, but through the lack of a national curriculum. Instead, at the colleges the process happening was a 'levelling' of the cadets. As much as it might involve bringing them up to the same general state of knowledge and

filling in gaps where they existed, it might just equally involve relearning mathematics so that it was more specifically attuned to military application. Thus, the cadets were then certified as being capable of undergoing the course of instruction at its higher levels, whether it was Fortification, Surveying or Gunnery.

In chapters two and four the developments in the mid- and late Victorian period at the colleges were charted. At the RMA, the conception of the 'Scientific Corps' of professional engineer and artillery officers remained firm. For the academy, the challenge in the 1860s was; i) to consolidate the introduction of the competitive written exams for entry and commissioning, ii) to amalgamate the Practical Class with the Theoretical Class, iii) to assimilate the functions of the defunct Indian military seminary at Addiscombe, and iv), to regularise the conditions of service and appointments for civilian and military staff. Essentially, though, its 'mission statement' remained the same – complications only arose from the 1869 Royal Commission on Military Education and burgeoning technological development. The commission was arguably an unnecessary and troublesome interference. Admittedly there had been discipline problems early in the decade, but in reality, the academy was undoubtedly 'collateral damage' for the problems which persisted at the RMC. The resulting commission set the foundation for the late Victorian syllabus, but although it saddled the RMA with a directive to consider Latin and Greek to count for the commissioning exam, its importance lessened as technological development drove the training for engineers and artillery on arguably different paths. This resulted in the 'bifurcation system', which split the cadets after a year onto different courses, but whilst in theory this should have been more efficient, the 'human factor' came into play and cadets worked less once they realised an engineer's commission was not within reach.

Still, the course at Woolwich managed to keep abreast of technological advancements in gunnery and incorporate lessons from the Franco-Prussian War into its taught siege methodology. Also, its complicated studies were co-ordinated, finally, by an academic board. The studies were also becoming more joined up across the army educational establishments, most notably in Surveying, but eventually in Tactics, Administration and Law. There was an idiosyncrasy early on with Military History. Sandhurst had moved on to teaching Tactics, albeit illustrated with certain historical examples, whereas the RMA continued with Military History. The exam papers and lecture notes revealed a wide-ranging course dealing with contemporary tactics and logistics including recent campaigns such as the Zulu War. Despite the RMA's studies becoming more closely connected with other engineer and artillery establishments, it cannot be assumed that the interdependence was efficiently managed. So, as for Military History, the onus was placed on the academy to discontinue it and teach pure tactics due to

insufficient time available for study at young officers' batteries. The root cause of this was a lack of government money to provide for training elsewhere. This financial stringency in the 1880s also affected the RMC. A final problem was the academy's location was arguably becoming less suited to cadet training. With the encroachment of residential and commercial building development in the area, cadets were more constrained in the outdoor work which their Sandhurst counterparts were able to avail of. This space constraint would ultimately be one of the contributory factors in the closure of Woolwich in 1939 and its eventual amalgamation with the RMC at the Sandhurst site.

Meanwhile, the RMC in the 1860s continued to be affected by society's ambivalent position on the educational requirements of infantry and cavalry officers. This brought about a period of aborted reform that left the college in an unsatisfactory state. Army reformers had introduced written exams and raised the admission age, a change inspired by reforms in the civil service and the French system of military education, but maintained the RMC within the quintessentially British purchase system. The course duration of a year arose from the proposal that all pre-commissioning candidates should pass through the college – a plan stymied by a fear of what the country would accept. The result was that the course content, which owed a great deal to the pre-Crimean era, was impossible to teach properly resulting in its eventual increase by another term. In chapter four the brief flirtation with another continental system of military education (Prussia) in the early 1870s was covered before setting out how the military education authorities finally managed to get the formula of course duration and content correct.

The RMC course content was now (from 1877) entirely professional, consisting of Military Topography, Fortification (later Military Engineering), Tactics, Administration, and Law. There were also marks allocated to Drill, Riding and Gymnastics. Chapter four called into question the view of the Akers-Douglas committee that the course was woefully lacking in practicality, and that Tactics was a minor part of the overall studies. This was questioned with reference to the inaccuracies in their own report but also to the syllabus, the RMC correspondence and surviving cadets' course work. In Fortification, true, drawing was involved, but instructors progressively removed much of the elaborate drawing and expanded the outpost defence portion including training in practical defence techniques and applying them to tactical schemes in the field. The Tactics branch also ran outdoor tactical schemes, which were backed up by lectures, and in the 1890s cadets spent a short stint in camp undertaking pickets etc. With Military Topography, after the technical details had been learnt, Road Reconnaissances were made which brought alive physical features of human and physical geography from a tactical point of view. The college was criticised for teaching these subjects in 'water-tight compartments'. Certainly, this is borne out by the absence of a consultative board and the separation of subjects into branches

taught by specialist instructors. Even if, to a limited degree, this was ameliorated by utilising the same environs and scenarios for exercises, it is clear the three branches were not joined up. Lastly, the perception of cadets not working has also been called into question when the correspondence of instructors and cadets is considered. This showed that once free from all school subjects, they embarked on the new professional military studies with great enthusiasm, despite the fatigue and the instructors' fear of course pressure on their general stamina.

Chapter four also made the case for an instructional staff which, in the main, were competent, experienced and career-minded; whereas previously they have been characterised as low-paid, incompetent and seeking a quiet job until retirement. It is unclear how this negative perception originated but it became received wisdom in the immediate aftermath of the Boer War. It remained the case, however, that nearly three-quarters of staff went on to further staff appointments and many went on to active service. Similarly, before appointment, many had operational and/or staff service and the majority had either been to the Staff College, a cadet college or both (if they did not have such experience). There is no need, therefore, to look in the Edwardian period for improvements in the staff post-Boer War and it is a distortion to credit the Boer War with changes that had already been in motion for the previous 30 years. For example, a point closely related to the staff is the fact that, as at Woolwich, the studies at the RMC were now linked with a system of promotion exams, garrison instruction and the Staff College syllabus. The army had slowly been developing this interconnected education system in the late Victorian era. Certainly, it is an interesting finding of chapter four that many of the staff were Staff College graduates and played a role in the development and promulgation of Victorian army doctrine.

How, therefore, is one to account for the discrepancy between the perception typified by the view of the Akers-Douglas committee, and the findings set out here? To a degree there were some elements of truth in the criticisms which permeated the whole late Victorian era (notably the compartmentalisation of subjects and preponderance of drill), but the weight of the evidence presented was predominantly within the last five years of the college's history (or thereabouts). For example, the negative comments on musketry arose only from wartime experience. Back-projecting this for the whole late Victorian period would be unwise as it was taught for nearly ten years between 1888 and 1898. The objective of the committee was not to write history but assess practice as it stood at the colleges in 1900-1. They were also concerned with a number of other matters and so a great deal of evidence was collected on vast subjects unrelated to the college, such as: militia officer training and recruitment, entrance examinations, and the viability of providing officers through public schools and universities. Therefore, it has been argued

here that for most of the late Victorian era the college had largely been running smoothly. Those giving evidence and those on the committee in all probability were aware of this but were happy for the college to become a 'lightning rod' for the ills of the system to satisfy the general public. It was easy to attack an institution without a figure such as Wellington's QMG (General Sir George Murray) or his Second-in-Command (General Sir Edward Paget) at the helm. Instead, being as it was, made up of junior staff which turned over regularly, it was in effect essentially faceless. Everyone, both staff and cadets, even the DGME, were 'passing through' the system of military education and perhaps allocating culpability was difficult.

In the final chapter the role which the cadet colleges played in developing leadership and man-management – or 'officership' were analysed. It has been suggested that the colleges in the era of juvenile education did not have the advantages of a good public school. However, it has been suggested here that this is a rather problematic criticism. If the criterion was to turn out young men with character through the system of fagging, then this also existed at both RMC and the RMA. The chapter demonstrated that life-long relationships were formed and an independence of spirit was imparted to men placed in positions of immense responsibility in far flung quarters of the British Empire at a comparatively young age. However, there was the potential for fagging to become bullying, which aside from its unpleasant personal consequences, could potentially have negative effects on study and the standards achieved. However, as much of the bullying was left unreported, its true extent and effects will always be difficult to assess.

In addition to independence of character, the Christian values of selflessness, responsibility, and the concepts of 'usefulness' and 'muscular Christianity', whilst not begun at the colleges, were certainly taken on and given official sanction in a professional training establishment. This permeated the system of honours and awards, and through officially celebrating acts of selflessness such as life-saving.

Sport also played its part in bringing out these qualities and this was probably a quality looked for when recruiting instructional staff, as is shown by the number of sportsmen of a national, and even international, standard at the RMC. If this could be combined with operational, staff and distinguished service in the person of one man, such as Edward G Wynyard, so much the better.

Lastly, the colleges adopted from their outset a system of cadet ranks and military discipline, which assisted in developing an understanding of the roles in a command-subordinate structure. This was at its best at the colleges in the early and late Victorian eras but became a problem in the 1860s when, at the RMC in particular, the system broke

down as the pre-Crimean system had been poorly adapted. The late Victorian era at the RMC was of noticeable benefit as the companies, at least until finance forced a reduction in company officers, formed a 'mini regiment', and the company officer in effect formed the role model, or pattern, for what officer-like behaviour looked like.

In conclusion, this study has enabled a thorough, more evidenced-based picture of the cadet colleges to emerge. Instead of institutions characterised as out-of-date and filled with caricatures of aging and ineffectual staff, or polo-playing boorish cadets, what is seen is far more complex and deeply interesting. By engaging at a detailed level this study makes a new contribution to the understanding of officers, their education and the army more generally. It shows that the staff of these institutions, rather than being institutionalised automata, had agency in their own right. They agitated for change and improvements, and had their own characters and service history, which they brought to bear at the colleges. For the cadets too, despite the notion that this phase was simply a brief and rather meaningless prelude to a future military career, enough evidence has been examined showing that their college career had the potential to shape their lives. It has, therefore, been worthy of a thorough historical study which it is hoped will form the basis for future research.

Table 1 No. of Admissions and Exams, RMA, 1844-1850

Date	No. of Final Exams with Numbers in Each batch in Brackets	No. Admitted	No. of Entrance Exams
1844	2 (15) (14)	60	2
1845	2 (11) (10)	42	2
1846	3 (13) (15) (12)	91	4
1847	3 (14) (28) (25)	104	5
1848	2 (11) (18)	76	4
1849	2 (18) (17)	56	3
1850	2 (18) (17)	55	2

[Source: WO149, RMA Cadet Register, Vol. 5, 1832-1854, 'Distribution of the Company of Gentleman Cadets' years 1832-1854, pp.56-79; WO150/29 – 36, Correspondence between RMA and MGO, 1840-1849.]

Table 2 RMA Woolwich Subject Mark Allocation, 1840

Subject	Marks	Comments
Mathematics	300	
Fortification	240	
French	80	
German	50	Increased to 60 by 1847
Geography (30) And History (30)	60	
Plan Drawing	50	
Surveying	50	Subject Introduced by 1847
Landscape Drawing	30	Increased to 60 by 1847

[Source: RMA Regulations 1840, Section 13, point 12.]

RMA Woolwich Subject Mark Allocation, 1848

Table 3a **Theoretical Class**

Subject	Marks	Raised by x 20
Mathematics	250 x 20	= 5,000
Fortification	225 x 20	= 4,500
French	65 x 20	= 1,300
German	65 x 20	= 1,300
Plan Drawing	65 x 20	= 1,300
Landscape Drawing	65 x 20	= 1,300
History and Geography	65 x 20	= 1,300

Table 3b **Practical Class**

Subject	Marks	Raised by x 20
Practical Artillery	260 x 20	= 5,200
Surveying	120 x 20	= 2,400
Field Works	60 x 20	= 1,200
Lectures on Machinery	20 x 20	= 400
Lectures on Astronomy	20 x 20	= 400
Lectures on Geology	20 x 20	= 400

[Source: WO150/35/153D, 'Committee into the Royal Military Academy's Second Report,' 18.8.1848.]

Table 4 Distribution of Time Across Classes and Subjects, 1848

Subjects of Study	No. of Hours allotted weekly to each Subject (Summer season)				
	Theoretical Classes				Practical Class
	4 th	3 rd	2 nd	1 st	
Mathematics	14	14	14	14	-
Fortification	-	-	-	11	-
Fortification & Descriptive Geometry	-	-	11	-	-
French	5 ¼	5 ¼	4	4	-
German	5 ¼	5 ¼	4	4	-
Plan Drawing	9	7 ½	2 ½	-	-
Geometrical Drawing	7 ½	9	-	-	-
Landscape Drawing	-	-	5 ½	5 ½	-
History & Geography	2	2	2	-	-
Chemistry Lectures	-	-	-	2 ½	-
Philosophical Lectures	-	-	-	2	-
Totals	43	43	43	43	
Practical Artillery					19
Surveying and Field Works					15 ½
Analytical Chemistry					2 ½
Applied Chemistry					2
Mechanics, Practical Astronomy and Metallurgy					2
Geology & Mineralogy Lectures					2
Total					43

[Source: *Report of The Commissioners Appointed to Consider the Best Mode of Re-Organizing the System for Training Officers for the Scientific Corps; Together with an Account of Foreign and Other Military Education* (London: HMSO, 1857), p.296.]

Table 5 **Distribution of Time as Submitted by the Inspector of Studies, Colonel FA York, October 1859**
'Return Showing the Average Number of attendances each Cadet would have weekly in the various studies in the Six Class, Starting
January 1860'

Study	6th Class	5th Class	4th Class	3rd Class	2nd Class	1st Class
Artillery					3	5
Survey & Field Works					5	2
Fortification	1.3	1.3	3.3	3.3	2	2
Descriptive Geometry & Geo. Drawing	2	1.3	1.3	1.3	-	-
Mathematics	2	4	4	3	2	1
Plan Drawing	2.6	3.3	1.3	1.3	-	1
Landscape Drawing	2	2	2	2		
French	3	2	2	2	1	1
German	3	2	2	2	-	-
Physical Geography	1	1	1	1	-	-
Lectures in Nat. Philosophy	-	-	-	1	4	4
Lectures in Chemistry	-	-	-	1	4	4
Lectures in Geology	-	-	-	1	4	4
Lectures in Mechanics				1	4	4
Chemistry in Laboratory						1

[Source: WO150/46/33.]

Appendix 1: Annex 1

Syllabus of a Course of Lectures to be Delivered to the Gentleman Cadets of the First Class, Second Term 1868

Strategy

- Introductory remarks on the most important changes in the military art since its revival after the dark ages, especially noting the differences between the armies of Frederick and Napoleon
- Organisation of a Modern Army:
 - Its formation into corps, divisions, etc.etc.
 - The methods by which modern armies are supplied
 - The necessity of a secure base of operations, and of good lines of communication.
- History of the campaign of Waterloo, omitting tactical details, selected as embodying the latest military science up to the forty years' peace.
- The principles of strategy, with illustrations drawn from the Waterloo Campaign and from the larger features of other campaigns.
- The influence of modern improvements on strategy.

Tactics

- Functions, formations and combinations of the three arms.
- Formations of lines of battle, illustrated by the battle of Austerlitz.
- The tactical use of fortresses, illustrated by the battles of Dresden and Mayence.
- The influence of modern improvements upon tactics.

[Source: WO 150/59/292.]

July 1882 First Class

MILITARY HISTORY (A) Morning Paper

RUSSO-TURKISH WAR

1. (a) Compare the organization and equipment of the Russian and Turkish Armies.
(b) Give in detail the composition and strength of a Russian Army-Corps.
2. Mark on a sketch map the position of the Russian Army (including the outpost line) on completion of the first strategical deployment towards the end of May, and offer your remarks on the manner in which this had been carried out.
3. What was the plan of campaign of the Russians after their passage of the Danube at Simnizza? Describe briefly, with the aid of a sketch, the manner in which this plan was pursued up to the 16th July, (No detail of General Gourko's operations is required).
4. What are the main requirements of a good Artillery position?
5. (a) Discuss the question of the advisability of maintaining Horse Artillery as a separate branch of Field Artillery. (b) What proportion of Horse Artillery is attached to a Cavalry Division, and what would be the position of the batteries on the march and on the eve of an engagement?

BATTLE OF WOERTH

6. Examine the manner in which the position was held and the defence conducted by the French, and, from their experiences on this occasion, point out the conclusions that may appear to have been established in the mode of handling troops on the battle field.

July 1882 First Class MILITARY HISTORY (B)

1. What considerations usually influence nations in their choice of the offensive or the defensive at the commencement of a war; and show how these considerations influenced the action (1) of Russia, and (2) of Turkey, in 1877.
2. Give a Military description of the Danube from Orsova to its mouth, and support your description by a sketch map.
3. What errors did the Turks commit in opposing the passage of the Danube? And suggest any better measures that they might have adopted.
4. "The decisive defeat of Plevna on the 30th July brought the Russian advance to a standstill." Give a rough sketch of the Theatre of War, showing the positions of the contending Armies on the day and explain fully why the Russian advance could not proceed.
5. What do you understand by the terms "base of operations," "secondary base," "line of operations," and support your answer by instances drawn from the Russo-Turkish War?
6. What are the various circumstances in Modern War which justify Artillery in engaging Infantry at ranges less than 700 yards?
7. A British Army-Corps is about to engage one Division being kept in reserve. How would you dispose of the Artillery of this Division, and of the Corps Artillery?

February 1883 Second Class MILITARY HISTORY (A) Morning Paper

1. What do you understand by the terms "centralisation" and "decentralisation" as regards the organisation of an Army? Illustrate your remarks by a comparison of the French and German systems in 1870.
2. What do you understand by the terms "base of operations," "intermediate stationary magazines," "billets," "requisitions," and under what circumstances would you use each?
3. An Army starts and marches 30 miles to the Frontier, then crosses into the enemy's country and marches 20 miles; then wins a victory, and follows up the enemy with all speed. How would you arrange for supply during the whole operation?
4. Under what circumstances would you employ (1) Cavalry, (2) Artillery, and (3) Infantry on out-post duty?
5. What length of front would you allot to 1,000 Infantry on outpost duty in a fairly open country, and, state into what portions you would divide them?
6. You are in command of a line of outposts, and at sunset, word is brought from the Cavalry screen in front that they are falling back, as the enemy is advancing in force along the whole line. What steps would you take?
7. What was the French recruiting law of 1868? You are told that their failure in 1870 was partly attributable to the fact that this law had not had time to work. Do you consider that any better results might have been obtained by delay?

February 1883

First Class

MILITARY HISTORY (A) Morning Paper

1. What do you understand by the term "complete tactical and administrative unit"? Give an example drawn from our service, describe its composition, and give reasons for the introduction of the various units.
2. "The supply of an Army in time of War is an important and difficult question." Wherein lies the importance, and what are the difficulties? State generally the requirements of an Army in the field, and give a brief sketch of the various methods employed since the 14th Century.
2. A Force of 8,000 Infantry, 1,000 Cavalry, and 4 batteries halts for 48 hours along an elevated ridge overlooking the valley of a river three miles in front. Enemy supposed to be 25 miles off. Country generally undulating and fairly open. What precautions would you take for obtaining information and resistance during the halt?

What extent of front would you cover with your outposts? Suppose that the river is passable by bridges on your right and left flanks, by a ford with houses on both banks, in your centre, what dispositions would you make? Give a sketch on a scale (roughly) about two inches to a mile of the whole situation.

5. Under whose command is an outpost line usually placed, and what are the particular duties attaching to such command?
6. Describe the principal differences in disposing Infantry for the attack and for the defence.
7. A Regiment of Cavalry, 4 Squadrons, each 100 strong, is in column in rear of a small wood. Three-quarters of a mile in front two batteries of the enemy are seen to limber up and prepare to retire, escorted by about 300 Infantry. The Cavalry are ordered to take the guns. State how the attack should be prepared and carried out. Give a rough diagram at the moment of encounter.

February 1883

First Class

MILITARY HISTORY (B) Afternoon Paper

1. (a) In connection with the question of the supply of an army, explain the meaning of "mobile reserves." And the arrangements requisite to keep them replenished.
(b) What are the different kinds of magazines that should be established for the use of an advancing army, their respective locations, and objects?
2. (a) What purpose are picquets and supports intended to serve in an outpost line?
(b) What are their usual strength, positions, and distances apart? Where necessary, point out the reasons for these.

Franco-German War of 1870

3. Detail the Prussian Military system at the outbreak of the War, under the following headings:-
 - (1) General Principles
 - (2) Terms of Service
 - (3) Systems of Recruitment,and point out wherein the superiority of the German to the French Army in "morale" consisted.
4. (a) Give a sketch, showing the position of the forces under the orders of Marshal McMahon on the morning of 4th August.
(b) What were the numbers of the German Army opposed to them, and how was it composed? What part was it destined to play in the general plan of campaign? Trace briefly its movements from the night of the 3rd to the night of 6th August.
5. During the advance of the German Armies towards the Moselle in pursuit of the French, after the battle fought on 6th August, what contingencies had to be guarded against, and in what manner were the German plans designed to meet them? Give a sketch of the Moselle with its fortresses, bridges, and tributaries.

War in Zululand

6. Describe the frontier of Zululand. What troops were placed under Lord Chelmsford's orders for its invasion, and how did he distribute them? What was his plan of operation? Detail, with the aid of a sketch, the movement of his columns up to 23rd January 1879.

Appendix 3: Annex 1: Royal Military College, Allocation of Marks Between 1877 and 1895

		Military Administration	Military Law	Tactics	Fortification	Military Topography & Reconnaissance	Drill	Gymnastics	Riding	Total	<u>Standard of Qualification for Commission</u> ¼ marks in each subject (except Drill, Gymnastics and Riding) & ½ of the total number of marks allotted to <u>all</u> the subjects. Those who obtain .75 of the marks assigned to any subject will receive a special certificate of proficiency in that subject except drill and all who obtain .7 of the aggregate of marks allotted to all subjects will be recorded in the published lists as having passed with honours."
Maximum	Total	300	400	600	600	600	200	200	200	3100	
	For Professors	75	100	150	200	150	-	-	-	675	
	For Examiner	225	300	450	400	450	200	200	200	2425	
Minimum		56	75	112	100	112	-	-	-	1550	¼ marks in each subject & ½ in aggregate
Honours										2170	.7
Special Certificate		168	225	337	300	337	-	150	150		.75 except drill

Note:

1886

Qualification altered to: '1/2 of the total number of marks allotted to all the subjects. If less than quarter marks in any subject are obtained such marks will not be counted at all towards the required aggregate. Drill, gymnastics and riding are now included in the counting minimum of 50 marks each (i.e. ¼ of 200).'

[Source: WO152/55/90.5037.]

Appendix 3:

Annex 2: RMC Distribution of Time and Studies, 1877

Reveille	7 am
1 st Study	7.30 – 8.30 am
Breakfast	8.30
Hour for Cadets to attend Surgery	9
Parade (a class riding 9.15 to 10.15) Except on Saturdays	9.30 to 10.15
2 nd Study	10.25 – 11.35
3 rd Study	11.25 – 12.35
4 th Study	12.40 – 2
Luncheon	2 pm
Drill for Juniors not at Gymnastics	2.30 to 3
Gymnastics	3 to 4 and on Mondays 4 to 5
Riding (none on Saturdays)	2.30 to 3.15 3.15 to 4
Mess	7 pm

Day	Educational Division	1 st Study 7.30 to 8.30	2 nd Study 10.25 to 11.15	3 rd Study 11.25 to 12.35	4 th Study 12.40 to 2
Monday	1	Tactics etc	Tactics etc		
	2	Fortification	Surveying		
Tuesday	1	Fortification	Surveying		
	2	Tactics etc	Fortification		
Wednesday	1	Tactics etc	Fortification		
	2	Fortification	Tactics etc		
Thursday	1	Tactics etc	Surveying		
	2	Fortification	Tactics etc	Fortification	
Friday	1	Fortification	Tactics etc	Fortification	
	2	Tactics etc	Surveying		
Saturday	1	Fortification	General Parade, 9.30 to 10.30		
	2	Tactics etc			

[Source: C2063, *Report of the Board of Visitors for the Inspection of the Royal Military College, 1877* (London: HMSO, 1877).]

Appendix 3

Annex 3: Sample Course Returns for Examiners

3.i Course Synopsis of Tactics Instruction for Final Examination Dec 1887

Textbook Clery 'Minor Tactics', Chapters 1-20 (inclusive)

Examples:

- | | |
|--------------------------------|------------------|
| 1. Outposts | Mincio 1866 |
| 2. Marches | Belfort 1871 |
| 3. Advanced Guards | Nachod 1866 |
| 4. Cavalry Action ... | Nachod 1866 |
| 5. Attack and Defence ... | Burkersdorf 1866 |
| 6. Rear Guards ... | Redinho 1811 |
| 7. Passage of Rivers ... | Douro 1809 |
| 8. Attack and Defence of Woods | Niederwold 1870 |

Reference 'Field Exercise, 1884'

- | | |
|--------------|---|
| pp.212 – 228 | (Attack Formations) |
| pp.239 – 243 | (Skirmishing etc) |
| pp.243 – 244 | (Defence Formations) |
| pp.304 – 310 | (Fire Tactics) |
| pp.312 – 345 | (Advanced & Rear Guards, Outposts, etc) |
| pp.364 – 369 | (Route Marching) |

Practical Instruction

1. Posting the piquets and sentries of Outpost Lines
2. Attack and Defence of small positions.

3.ii Outdoor Field Fortification Subject Synopsis for Examination

13th October 1885

Head Cover
Shelter Trenches
Shelter Pits
Rifle Pits
Gun Pits
Gun Epaulement
Tracing Works Chapter VII
Obstacles
Gabions
Fascines
Revetments
Defence of a House
I and II Parallels [Siege Works]
Profiles of I & II Parallels from 3 rd edition Vol.1 Para II Military Engineering SME
Single & Double Lock Bridge
Barrel Piers
Trestle Bridge
Ladder Bridge

[WO152/20/88.1980.]

27th October 1892

Head Cover for Infantry
Shelter Trench
Rifle and Shelter Pits
Gun pit and Gun Epaulement
Shelter Military Pits
Gabion and Fascine Making
Revetments of Sandbags, Gabions and Fascines
Tracing & Profiling Fieldworks
Splinter proofs [traverses]
Flying Trench work
Barricading doors and windows and preparing banquettes etc. to walls
Single and double lock bridges
Two Piers and one raft of Casks
Booming out a trestle bridge
Limber ladder bridge
Trussed ladder bridge

[WO152/62/90.6473.]

Appendix 3:

Annex 4 Sample Fortification and Military Topography Outdoor Schemes

4.i Military Topography Road Reconnaissance Scheme, c.1888-1892

Road Reconnaissance
(6 miles)

General Idea

Cf. Text Book Page 89	Three Divisions of an Army Corps marching from Bagshot and Aldershot to concentrate at Wokingham, and form the Reserve to an Army holding the line of the River Loddon facing NW.
Right Column <u>1st Division</u>	<u>No.1 Road</u> From 'Jolly Farmer' Bagshot to 'Railway Inn' Sandhurst. Midday halt at Royal Military College
Centre Column <u>2nd Division & Corps Artillery</u>	<u>No.2 Road</u> From 'Frimley' (SER Bridge) via York Town – Blackwater – Darby Green to 'Railway Inn' Sandhurst. Midday halt in meadows at the back of the 'Duke of York'
Left Column <u>3rd Division</u> <u>2nd Brigade</u> <u>2 Batteries</u> <u>1 Squadron</u>	<u>No.3 Road</u> 'Farnborough Grange' via Hawley Green – Hartford Bridge Flats – Cricket Hill to 'Railway Inn' Sandhurst. Midday halt Hawley Green and Hartford Bridge Flats
Outposts	The left flank will be guarded during the movement by the 1 st Brigade 3 rd Division with three (3) squadrons, and a battery which will march by the Cove – Minley road from Aldershot, and be on Outpost duty on Hartford Bridge Flats (west end), and from the main body of the Army Corps at Wokingham moving via Eversley Cross and Finchampstead.
Cf. Text Book Page 89	Information Required <ol style="list-style-type: none"> 1. Condition of road and suitability for rapid marching 2. Facilities for maintaining communications between the columns. 3. Facilities for moving on a broad front 4. Suitable halting place for midday meal <p>As much information should be shown on the sketch without crowding or confusion.</p>

HC Reynolds, Lt Colonel
Professor Military Topography

4.ii Scheme for the Defence of a Post (Instructions to Cadet)

General Idea	A Division (10,000 men) retiring from Aldershot on Wokingham, is halted to defend the position, which extends from Sandhurst church on the right to the woods under Longdown Hill on the left.
Post Selected	The post selected for this scheme forms the right of the front line. It comprises the church and the National Schools on its right, and the Railway Hotel and Post Office near its left, with various walls, hedges etc. Support if afforded to the right of this post (the flank of the front line) by the fire of guns on the high ground (Forest End) in its rear; and to its left by the neighbouring groups of buildings, which are occupied as posts in the general line.
	Gentleman cadet will prepare a scheme with report for the defence of this post from the following data.
Data	<ol style="list-style-type: none"> 1. Garrison: 8 Companies, Infantry 80 men each; 2. Time available for work: 6 hours 3. Tools: Those carried by the battalion 4. Ground in front to be cleared as far as the Blackwater River 5. The road leading from the river to be kept open, but provision to be made for blocking it at a moment's notice
Report	<p>The report is to be written on the outer half margin of foolscap, and is to be divided as follows:</p> <ol style="list-style-type: none"> 1. A general description of the post, the buildings, walls, hedges etc. 2. A general description of proposed scheme of defence, and of the operations to be effected in carrying it out. 3. Detail of work to be done, with hand sketches of the various items of work. 4. Distribution and tasks of the workman for each of the six working hours. 5. Distribution for the defence of the garrison.
Plan	<p>The plan supplied is to be corrected where necessary; the buildings, woods, roads, cultivated ground etc. are to be coloured in the usual conventional manner, and the following points to be clearly indicated:</p> <ol style="list-style-type: none"> 1. The line occupied for defence. 2. The various obstacles formed; hedges etc. levelled 3. The defence of the ground in front by lines of fire. <p>Conciseness and clearness in the report, will be considered as important elements in its value.</p> <p>These instructions are to accompany the report when sent in.</p>

[Source: SCA, CAYMA: 91.132(4), Scheme for the Defence of a Post, Sandhurst, 16.11.1898.]

Appendix 4: Selected Bibliographic List of Works by RMC Staff, 1870 - c.1900s

This list is not exhaustive and does not include general travel, historical writings, memoirs, sport or fiction. It includes works on military doctrine, history and geography, which were produced within approximately 5 years before, after or during their appointment held at the RMC. The exception to this is where revised editions of the same work were produced.

Note: Authors not highlighted in bold were not RMC staff.

Allatt, Henry Thomas Ward

'The use of Pigeons as Messengers in War and the Military Pigeon Systems of Europe', *Journal of the Royal United Service Institution*, 30 (1886), 107-148

Banning, Stephen Thomas Banning

Examination Papers in Military Law, fully answered with references to the official books; being the papers set at the R.M.C., July, 1895 - December, 1897 (Yorktown: W. Webb, 1898)

Regimental Duties Made Easy. Subject "A" for promotion examinations (London: Gale & Polden, 1900)

Catechism on Field Training, etc., by Frederick Augustus Lascelles Davidson Second edition, revised and edited by Major S. T. Banning (London: Gale & Polden, 1902)

Military Law Made Easy - Subject "C" for the promotion examinations. With appendices of the examination papers, fully answered with references to the official books. Second edition, revised. (London: Gale & Polden, 1904)

Barter, Beamish St John,

'Lord Roberts' March to Bloemfontein', *RMA Magazine*, 1.1, (May 1900), 14-20

'Outline Sketch of the War', *RMA Magazine*, 1.2, (August 1900), 66-72

Barter, Charles St Leger

'German Divisional Cavalry', *Journal of the Royal United Service Institution*, 36 (Jan 1892), 1179-1180

'Convoys in War', *Professional Papers of the Corps of Royal Engineers*, 30 (1904), 1-34

Boughey, John

The Elements of Military Administration and Military Law (Yorktown: W. Webb, 1874) (further editions in 1875, 1878, 1882, 1883, 1886, 1884, 1889, 1890)

Caunter, James Eales

'Shorthand in the Army', *Journal of the Royal United Service Institution*, 41 (Jan 1897), 430-449

'From Enslin to Bloemfontein with the 6th Division', *Journal of the Royal United Service Institution*, 44 (Jul 1900), 1139-1155

Chippindall, William Harold

'Graphic Solution for Equations of the second, third and fourth powers', *Professional Papers of the Corps of Royal Engineers*, 19 (1893), 177-187

Cooper Key, Aston McNeil

A Primer of Explosives (London: Macmillan & Co., 1905)

Cooper King, Charles

Map and Plan Drawing (London: Cassell, Petter & Galpin, 1873)

Great Campaigns. A succinct account of the principal military operations which have taken place in Europe from 1796 to 1870. Edited from the lectures and writings of the late Major C Adams (Edinburgh & London: W. Blackwood & Sons, 1877)

'The New Frontiers of France', *Journal of the Royal United Service Institution*, 31 (Jan 1887), 791-825

The British Army and Auxiliary Forces ... With ... plates from original photographs. (London: Cassell & Co., [1892, 97])

Clery, Cornelius Francis

Minor Tactics (London: H. S. King & Co., 1875 & 1877),
(repr. London: Kegan Paul & Co., 1880, 1883, 1887. repr. London: Kegan, Paul, Trench, Trübner & Co., limited, 1896 13th edition)

Daniel, William Henry

Examinations for Officers in the Militia and Imperial Yeomanry (London: Simpkin, Marshall, Hamilton, Kent & Co., 1903)

Military Forces of the Crown: Their Organisation and Equipment (London: Cassell & Co., 1901)

De Gruyther, Cuthbert Montague

Tactics for Beginners (Aldershot: Gale & Polden, 1900)

Delavoie, Alexander Marin,

The Scout's Guide and Field Book (London: Richardson & Co., 1880, repr. London: Marchant Singer & Co., 1885)

Henderson, George Francis Robert

The Campaign of Fredericksburg, Nov. - Dec., 1862. A Tactical Study for Officers.
(London: Gale and Polden, 1883) (3rd edition 1891)

The Battle of Spicheren, August 6th, 1870, and the events that preceded it. A study in practical tactics (London: Gale and Polden, 1883) (3rd edition 1891)

'Notes on Manoeuvres round Metz 1890', *Journal of the Royal United Service Institution*, 34 (Jan 1890), 1061-1066

'The French Manoeuvres of 1891', *Journal of the Royal United Service Institution*, 36 (Jan 1892), 859-882

'Precis of the Regimental History of the 33rd East Prussian Fusiliers in the War of 1870-71', *Journal of the Royal United Service Institution*, 36 (Jan 1892), 71-103, 197-223

'Lessons from the Past for the Present', *Journal of the Royal United Service Institution*, 38 (Jan 1894), 1183-1206

Hurst, William Brunel

'Safety Rifle Ranges', *Journal of the Royal United Service Institution*, 32 (Jan 1888), 413-429

Jones, Edward Monckton

The Campaign of 1859 (York Town, Surrey: W Webb, 1869, repr. 1870)

About Tactics. ... From the German edition of 1869 of FW Laymann, Translated by E. M. Jones (London: [n.pub.], 1871)

'On the latest Changes made by the Prussians in their Infantry Drill-Book', *Journal of the Royal United Service Institution*, 16 (Jan 1873), 527-549

Campaign 1870-1871. The operations of the German Armies in France from Sedan to the end of the War by Carl Wilhelm Hermann von Blume, trans. by E. M. Jones (London: H S King & Co., 1872)

Kenney-Herbert, Arthur Herbert Cleveland

'On the Best Method of Teaching Military Sketching', *Journal of the Royal United Service Institution*, 40 (Jan 1896), 221-246

Kitchener, Herbert Elliott Chevalier

'Revolvers and their use', *Journal of the Royal United Service Institution*, 30 (Jan 1886), 951-995

Kiggell, Lancelot Edward

'The Relative Advantages and Disadvantages of Voluntary and Compulsory Service both from a Military and a National Point of View', *Journal of the Royal United Service Institution*, 41 (Jul 1897), 1205-1239

Maurice, John Frederick

The System of Field Manœuvres best adapted for enabling our troops to meet a continental army. [The Wellington Prize Essay.] (London: [n.pub.], 1872)

Mockler-Ferryman, Augustus

Up the Niger. Narrative of Major Claude Macdonald's mission to the Niger and Benue rivers, West Africa (London: G. Philip & Son, 1892)

British Nigeria: a geographical and historical description of the British possessions adjacent to the Niger river, West Africa (London: Cassell & Co., 1902)

Military Sketching and Reconnaissance (London: Edward Stanford, 1903)

Military Sketching, Map Reading and Reconnaissance (London: Edward Stanford, 1911)

Mockler-Ferryman, Augustus, and Lionel William Lyde,

A Military Geography of the Balkan Peninsula (London: Adam & Charles Black, 1905)

Morrison, Colquhoun Grant

Guide to Court Martial Procedure (Aldershot: Gale & Polden, 1886)

Notes on Military Law, Organisation, and Interior Economy. For use at the Royal Military College (London: HMSO, 1895)

Tactics of the Drill Books (London: Printed for the author, 1897) (2nd edn 1898) (3rd edn 1900)

'The Cavalry Exercises Before and During the Manoeuvres of 1898', *Journal of the Royal United Service Institution*, 43 (Jan 1899), 632-653

O'Brien, Edmund Donough Collins

Fortification (London: Cassell, Petter & Galpin, 1873)

Paterson, William

Notes on Military Surveying and Reconnaissance, 2nd edn (London: Trubner & Co., 1873; repr. 1875, 1882)

Pratt, Sisson Cooper

'The Constitution and Duties of the Artillery of the Advanced Guard of an Army in the Field [the RA Institution Prize Essay of 1874]', *Journal of the Royal United Service Institution*, 18 (Jan 1875), 489-507

Précis of the Franco-German War (London: W Mitchell and Co, 1877)

Military Law: its procedure and practice (Aldershot: Gale & Polden, 1883)

Field Artillery, its Equipment, Organisation and Tactics (London: Kegan, Paul, Trench & Co., 1883)

Notes on Tactics and Military Administration (Woolwich: F J Cattermole, 1889)

Guide to Promotion: an aid to officers of all arms preparing for examination in regimental duties (London: E. Stanford, 1892)

A Précis of Modern Tactics, compiled from the works of recent continental writers by R. Home. Revised and rewritten by S.C. Pratt (London: HMSO, 1892)

The Military Law Examiner: Being the answers to questions set at public examinations in military law ... 1890 to 1895 (Aldershot: Gale & Polden, 1895)

Richards, William Hamilton

Military Surveying and Field Sketching. The various methods of contouring, levelling, sketching, etc. (London: [no. pub.], 1873) (2nd edn 1875)

Text book of Military Topography: including the courses of instruction at the Royal Military Academy, The Royal Military College, The Staff College, Garrison Instruction, and Examinations for Promotion (London: HMSO, 1883)

Russell, Francis (Frank) Shirley

'Cavalry', *Journal of the Royal United Service Institution*, 20 (Jan 1877), 179-194

'The Providing of Remounts for Our Cavalry and Artillery', *Journal of the Royal United Service Institution*, 29 (Jan 1885), 1045-1085

Savile, Albany Robert

Cyprus, Compiled in the Intelligence Branch, Quartermaster General's Department, Horse Guards (London: HMSO, 1878)

'Military Cycling', *Journal of the Royal United Service Institution*, 32 (1888), 731-755

'Cyclist Infantry', *Professional Papers of the Corps of Royal Engineers*, 16(1890), 1-17

Savile, Albany Robert, and Ferdinand Henry Wheeler **Milner**

The Anglo-Afghan War of 1878 (London: Intelligence Branch, QMG's Dept, War Office, 1879)

Scott, Lothian Ker

'Suggestions for Improving Artillery Fire, Combined with an Explanation of Captain Scott's System of Sighting Guns', *Journal of the Royal United Service Institution*, 25 (Jan 1882), 97-122

Stone, Francis Gleadowe

Tactical studies from the Franco-German war of 1870-71, (London: Kegan Paul & Co., 1886)

'Lecture on the Maxim Machine Gun', *Proceedings of the Aldershot Military Society*, (Aldershot: Aldershot Military Society, 1888)

'Discipline: Its Importance to an Armed Force, and the best Means of Promoting and Maintaining it', *Journal of the Royal United Service Institution*, 33 (Jan 1889), 375-429

'Quick Firing Guns for Fortress Defence', *Journal of the Royal United Service Institution*, 33 (Jan 1889), 1-38

'Mobilization for Home Defence', *Journal of the Royal United Service Institution*, 37 (Jan 1893), 1089-1118

Tulloch, Alexander Bruce,

Elementary Lectures on Military Law (London: W Mitchell & Co., 1873)

'The Education and Professional Instruction of Officers', *Journal of the Royal United Service Institution*, 17 (Jan 1874) 758-785

'Suggestions for a Shelter Tent', *Journal of the Royal United Service Institution*, 17 (Jan 1874), 63-65

Verner, William Willoughby Cole and Sir Leopold Victor Swaine,

Advanced Guard and Outpost Duties for Riflemen (London: W. H. Allen and Co., 1889)

Verner, William Willoughby Cole

Rapid Field Sketching and Reconnaissance (London: W. H. Allen and Co., 1889)

Some Notes on Military Topography (London: W. H. Allen and Co., 1891)

Map Reading and the Elements of Field Sketching (London: R. H. Porter, 1893)

'Military Topography', *Journal of the Royal United Service Institution*, 38 (Jan 1894), 687-710

Map Reading and the Elements of Field Sketching 4th edn (London: John Bale, Sons & Co., 1906)

Walford, Neville Lloyd

'Holland and the Dutch', *Journal of the Royal United Service Institution*, 26 (Jan 1883), 695-755

'Effects of the Bombardment of the Forts of Alexandria, July 11th 1882, Parts 1 & 2', *Journal of the Royal United Service Institution*, 27 (Jan 1884) 145-171, 171-204

'Lines of Communication in Modern War', *Journal of the Royal United Service Institution*, 31 (Jan 1887), 839-859

Western, William George Balfour

'The National War on the River Loire in 1870', *Journal of the Royal United Service Institution*, 38 (Jan 1894), 511-556

Wing, Henry Tryon

A vade mecum of various principles, decisions, laws, and regulations tactical, military [&c.], affecting the duties, status [&c.] of combatant regimental and staff military officers (London: [no. pub.], 1885)

Rhyming Remembrancers of Military Tactics, Administration, and Law (London: [no. pub.], 1885)

Appendix 5 Records of Service of the Late Victorian RMC Staff

Note on Data Compilation

In the table 'Staff Service' has not been taken to mean narrowly service on the General Staff. Rather it can be mean positions on the 'Personal Staff', e.g. ADC, or a position of responsibility, such as regimental Adjutant or Instructor (e.g. in Musketry or Signalling), DAAG for Instruction or Garrison Instructor. This definition is taken as these are appointments which have a bearing on the choice of selection by the authorities to be on the RMC instructional staff. Similarly, after the RMC, appointments such as CO of a battalion have also been included, as these show the competence and reward for service, including at the RMC. Active service only includes campaign service and not overseas postings.

The data has been primarily collected from the Quarterly Army Lists 1881-1911, held at Prince Consort's Library. This has been supplemented by WO76 and ADM196, Officers' Records of Service, the *London Gazette* and obituaries in *The Times*.

Due to the Royal Engineers not being eligible for the Staff College until 1872/3, and because both the RMA Woolwich and SME Chatham course together represent a very thorough military education these have been denoted as 'N/A' in the 'Staff College' and not included in the calculations within the text.

Name	Date Appoint	Date Depart.	RMC /RMA Cadet	Other Route	Staff College	Prior Staff Appt	Details	Prior Active Service	Details	Post Staff Appt	Comment	Post Active Service	Notes
Armitage, John Leathley, Captain	18960627	19011224		Militia	1888	Y	Station Staff Officer Madras, 17.1.1891 - 2.10.1892	N		Y	GSO2, 31.3.1915	Y	Boer War; WW1
Anderson, Edward Abbot, Captain	18621027	18871125	1850		N	N		N		N		N	
Allatt, Henry Thomas Ward, Captain	18810901	18880831	1865		1880	Y	Adjutant, 24.9.1875 - 25.7.1876	N		Y	DAAG for Instruction, SE District, 1.11.1892 - 31.10.1897; OC Provisional Bn, 12.4.1898 - 1.1899; OC 1 Bn, Royal Home Counties Reserve Regiment, 26.3.1900; AAG Aldershot, 1.3.1901; Staff Officer, Remount Estab, S Africa, 19.10.1901; Staff Officer, Prisoners of War, Natal, 7.12.1901; OC Prov Depot Bn, Royal Irish Rifles, ? - 8.5.1916	Y	Boer War & WW1
Adair, William Thompson, Captain	18860901	18900815	RNC		1885	Y	Adjutant, 26.3.1878 - 28.3.1883	N		Y	Fort Prof RNC, 16.8.1890 - 31.12.1895; Spec Service S Africa, 3.2.1900 - 13.3.1900; Asst-Inspector, L of C, S Africa, 14.3.1900 - 5.10.1900; AAG RM, 1.11.1900 - 29.1.1905; DAG RM, 19.7.1907 - 1.6.1911	Y	Boer War
Armstrong, Richard, Capt.	18901006	18980125	1880		N	N		Y	Burmah 1887-9	N		N	
Bouhey, John, Captain	18710130	18780228	1861		1869	N		N		Y	Bde Major, AAG	N	
Bunbury, Cecil Hanmer, Capt.	18760425	18831231	1864		1872	N		N		Y	OC Bn, 1.7.1887	N	
Brickenden, Richard Hugh Lambert, Captain	18810210	18850331	1865		1872	Y	Garrison Instructor Malta, 2.10.1875 - 1.10.1880	Y	Ashanti, 1873-4	Y	Acting DAAG, Cairo, 11.12.1885 - 21.1.1886; Local Inspector of Army Schools, Egypt, 10.11.1885 - 30.4.1886; OC Regtl District, 24.5.1898 - 3.11.1902	N	

Bogle, Adam, Capt.	18820201	18890131	1868		N/A	N		N		N		N	
Bromfield, Francis William, Lieut.	18830901	18900831	1872		1881	Y	Stn Staff Officer, Sharazhpore, 1.8.1875 - 27.3.1877; ADC to Lt Gen Ewitt, Cmdg Allahabad Div, 1.4.1878 - 31.5.1878 & 29.10.1878 - 28.2.1879	N		Y	AAG Madras 1891-5; AQMG, India 1902-1907	N	
Barter, Charles St Ledger, Capt.	18840101	18890131	1875		1883	Y	Adjutant, 27.8.1879 - 14.3.1881	N		Y	Staff Capt (Intell) Army HQ, 1.4.1889 - 25.4.1891; DAAG (Intell) Army HQ, 26.4.1891 - 31.1.1894; Special Serv. Ashanti, 7.12.1895 - 24.2.1896; AAG Thames Dist, 6.9.1902 - 31.5.1905; AQMG, Welsh & Mid, AQMG, W Comd. 1.6.1905 - 5.9.1906; Brig. Comdr., India 19.6.1909 -	Y	Ashanti 1895, Tirah 1897, Boer War & WW1
Barter, Beamish St John, Capt.	18850514	18920831	1876		1894	Y	Musketry Instructor, 2.5.1881 - 31.3.1883	N		Y	RMA Tactics Professor, 28.1.1897 - 9.5.1902	Y	Boer War & WW1
Ball, Edward Arthur, Major	18850901	18900415		Direct	N	Y	Adjutant, 21.4.1875 - 1.3.1880; Station Staff Officer, Roorkee, 14.1.1879 - 9.6.1879; Transport Officer, Khyber Field Force, 3.10.1879 - 31.1.1880	Y	Hazara 1868; Afghan 1879-80	N	Retired	N	Retired
Ball, Oswald James Henry, Captain	18880210	18950209		Sub-Lt - 1874	N	N		N		N		Y	Boer War
Bolton, Wilfrid Nash, Lieut.	18920901	18991216	1883		N	Y	Superintendent of Gymnasias, Malta, 20.6.1891 - 8.1892	N		Y	Asst Provost Marshal, S Africa, 22.4.1901 - 23.6.1902; Resident Magistrate Transvaal, 24.6.1902 - 15.9.1902; Employed under Civil Govt, Transvaal (Spec. extra Regtl. Employ) 16.9.1902; District Commissioner and Provost Marshal for Food Supplies, Cyprus, 1914 - 1918	Y	Boer War
Banning, Stephen Thomas, Captain	18960201	19030127	1877		1887	Y	DAAG Instruction Dublin District, 2.2.1890 - 1.2.1895	N		Y	DAA & QMG, Mauritius, 9.6.1906 - 12.8.1910	N	Retires 21.10.1911

Clery, CF, Captain	18710124	18750523		Direct	1869	Y	Adjutant	N		Y	Brigade major Egypt 1882; GOC 2 nd Division, South Africa, 1899-1901.	Y	Egypt 1882, Zulu War 1879
Cautley, Henry, Captain	18750211	18810630	1859		N/A	N		N		Y	Special Duty Falkland Islands, 13.7.1881 - 19.1.1882; Special Duty WO, 20.1.1882 - 14.3.1882; Attached to NZ Government, Design & Construction Coastal Forts, 18.9.1883 - 13.9.1885; CRE Guernsey, 24.6.1890 - 30.12.1891; CRE Perth, Scotland, 12.4.1900 - 30.9.1901	N	
Cary, Lucius Falkland Brancaleone, Captain	18770319	18820831		Without Purchase -1858	1867	Y	Instructor of Musketry, 7.6.1870; Garrison Instructor Gibraltar 72-76, Eastern District 76-77	Y	Crimean War, 1854-5; Ashanti War 1874;	N		Y	Burmes e Expedition 1886-8
Campbell, Colin, Captain	18771108	18790831	1855		1867	Y	Garrison Instructor, Curragh, 13.7.1870 - 30.10.1871; Garrison Instructor, N. Britain, 6.11.1871 - 31.7.1876	N		Y	AAG (Recruiting) Dublin Dist, 8.3.1884 - ?; OC Regt	Y	Egypt 1882
Courtenay, Edward James, Capt.	18780325	18850831		Direct - 1864	1874	N		N		Y	OC Bn Royal Sussex Regiment, 6.8.1890 - 6.8.1894; AAG, Dublin HQ, 23.10.1894 - 8.12.1900	N	
Craigie, John Harry Smith, Captain	18810701	18860831	1868		1879	Y	Private Secretary to Governor of Malta, 10.11.1874	N		Y	AAG, Chitral Relief Force, 23.3.1895 - 28.9.1895; AAG India, 15.4.1897 - 18.2.1901; Brig-Gen, India, 19.4.1900 - 19.2.1906	Y	Chitral Operations 1895
Cavenagh, Wentworth Odiarne, Captain	18880901	18960131	1875		1885	Y	Adjutant 12.4.1879 - 4.10.1883	N		Y	OC Bn, 10.7.1899 - ?	Y	Boer War
Coles, Walter, Capt, RE	18890601	18920831	1873		N/A	N		Y	Afghan War 1878-80; Bikanir 1883; Sudan 1885;	N		N	
Cooper-Key, Aston McNeill Cooper	18890523	18960331	1880		N	Y	Lt of RMA Cadet coy 15.5.1885 - 13.11.1888	Y	Egypt 1882	Y	Insp of Explosives Home Office 1.1.1898 - 1899	N	

Chippindall, William Harold, Major	18921001	18980114	1871	N/A	Y	Executive Engineer, Quetta, 1878-79; Instructor, RMA, 1.10.1880 - 28.2.1890;	Y	Afghan War 1878-9-80.	Y	OC RE, Singapore, 14.1.1898 - 20.4.1901; OC RE, Belfast, 26.4.1901 - 30.9.1902	N	
Cuyler, Charles, Sir, Bt, Captain	18970825	19030401	1887	N	Y	Adjutant, 2.1.1895 - 24.8.1897	N		Y	Adjutant Vols. 2.1.1904 - 12.1907	N	
Conway-Gordon, Lewis, Captain	18960801	19030829	RNC	1894	Y	Asst Prof. of Fortification, RNC, 1.1.1887 - 29.8.1896	N		Y	Cmdg Coy of Cadets, RMC, 28.1.1903 - 28.8.1903; Professor of Fortification, Royal Naval College, 1.10.1904 - 30.9.1909	Y	WW1, Commanding Cromarty Coast Defences, 1917
Cuthbertson, Norman William, Captain	18970825	18991018	1882	1895	N		Y	Egyptian Expedition 1884	Y	DAAG Boer War, Equerry to Princess Louise, Duchess of Argyll, 9.11.1901 - ?; GSO2, 25.8.1914 - ?	Y	Boer War; WW1 Staff Service
Caunter, James Eales, Captain	18980101	18991205	1877	1887	Y	DAAG, Bermuda (Oct 1889); Adjutant 3rd Vol Bn his regt	N		Y	RMC Prof of Tactics (1900), RMC Asst Cmdt, DAAG 6th Division South Africa (1900)	Y	Boer War; WW1 Staff Service
De La Voye, Alexander Marin, Lieut.	18750211	18820831	1864	1874	N		N		Y	DAD of Military Education, 16.12.1883 - 1.7.1885; Asst D of Mil Ed, WO, 2.7.1885 - 1898; Asst Mil Sec (for Education) HQ Army, 14.3.1898 - 1.4.1903	N	
De Montmorency, Raymond Oliver, Capt.	18770410	18830209	1863	1872	Y	Bde Maj Curragh District 15.5 - 15.10.1876	N		Y	OC Bn	N	
Daniel, William Henry, Captain	18790902	18860831	1864	1877	Y	Garrison Instructor Curragh District, 1.8.1878 - 10.7.1879, Regt Adjt 69-75	N		Y	Bde Major East Yorks Bde, Inf Vols, 9.3.1889 - ?	N	
Dawes, Bethel Martin, Lt Col	18830901	18880831	1861	1876	Y	Adjutant, 20.10.1865 - 3.5.1871; DAAG & QMG Malta, 1.3.1877 - 25.4.1882	Y	Egypt, Staff Comdt at Gabari	N		N	
De Gruyther, Cuthbert Montague Captain	18971213	19030128	1884	1896	N		Y	Hazara 1888	N		N	

Essex, Edward, Major	18830901	18850430	1867		1876	Y	Adj Regt 24.4.1869 - 30.5.1871; Garrison Instructor, North District, 17.7.1878 - 1.10.1878; Spec Service, S Africa, 1.11.1878 - 7.1.1880; DAA & QMG S Africa 9.12.1880 - 31.8.1883	Y	Zulu War 1879; Boer War 1881	Y	OC 2nd Bn Gordon Highlanders, 1.7.1887 - 1.7.1891 (Colonel 19.5.1890)	N	
Fitzhenry, Claude Brittain, Capt.	18981006	19000118		Militia	N	N		Y	Sudan Exped 1884-5	Y	Bde Major Inf Bde Aldershot & S Africa 19.1.1900 - 30.4.1901	Y	Boer War
Fothergill, Charles William, Captain	18680822	18810209	RNC		1867	N		Y	Operations in Gambia, and Congo 1861	N			
Friend, Lovick Bransby, Lieut.	18830901	18850209	1874		N/A	N		N		Y	Sec. RE Committee, 15.12.1884 - 31.12.1899; Employed with Egyptian Army (Dir of Works), 26.10.1900 - 31.3.1904; Asst Dir of Fort & Works, Army HQ, 1.1.1906 - ?; GOC Ireland, 1914-1916	Y	Omdurman
Fawkes, Lionel Grimston, Lt Col	18930901	18950415	1870		1887	Y	ADC to GOC WI 1.10.83-31.12.1883, Brigade Major RA	N		Y	RMA Professor, 16.4.1895 - 23.2.1900	N	
Fergusson, John Adam, Lt Colonel	18930901	19000831	Aug 1863 - Jul 1865 RMA		1878	Y	ADC & Private Secretary to Governor, S. Australia, 19.5.1870 - 10.6.1873; Garrison Instructor, North Britain, 1.12.1879 - 6.4.1880; DAAG Colonial Forces, S. Australia, local Major, 17.5.1880 - 31.5.1883; Bde Major, Ceylon, 1.1.1884 - 31.12.1886; DAAG Ceylon, 1.1.1887 - 31.12.1888	N		Y	OC Provisional Bn Rifle Bde, 12.12.1901 - 30.10.1902	Y	Boer War
Gosset, Matthew William Edward, Capt	18730901	18770930	1853		1872	Y	Station Staff at Roorkee, NWP, 15.4.1862 - 15.11.1862 & 1.5 - 1.11.1863	Y	Indian mutiny, 11.1857 - 1.1860	Y	Bde Major Aldershot, 77-78, ADC to GOC Cape, 78-79	Y	1878 - Kaffir campaign, 1879 Zulu,

													various staff
Gatacre, William Forbes, Capt	18750211	18790310	1860	1874	N			N		Y	DAA QMG Aldershot, 10.3.1879 - 14.4.1880; AAG, Madras, 27.10.1880 - 8.6.1881; DQMG, India, 17.12.1885 - 24.11.1890; AG, Bombay, 25.11.1890 - 29.1.1894; Brig-Gen, India, 30.1.1894 - 22.7.1897; Maj-Gen, Inf Bde, Aldershot, 10.8.1897 - 4.1.1898; Maj-Gen, Cmdg Bde, Egypt, 5.1.1898 - 12.6.1898; Maj-Gen Cmdg Sudan Exped Force, 13.7.1898 - 9.10.1898; Maj-Gen, East Dist, 8.12.1898 - 8.10.1899; Lt-Gen, Inf Div, S Africa, 9.10.1899 - 12.5.1900; Maj-Gen E Dist, 4.6.1900 - 31.3.1900; 10th Div & 19th Bde, 4th Army Corps, 1.4.1903 - 7.12.1903	Y	Hazara Exped, 1888; Burma, 1889-90; Chitral, 1895; Nile Exped, 1898; Boer War
Gaulter, Henry Edward, Capt	18750526	18820831	1862	N	Y	Instructor of Musketry, 1.2.1869 - 16.4.1869		N		N		Y	Burma 1887-89
Godsal, William Charles, Lieut	18830901	18880715	1872	N/A	Y	Canal Traffic Officer		Y	1882 Egyptian Expedition	N		N	
Gregg, William, Capt	18850901	18910914	1872	N	Y	Adjutant		N		Y	Lt Col OC 2nd Bn Leicester Regt	N	
Goold Adams, Richard Eyre, Captain	18880210		1875		N			Y	1880 Afghan; Egypt, 1882	N	RMC Mess Secretary	N	
Gatliff, Albert Farrar, Major	18900816	18970816	RNC	1887	Y	Assistant Instructor of Gunnery, 1882-1885		N		Y	AAG Boer War	Y	Sierra Leone, 1898; Boer War, 1899 - 1901
Halkett, Charles Harland Craigie, Capt	18720829	18810831	1858	N/A	Y	Instructor in Surveying, Chatham, 2.1867 - 27.8.1872		N		Y	CRE Devonport	N	

Hurst, William Brunel, Lieut	18750211	18820831	1864		N/A	N		N		N		N	
Hall, Burnett Greive, Capt	18770621	18840731	RNC		1872	Y	Military Instructor, Royal Marines, 10.1.1874 - 20.6.1877	N		Y	DAAG Instruction, Cork District, 1.8.1884 - 31.7.1889	N	
Henderson, GFR, Bt Major	18900101	18921216	1877		N	Y	DAQMG, Ordnance Store Corps, Woolwich, 24.4.1885 - 31.8.1889	Y	Egypt 1882	Y	Prof of Military Art & History, Staff College; Director of Intelligence, South Africa, 1899-1902.	Y	Boer War
Huskisson, William, Major	18980114		1878		N/A	Y	RMC Canada, Professor of Fortification, 10.1890 - 7.1895	N		Y	Col RE BEF WW1	Y	WW1
Hamilton, Leonard Alison Hall, Captain	18970127	19000417	1883		1897	N		Y	Burmah 1886-7	Y	Special Employed (Mobn) HQ of Army, 26.3.1900 - 12.10.1902; DAQMG, 2nd Army Corps, 1.4.1904 - 13.6.1904; OC Bn 14.6.1908 - 14.6.1912; AAG start 19.9.1913 - 9.3.1915;	N	WW1
Inglefield, Francis Seymour, Captain	18920901	18960625		Sub-Lt - 1874	1885	Y	Brigade Major Gibraltar, 21.9.1888 - 4.1.1892	N		Y	Special Service South Africa, 3.11.1899 - 10.2.1900; Brig.-Maj, S Africa, 11.2.1900 - 10.6.1900; AAG, S Africa, 11.6.1900 - 25.12.1900; AAG, 7th Div, Irish Comd, GSO1 & GSO1, 5th Div, Irish Cmd, 1.11.1905 - 21.7.1909; Brig. Comdr, 12th Brig, E Comd, 22.7.1909 - 6.6.1912; Div Comdr, 27.4.1916 - 3.8.1916	Y	Boer War; WW1
James, Bernard Ramsden, Captain	18930901	18991029	1881		1892	Y	Instructor of Signalling (regimental)	N		Y	DAAG (Intel.) Army HQ, 22.10.1899- 12.11.1899; Staff Captain (Intel.), HQ of Army, 13.11.1899 - 23.1.1901; Staff Capt. (Intell) Army HQ, 24.1.1901 - 30.6.1903; DAQMG (Intell.) Army HQ, 1.7.1903 - 12.11.1904; Military attache Washington & Mexico, 30.1.1907 - 7.2.1911	Y	WW1 Staff GHQ, France
Jones, Edward Monkton Captain	18680529	18720903		Without Purchase - 1847	1860	Y	ADC, AAG, AQMG India	Y	Kaffir War 1847, Umbeyla Campaign 1863, India	N/A	Died	N/A	Died

Impey, Alfred George, Capt.	18790531	18860831	1868		1877	N		N		N		N	Retires 23.11.1892
Jopp, Stephen James Melville, Major	18881004	18960828		Sub-Lt - 1876	N	Y	Instructor of Musketry, 18.1.1881 - 29.1.1881; Adjutant, 30.1.1881 - 11.3.1881; Adjutant, 1.7.1881 - 1.3.1885	Y	S African 1879-1881	Y	OC Discharge Depot, Gosport, 21.10.1896 - 2.8.1899	N	
Knox, James Stuart, Captain	18970127	19030801	1885		1896	N		N		N		N	
King, Charles Cooper, Lieut.	18720904	18850831	RNC		1870	N		N		Y	Lecturer in Geology 24.6.1886 - 10.7.1889	N	Get record of Service, Retires 4.2.1886
Kitchener, Henry Elliott Chevalier, Captain	18790311	18860831		Purchase - 1866	1875	Y	Garrison Instructor, Curragh, 3.7.1876 - 31.7.1878	N		Y	DAAG, Jamaica, 17.12.1893 - 16.12.1898; OC, WI Depot, 1.11.1899 - 5.10.1903	Y	Burma 1891; Exped to Manpiur 1891; WW1
Kelly, Arthur James, Lieut.	18850210	18920209	1877		N/A	N		N		Y	Adjutant Volunteers, 4.5.1892 - 29.10.1897; Comdr Coast Defences (Mersey), 1.6.1905 - 19.12.1907	N	
Kenney-Herbert, Arthur Herbert Cleveland, Captain	18900416	18970416	1883		N	N		N		Y	Employed on Survey Duties, N Ashanti, 2.10.1897 - 22.10.1898; Spec. Serv, S Africa, 22.9.1899 - 17.5.1900; DAAG (& also for Instrn.) Egypt, 21.2.1901 - 31.3.1903; DAQMG, Egypt, 1.4.'903 - 4.1906	Y	Boer War
Kiggell, Lancelot Edward, Captain	18950901	18971213	1882		1894	Y	Adjutant, 18.9.1886 - 31.8.1890	N		Y	DAAG SE Dist. 1.12.1897 - 8.10.1899; DAAG, S Africa, 9.10.1899 - 20.3.1901; AAG, S Africa, 21.3.1901 - 9.10.1902; DAAG GSO2 Staff Coll., 11.1.1904 - 31.12.1906; Asst Dir Army HQ, & GSO1 Army HQ, 1.1.1907 - 20.3.1909; Brig-Gen, i/c Admin, Scot Cmd, 21.3.1909 - 6.10.1909; Dir of Staff Duties, Army HQ, 7.10.1909 - ?; CGS, 1915-18, BEF, WW1.	Y	Boer War

Leir, Richard Langford, Captain	18690605	18820901	1859		N	N		N		Y	OC Bn L North Lancs Regt	N	
Lewes, George Alban, Major	18860901	18960831	1864		1871	Y	Adjutant of 48 Ft, 31.5.1876 - 1.2.1880; Dep Ast Comm-Gen, Com & Trans Staff, 1.2.1881 - 31.1.1886	N		N		N	
Luttman, Johnson, Frederick, Major	18870910	18900821	1865		1878	Y	Bde Maj, Cyprus, 21.9.1879 - 21.9.1884	N		Y	DAAG for Instruction, Malta, 14.12.1894 - 13.12.1899; OC of 3rd Bn Leinster Regt & Comdt Queenstown and Stormberg, S Africa, April - 29.11.1900	Y	Boer War
Lester, CM, Captain	18920901	18981009	1878		1889	N		Y	Afghan War 1880	N/A	Died	N/A	Died
Lascelles, Walter Edward, Capt.	18950210	18970123	1881		1890	N		N		N/A	Died	N/A	Died
Moore, Charles, Captain	18970825	19030128	1885		N	N		Y	Sudan 1885-6	Y	Superintendent Gymnasia, E Dist, E Cmd, 5.8.1904 - 12.8.1907; Asst Insp of Gymnasia, Aldershot, Comd, 13.8.1907 - 31.8.1909	N	
Mockler-Ferryman, Augustus Ferryman, Major	18921217	19030901	1876		N	Y	Employed in Oil Rivers Protectorate, 23.6.1889 - 30.6.1890	N		Y	AA & QMG, GSO1, WW1	Y	WW1
Mitchell, Herbert Leonard, Capt.	18710123	18720115	1856		1870	N		Y	Indian Mutiny 1859, Nepaul Hills	Y	Bde Maj, School of Gunnery, Shoeburyness, 15.7.1872 - 12.4.1877; Instructor in Artillery, Dept of Artillery Studies, Woolwich, 1.5.1878 - 13.4.1881; Asst. Director, Dept of Artillery Studies, 14.4.1881 - 30.4.1886	N	
Maurice, JF, Captain	18710127	18730904	1861		1869	N		N		Y	Spec Serv, Ashanti Exped, 12.9.1873 - 23.3.1874; Spec Serv S Africa, 30.3.1879 - 13.2.1880; Bde Major, RA, Cork Dist, 9.3.1881 - 2.9.1881; DAA & QMG Exped Force Egypt, 4.8.1882 - 5.11.1882; DAQMG (Intell Dept) Army HQ, 13.3.1884 - 1.9.1884; AA & QMG, Egypt, 2.9.1884 - 6.8.1885; Prof Staff College, 25.12.1885 - 30.9.1892; Col on Staff (Comg RA),	Y	Ashanti War 1873-4; S African War 1879; Egypt 1882; Sudan Exped

											E Dist, 25.5.1894 - 7.12.1895; Maj Gen, Woolwich Dist		1884-5
Milner, Ferdinand Henry Wheeler, Captain	18730904	18770620	1860		1872	N		N		Y	Bde Maj RA North Distr 1.7.77-17.3.79	N	Deceased? 1888
Moorsom, Henry Manvers, Captain	18770901	18840831	1857		1867	Y	Adjutant, 10.11.1871 - 1.4.1872; DAAG, HQ, Ireland, 1.4.1872 - 31.3.1877	Y	China War 1860	N		N	Retired 1896
Mortimer, Henry Beaufoy, Capt	18830301	18881215		Sub-Lt - 1874	1882	N		N		Y	AAG India, 16.10.1899 - 15.10.1904	Y	Dongola Expedition, 1896
Milner, Edward Champneys, Major	18851006	18870831	1865		1876	Y	Garrison Instructor, Canada, 4.8.1877 - 8.1884	Y	New Zealand War 1866	N		N	Retired September 1887
Morrison, Colquhoun, Grant, Captain	18910101	18971231	1879		1887	N		N		Y	DAAG Jersey, 4.7.1899 - 28.1.1901; Comdt (graded DAAG), S Africa, 15.2.1901 - 29.11.1902; DAAG, later DAA & QMG OR Colony Dist 9.8.1905 - 17.3.1906; DAAG, Cape Colony Dist 18.3.1906 - 8.9.1909; Spec Employed, War Office, 1.6.1911 - 31.8.1911; AA & QMG Gibraltar, 11.10.1912 - 11.4.1915; Spec Appt. (graded Brig -Gen) 12.4.1915 - death 1916	Y	Boer War 1899-1902; WW1
MacBean, Forbes, Captain	18880901	18960831		Militia	N	Y	Adjutant 1.1.1885 - 31.8.1888	Y	Afghan War 1879-80; S African War 1881	Y	Brig-Gen, Highland Grouped RegtI Dist & Brig-Gen, No.1 Dist, Scot Cmd, 27.6.1905 - 31.3.1908; ADC to the King, 25.3.1907 - 18.3.1911; Comdr later GOC Highland Div, Scot Cmd, 1.4.1908 - 18.3.1911; Brig. Comdr, India, 6.9.1911 - 11.10.1914; Brig Comdr, 12.10.1914 - 3.1.1915	Y	Boer War; WW1

O'Brien, Edmund Donough Collins, Lieut.	18690204	18820131	1858		N/A	N		N		Y	Colonel RE, SE Dist, 31.12.1891 - Dec 1896	N			
Paterson, William, Captain	18600724	18821231	1846			Snr Dept	Y	Y	Burmese War 1852-3	N		N			
Phillips, G, Lieutenant	18580819	18771015	1850		N/A	N		Y	Crimean War 1854-5	Y	Comdg RE, St Helena, 8.11.1877 - 2.1.1882; Special Duty, Sierra Leone, 3.1.1882 - 15.4.1882; CRE St Helena, 16.4.1882 - 16.11.1883; CRE S Africa, 7.5.1885 - 30.7.1891	N			
Pratt, Sisson Cooper, Capt.	18750211	18790521	1863				1873	Y	District Staff Officer, SW District, 1867-8	Y	Bhootan campaign 1864-5;	Y	Professor of Military History RMA, 22.5.1879 - 23.1.1888, 24.1.1888 - 23.9.1889	N	
Poett, Joseph Howard, Major	18920210	18921216									Afghan War 1880; Bechuana Exped 1884-5	Y	DAAG Instruction, Home District 16.12.1892 - 15.8.1895; DAAG, Ceylon, 16.8.1895 - 4.2.1899; AAG S Africa, 22.2.1900 - 25.9.1902; AAG India, 19.2.1906 - 18.12.1906; DAG India & Brig Gen Gen Staff, 19.12.1906 - Dec 1910	Y	Boer War
Quinton, Francis William Drummond, Captain	18960401	19010130	1885				N	Y	Adjutant of 2nd Hants Volunteer Artillery 23.11.1891 - 31.3.1896	N		Y	CRA, India 1.8.1914 - 7.2.1915; 18.6.1917 - May 1920	Y	WW1
Russell, Francis Shirley, Bt Major	18750918	18770210									Ashanti War 1873; S African War 1879-81	Y	Spec Service, South Africa, 16.5.1879 - 2.10-1879; Mil Attache, Berlin, 30.3.1889 - 26.10.1891	Y	S African War 1879-81
Rosser, Richard Henry, Bt Major	18790315	18860805	1862				N	N		N		N			
Ross of Bladensburg, Edward James Thomas, Lieut.	18821002	18920930	1871				N/A	Y	Attached to School of Military Engineering, 7.8.1878 - 1.10.1882	N		Y	CRE, Liverpool, 1.6.1897 - 30.9.1901	N	

Reynolds, Henry Charles, Major	18840831	18920831	1864		1878	Y	DAQMG, Int Branch HQ 13.8.1879 - 12.8.1884	N		N		N	
Rawlinson, William Cecil Welsh, Major	18940901	18970126	1877		1890	Y	ADC to Lt Gov Bengal, 21.4.1885 - 1.4.1887	Y	Sikkim Exped 1888	N/A	Died	N/A	Died
Sartorius, Euston Henry, Lieut.	18710127	18741231	1862		1870	N		N		Y	Awarded VC 1879 DAA & QMG Aldershot, 11.4.1882 - 3.8.1882; DAA & QMG Exped Force Egypt, 4.8.1882 - 14.11.1882; DAA & QMG, Aldershot, 27.11.1882 - 10.4.1887; AAG, S Dist, 21.8.1889 - 20.8.1894; Mil Attache Tokyo, 6.5.1896 - 14.2.1897	Y	Afghan War 1879-80; Egypt Exped 1882
Seton, Bruce Outram, Capt.	18750211	18820210	1859 RIMC		N/A	N		N		N		N	
Sitwell, Harold Cooper, Capt.	18750211	18770210		Without Purchase	N	N		Y	Indian Mutiny	N		N	
Scott, Lothian Kerr, Captain	18771025	18890531	1862		N/A	Y	Asst Ins of Musketry, Chatham, 4.4.1873 - 4.11.1877	N		Y	Instructor, Artillery Sights, 1.6.1889 - 3.6.1891; Special Employment Inspecting Sights, 12.1.1892 - 26.7.1892	N	
Savile, Albany Robert, Captain	18790313	18880831		Direct	1870	Y	Intell Br; Garrison Instructor, Malta, 14.1.1872 - 31.7.1875; Garrison Instructor, SE District, 1.8.1875 - 15.6.1877	N		Y	Major Commandant 26th (cyclist) Vol Bn, 17.11.1888 - 13.4.1892	N	
Stone, Francis Gleadowe, Lieutenant	18840801	18890522	1876		1883	N		Y	Afghan War 1878-9	Y	Bde Major RA, SE Dist, 1.7.89 - 30.6.1894; Empld with Col Forces Canada, 25.5.1899 - 15.8.1900; Cmdt (graded DAAG) S Africa, 28.1.1901 - 3.7.1902; Resdnt Magistrate & Commr Transvaal, 28.1.1901 - 3.7.1902; Comg RA, SW Coast Def, S Comd, 24.1.1910 - Jan 1914	Y	Boer War
Stock, Herbert Alfred, Lieutenant	18850420	18920831	1879		N	N		N		N		Y	Boer War

Spens, James, Major	18860901	18930831	1872		N	Y	Instructor of Musketry 12.7.1878 - 31.3.1883; Adjutant 21.2.1884 - 6.4.1886	Y		Y	ADC to Sovereign, 9.11.1900 - 30.11.1906; Comg Inf Bde S Africa, 2.1.1901 - 5.5.1901; Brig Gen Comg, Mobile Column, S Africa, 6.5.1901 - 18.9.1902; 2nd Class Dist Comdr, India Bde Cmdr India, 2.8.1903 - 11.8.1908; GOC Lowland Div Sco Comd 21.3.1910 - Jan 1914	Y	Boer War
Simpson, Charles Napier, Captain	18860901	18930831	1875		N	N		N		N		N	
Talbot, Johnston Stoney, Captain	18860902	18921215	1875	Failed		Y	Adjutant, 25.7.1879 - 8.6.1881	Y	Sudan Exped 1885, Suakin	Y	Inst, Staff College 16.12.1892 - 3.12.1896; Asst Cmdt & Sec, RMC 16.11.1898 - 5.10.1902; DAQMG, Jamaica, 16.3.1904 - 31.10.1905; DAA & QMG, Jamaica 1.11.1905 - 7.4.1908	N	
Tulloch, Alexander Bruce, Captain	18750211	18760410	1855		1869	Y	DAQMG Exped Force China 2.6.1859 - 1.3.1860; Garr Inst, Nova Scotia, 28.6.1870 - 23.8.1873	Y	Crimea 1855-6; China War 1859-60;	Y	DAA & QMG S Dist 1.9.1877 - 15.6.1882; DAA & QMG Egypt 16.6.1882 - 9.8.1882; AA & QMG Egypt 10.8.1882 - 4.10.1882; Comm. Col Forces, Victoria 20.9.1889 - 31.12.1894	Y	Egypt 1882
Todd, Killingworth Richard, Captain	18770901	18820911	1863		N/A	N		N		Y	Asst Comdt, SME, 5.10.1892 - 1.7.1895; Col on Staff (Comg. RE) Home Dist 19.5.1896 - 6.7.1897	Y	Egypt Exped 1884; Sudan Exped 1884-5
Taylor, George Lee Le Mesurier, Major	18830901	18930831		Purchase - 1858	1874	Y	Instructor of Musketry, 26.2.1866 - 23.7.1871; Asst Garrison Instructor Madras, 31.8.1876 - 31.5.1877; Garrison Inststructor, India, 7.6.1877 - 7.6.1882	N		N		N	
Verner, William Willoughby Cole, Lt Colonel	18960901	18991009		Militia	1883	Y	ADC to Maj Gen Gibraltar, 10.10.1877 - 10.1878; DAA & QMG, Egypt 1.1.1885 - 15.7.1885; DAAG for Instr SE Dist, 13.10.1885 - 31.10.1892	Y	Sudan Exped 1884-5	Y	DAAG (Topog) S Africa 9.10.1899 - 25.2.1900	Y	Boer War

Van Straubenzee, Bowen William Sutton, Captain	18920901	18990901	RMC Kingston		N	Y	Adjutant, 1.2.1887 - 30.7.1889	N		Y	Instructor RMC temp 30.10.1901 - 16.9.1902	Y	Boer War
Vulliamy, Colwyn Williams, Captain	18820210	18890209	1865		1876	N		Y	Afghan War 1878-9	Y	OC 1st Bn Leicestershire Regt, 5.1.1894	N	
Western, William George Balfour, Major	18930201	18940716	1879		1893	N		Y	Sudan Exped 1884-5	Y	GSO 1, 3rd Div, S.Comd 23.6.1908 - 30.6.1910; OC No.8 Dist, S.Comd, 7.2.1911 - 19.6.1915; various WW1 Appts ME and Med.	Y	NW Frontier, Malakand, 1897-8; Boer War
Williams, Richard Henry, Capt.	18730901	18830831	1858		N/A	N		N		N		N	Possibly staff in Egypt
Wing, Henry Tryon, Lieut.	18790602	18850930	1870		1878	N		N		N/A	Died	N/A	Died
Walford, Neville Lloyd, Captain	18750211	18820831	1865		1873	N		N		Y	Bde Major School of Gunnery, 1.1.1884-31.12.88; Member of Ordnance Committee 10.1.90 - 9.1.93; Asst Dir of Art. HQ, Dep Insp-Gen of Ord, HQ, 10.1.93 - 9.1.97; Col on Staff Comg. RA W District, 21.6.97-1902	Y	Egypt 1882
Wynyard, Rowley, Lieutenant	18831011	18901231	1875		N	Y	Lt of RMA Cadet Coy, 7.9.1881- 10.10.1883	N		Y	Comdt Royal Hibernian Military School, 26.9.1902 - 7.1906	N	
Wynyard, Edward George, Capt.	18900822	19020917		Militia	N	N		Y	Burmese Expedition, 1885-7	Y	Adjutant Vols 2.1.99 - 25.12.99; RMC Instructor	N	
Ward, Thomas Rawdon Rattray, Capt.	18950511	19021106	1881		N	N		N		Y	2IC West Yorks Regt, 7.11.1902 - 6.3.1906; OC 1 Bn, West Yorks Regt, 7.3.1906 - 7.3.19010	N	
Wildman-Lushington, Percy, Capt.	18930213			Militia	1889	N		N		N		N	

Young, John R, Lieutenant	18810101	18871231	1871		N	Y	Asst to Major Shaw, HQ Aldershot; Instructor of Musketry, 1.5.1878 - 31.12.1880	N		N		N
------------------------------	----------	----------	------	--	---	---	--	---	--	---	--	---

Bibliography

(i) Unpublished Primary Sources

Berkshire Record Office

D/EE/C2, Letters from Arthur J A Ewen, 1851-1873

Hampshire Record Office

39M89/F120, Letters of Charles Ernest Knight

6A08/A1, Letters of Robert Portal, 1828-1863

4M52, Letters of Audley Lemprière, 1840-1855

The National Archives, Kew, London

WO76 Officers' Records of Service

ADM196 Officers' Records of Service

National Army Museum, Chelsea, London

9405-138-256, Papers of J G Edwardes

7402-28, Papers of W L Maxwell

Prince Consort's Library, Aldershot

Proceedings of the Military Society of Ireland

Proceedings of the Aldershot Military Society

War Office, Army Orders

The Royal Archives, Windsor Castle

VIC/MAIN/E/7/60, Hardinge to Prince Consort, 18th June 1856

VIC/MAIN/E/8/77, Duke of Cambridge Memo on Military Education, to Prince Albert, November 1856

VIC/MAIN/E/8/78, Prince Consort to Duke of Cambridge, 3rd November 1856

VIC/MAIN/E/7/12, Viscount Hardinge, Horse Guards, to Queen Victoria, 19th April 1856

VIC/MAIN/E/11/19, Prince Consort to General Peel, possibly 31st May 1859

Royal Artillery Museum, Woolwich

'General Rules and Regulations of the Royal Military Academy at Woolwich', 1848

Thoughts of a Gentleman Cadet in Solitary Confinement, (Woolwich: WP Jackson, n.d.)

Royal Military Academy Sandhurst

i) Sandhurst Collection Archive (SCA)

Documents of the Royal Military College, Sandhurst

WO99	Minutes of the Supreme Boards and Associated Documents
WO151	RMC Cadet Register, Vol.1, 1806-1864
WO151	RMC Cadet Register, Vol.2, 1864-1881
WO151	RMC Cadet Register, Vol.3, 1881-1889
WO151	RMC Cadet Register, Vol.4, 1890-1897
WO152	RMC Letters In, 1857-1902

The following boxes have been used:

WO152/10	WO152/28	WO152/43	WO152/57
WO152/14	WO152/29	WO152/44	WO152/58
WO152/15	WO152/30	WO152/45	WO152/59
WO152/16	WO152/32	WO152/46	WO152/60
WO152/17	WO152/31	WO152/47	WO152/62
WO152/18	WO152/33	WO152/48	WO152/63
WO152/19	WO152/34	WO152/49	WO152/64
WO152/20	WO152/35	WO152/50	WO152/65
WO152/22	WO152/37	WO152/52	WO152/66
WO152/23	WO152/38	WO152/53	WO152/67
WO152/24	WO152/39	WO152/54	WO152/68
WO152/25	WO152/40	WO152/55	WO152/69
WO152/26	WO152/41	WO152/56	WO152/70
	WO152/42	WO152/56a	WO152/71

RMC Staff Register, 1806 - 1939

RMC Governor's Confidential Letter Book, 1863 - 1894

RMC Governor's Confidential Correspondence Folio, 1895 - 1901

RMC Commandant's Confidential Letter Book, 1881 - 1885

[no ref.], Letters of RMC GC Andrew Hamilton Russell, 1886-1887

[no ref.], Letters of RMC GC Richard Beresford Lovett, 1890-1891

SCA, 76.552.iv, 'Extracts from the Letters of a Gentleman Cadet to his Sister', 20.10.1886

[no ref.], *Standing Orders, Royal Military College, Sandhurst* (London: HMSO, 1877)

CAYMA: 78.284, Tactics Notebook of GC Hugh Trevor Crispin, 1891

[no ref.], Course Notebooks of GC NC Potter, 1895

CAYMA: 2015.72, Course work of GC S H Godfrey, 1880

[no ref.], 'Early Records of the Royal Military College', unpublished bound manuscript, n.d.
c.1880

[no ref.], Topographical course work of GC A H Marindin, 1890-1891

CAYMA: 76.281, 'Defence of a Post' by GC A H Marindin, 5.7.1892

CAYMA: 94.410-94.419, Topographical course work of GC GAC Crichton, 1893

CAYMA: 2002.792, 'Tactics' notebook of GC J G Fairlie, 1895-1897

CAYMA: 91.132.i-91.132.iv, Course work of GC H W Dickson, 1888 [.i & .iv]

[no ref.], Fortification drawing folio and Topographical course work of GC A J Fraser,
1898-1899

[no ref.], Fortification drawing folio and Topographical course work of GC M Earle, 1890

CAYMA: 2005.253, Topographical course work of GC J Grattan, 1893

CAYMA:2000-1039, 'Recollections of the Royal Military College, Sandhurst', by Sir Arthur
Hallam Elton, Bt, unpublished typescript, c.1877

[no ref.] John F Mann, unpublished typescript, 'Sandhurst, Royal Military College in the
Thirties', 1901

Documents of the Royal Military Academy, Woolwich:

WO149 RMA Cadet Register, Vol. 5, 1832-1854

WO150 Royal Military Academy Woolwich, Letters In, 1840-1849, 1857-1900
Boxes WO150/23, 25, 27, 28, 31, 32, 33, 34, 35, 36, 38, 44, 45, 46, 55
68, 70, 76, 94, 112.

RMA Governor's Letters Out, 1856-1861

RMA Governor's Letters Out, 1861-1895

RMA Letters Out, volume A18, 1868

RMA Letters Out, volume A19, 1869

RMA Letters Out, volume A20, 1870s

RMA Letters Out, volume A21, 1870s

RMA Letters Out, volume A22, 1880s

RMA Commissioning Exam Papers, 1857-1902

RMA Reports of Examiners Books

RMA Proceedings of Academy Boards, 1872-1900s

CAYMA: 76.397, 'General Rules and Regulations of the Royal Military Academy at Woolwich', 1840

CAYMA: 76.662, Course work of GC Howard Elphinstone, 1791-1793

CAYMA: 2015.14, 'Notes on Artillery', unpublished MS by GC J Baddeley, 1843

CAYMA: 2015.8, 'Notes on Artillery', unpublished MS by GC A Earle, 1847

CAYMA: 2015.3, 'Fortification Notes', unpublished MS by GC OHA Nicolls, 1847

[no ref.], 'Fortification Plates' unpublished drawings by GC Alexander J MacDougall, 1843-1846

SCA, [no ref.], Regulations for the Admission of Gentleman Cadets into the Royal Military Academy at Woolwich, 1848

CAYMA: 2015.17, Topographical course work of GC John EW Headlam, 1881-1883

CAYMA: 2015.23, Topographical course work of GC W H Kay, 1889-1890

CAYMA: 2015.26, Fortification and Topographical course work of GC W J Blythell, 1880-1881

CAYMA: 76.386, 76.388-76.392, Fortification and Topographical course work of GC EM Burn, 1884-1886

SCA, 'Printed Notes of Lectures Recently Delivered at the Royal Military Academy' by Major Sisson C Pratt, RA

ii) RMA Library

Le Marchant Papers

Acc. No. 101139, 'Fortification Notes', unpublished MS by GC R Phipps, 1855

Printed Lists of Gentleman Cadets, by year, 1836-1854

Anthony R Morton, 'From Flanders to Waterloo: The Origins of the Royal Military College', (unpublished *Sandhurst Occasional Paper*, 2019)

West Sussex Record Office

Maxse papers, File 208, Letters of FI Maxse, 1880s

Wiltshire and Swindon Archives

1915/255, Letters of Robert Poore, 1843-1851
477/75, Letters of Wadham Locke, 1860s
1720/853, Letters of W L E Money-Kyrle, 1860s
1720/848, Letters of Audley Money-Kyrle, 1860s
2057.F8, Papers of Sidney Herbert

(II) Published Official Sources

Parliamentary Reports

Report on the Organisation of the Permanent Civil Service (London: HMSO, 1854)

317, *Report from the Select Committee on Sandhurst Royal Military College; together with the proceedings of the committee, minutes of evidence, appendix and index* (House of Commons, 1855)

Report of The Commissioners Appointed to Consider the Best Mode of Re-Organizing the System for Training Officers for the Scientific Corps; Together with an Account of Foreign and Other Military Education (London: HMSO, 1857)

War Office, *Siege of Sebastopol. Journal of the Operations Conducted by the Corps of Royal Engineers: Part II. From Feb. 1855 to the fall of Sebastopol, September 1855, by Major General Sir Harry D Jones* (London: George Edward Eyre and William Spottiswode; 1859)

2603, *Report of the Council of Military Education* (London: HMSO, 1860)

3502, *Second General Report of the Council of Military Education* (London: HMSO, 1865)

4153, *Third General Report of the Council of Military Education* (London: HMSO, 1869)

4221, *First Report of the Royal Commission Appointed to Inquire into the Present State of Military Education and into the Training of Candidates for Commissions in the Army* (London: HMSO, 1869)

C25, *Minutes of Evidence Taken Before the Royal Commission appointed to Inquire into the Present State of Military Education and into the Training of Candidates for Commissions in the Army: with Appendix* (London: HMSO, 1870)

C47, *Accounts of the Systems of Military Education in France, Prussia, Austria, Bavaria and the United States* (London: HMSO, 1870)

C621, *Report of the Board of Visitors for the Year 1872 to inspect the Royal Military Academy Woolwich* (London: HMSO, 1872)

C875, *First Report on the Education of Officers; by the Director-General of Military Education* (London: HMSO, 1873)

C935, *Report of a Committee on the Admission of University Candidates to the Scientific Corps* (London: HMSO, 1874)

C1093, *Report of the Board of Visitors Appointed for the Year 1874, to Inspect the Royal Military Academy, Woolwich* (London: HMSO, 1874)

C1322, *Report of the Board of Visitors appointed for the year 1875, to inspect the Royal Military Academy, Woolwich* (London: HMSO, 1875)

C1491, *Second Report on the Education of Officers by the Director-General of Military Education* (London: HMSO, 1876)

C1889, *Report of the Board of Visitors Appointed for the Year 1877 to Inspect the Royal Military Academy, Woolwich* (London: HMSO, 1877)

C2063, *Report of the Board of Visitors for the Inspection of the Royal Military College, 1877* (London: HMSO, 1877)

C2387, *Observations by the Governors of the Royal Military Academy and the Royal Military College on the remarks of General Sir James Fitzmayer, appended to the late Report of the Board of Visitors* (London: HMSO, 1879)

C2697, *Report of the Board of Visitors appointed for the year 1880 to inspect the Royal Military Academy Woolwich* (London: HMSO, 1880)

C3818, *Third Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1883)

C3793, *Report of the Board of Visitors for the Inspection of the Royal Military College* (London: HMSO, 1883)

C4146, *Report of the Board of Visitors Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy, Woolwich* (London: HMSO, 1884)

War Office, *Report of the Committee on the Course of Study at the Royal Military Academy, Woolwich* (London: HMSO, 1886)

C4879, *Report of the Board of Visitors for the Inspection of the Royal Military College 1886*, (London: HMSO, 1886)

War Office, A117, *Report of the Committee on Military Educational Establishments*, (London: HMSO, 1888)

C5793, *Fourth Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1889)

C5922, *Report of the Committee Appointed to Enquire into Certain Questions that have Arisen with Respect to the Militia* (London: HMSO, 1890)

C6198, *Report of the Board of Visitors for the Inspection of the Royal Military College, 1890*, (London: HMSO, 1890)

C6464, *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1891* (London: HMSO, 1891)

C679, *Report of the Board of Visitors for the Inspection of the Royal Military College 1892* (London: HMSO, 1892)

C7176, *Report of the Board of Visitors for the Inspection of the Royal Military College 1893*, (London: HMSO, 1893)

C7177, *Report of the Board of Visitors Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1893* (London: HMSO, 1893)

C6859, *Fifth Report on the Education of Officers by the Director General of Military Education* (London: HMSO, 1893)

C7373, *Report of the Committee Appointed to Enquire into the Entrance Examinations (in non-military subjects) of Candidates for Commissions in the Army* (London: HMSO, 1894)

C7484 *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1894* (London: HMSO, 1894)

C7485, *Report of the Board of Visitors for the Inspection of the Royal Military College 1894* (London: HMSO, 1894)

C7839 *Report of the Board of Visitor Reports Appointed by the Secretary of State for War for the Inspection of the Royal Military Academy Woolwich in the year 1895* (London: HMSO, 1895)

C7840, *Report of the Board of Visitors for the Inspection of the Royal Military College 1895* (London: HMSO, 1895)

C8344, *Report of the Board of Visitors for the Inspection of the Royal Military College 1896* (London: HMSO, 1896)

C8744, *Report of the Board of Visitors for the Inspection of the Royal Military College 1897*
(London: HMSO, 1898)

Cd. 982, *Report of the Committee Appointed to Consider the Education and Training of Officers of the Army* (London: HMSO, 1902)

Cd. 983, *Minutes of Evidence taken before the Committee appointed to Consider the Education and Training of the Officers of the Army* (London: HMSO, 1902)

Contemporary Newspapers, Periodicals

Journal of the Royal United Service Institution

The London Gazette

Minutes of the Proceedings of the Royal Artillery Institution

Professional Papers of the Corps of Royal Engineers

RMA Magazine

The Royal Military College Magazine [1891 only]

The Royal Military College Magazine and Record

The Times

United Service Journal

United Service Magazine

Printed Works

Adams, William Henry, Lt Colonel, 'Mr Fergusson's System of Fortification' *United Service Magazine*, 2 (July 1852), 429-442

Adey, John, Sir, *Recollections of a Military Life* (London: Smith, Elder & Co, 1895)

Alexander, Eric, *Chief Whip: The Political Life and Times of Aretas Akers-Douglas 1st Viscount Chilston* (London: Routledge & Kegan Paul, 1961)

Austin, Herbert Henry, *Some Rambles of a Sapper* (London: Edward Arnold & Co, 1928)

Barter, Beamish St John, 'Lord Roberts' March to Bloemfontein', *RMA Magazine*, 1.1, (May 1900), 14-20

Barter, Beamish St John, 'Outline Sketch of the War', *RMA Magazine*, 1.2, (August 1900), 66-72

Bedlam, George W, and Charles B Fry, *Great Batsmen: Their Methods at a Glance* (London: MacMillan & Co, 1905)

Birdwood, William Riddell, Lord, *Khaki and Gown: An Autobiography* (London: Ward, Lock and Co. 1941)

'Births, Marriages, Deaths', *United Service Journal*, 1 (1840), 575-6

Blogg, Henry Birdwood, *The Life of Francis Duncan* (London: Kegan, Paul, Trench, Trubner and Co., 1892)

Bloomfield, James A, 'Some Reminiscences of the Fifties, Part 1', *Royal Military College Magazine and Record*, 30 (1927), 41-48

Bloomfield, James A, 'Some Reminiscences of the Fifties, Part 2', *Royal Military College Magazine and Record*, 31 (1927), 14-20

Bloxam, Charles Loudan, *On the Present Condition of the Royal Military Academy Woolwich by an Ex-Professor* (London: Ballantyne, 1882)

von Boguslawski, Albert, *Tactical Deductions from the War of 1870-71*, trans. By Lumley Graham (London: H S King & Co., 1872)

Bonham-Carter, Crispin, Bt Colonel, 'The Royal Military College, Sandhurst', *Army Quarterly*, 3 (Oct 1921-Jan 1922), 105-113

Boughey, John, *The Elements of Military Administration and Military Law* (Yorktown: W Webb, 1874)

'The British Army Past, Present and Future', *United Service Journal*, 1 (1842), 15-31

Buchanan-Dunlop, H D, *Records of the Royal Military Academy 1741-1892* (London: FJ Cattermole, 1892)

Burne, Alfred Higgins, *Talks on Leadership Addressed to Young Officers* (Woolwich: Royal Artillery Institution, 1940)

Burr, George D, *A Treatise on Practical Surveying and Topographical Plan Drawing* (London: John Murray, 1829)

Burr, George D, *Instructions in Practical Surveying, Topographical Plan Drawing and Sketching Ground Without Instruments* (London: John Murray, 1847)

Butler, Charles George, *An Essay on Military Sketching* (London: Parker, Furnivall and Parker, 1854)

Butler, William F, Lt General, Sir, *The Life of Sir George Pomeroy Colley 1835-1881* (London: John Murray, 1899)

Cairnes, William Elliot, *The Army from Within* (London: Sands and Co., 1901)

Callwell, Charles Edward, Captain, *Small Wars. Their Principles and Practice* (London: HMSO, 1896)

- Callwell, Charles Edward, Sir, *The Life of Sir Stanley Maude* (London: Constable and Co, 1920)
- Callwell, Charles Edward, Sir, *Stray Recollections, Vol. 1* (London: Edward Arnold & Co, 1923)
- Callwell, Charles Edward, Sir, *Field Marshal Sir Henry Wilson: His Life and Diaries* 2 vols (London: Cassell and Company Ltd, 1927)
- Campbell, E S N, *A Dictionary of the Military Science* (London: James Maynard, 1844)
- Carey, D F, 'Memorials in the RMC Chapel', *Royal Military College Record*, 2 (July 1913), 30-31
- Cautions and Advices to Officers of the Army: Particularly Subalterns. Very proper to be Read by all Gentlemen of that Rank and Profession by an Old Officer* (London: Thomas Payne, 1760)
- Chesney, Lt Colonel, *Observations on the Re-Construction of the Royal Regiment of Artillery etc.* (London: W Clowes & Sons, 1849)
- 'The Christian Scientists: Censure by a Jury', *Morning Post*, 10 October 1898, p.3
- Churchill, Winston L S, *My Early Life: A Roving Commission* (London: Thornton Butterworth Ltd, 1930)
- Clayton, Emilius, 'The Military Prize Essay, 1879. Field Intrenching: its Application on the Battlefield and its Bearing on Tactics', *Journal of the Royal United Services Institution*, 23 (Jan 1880), 281-338
- Clery, Cornelius Francis, *Minor Tactics*, (London: Henry S King & Co, 1875) (repr. London: Kegan Paul & Co., 1880, 1883, 1887. repr. London: Kegan, Paul, Trench, Trübner & Co., limited, 1896 13th edn)
- 'Col. L A H Hamilton', *The Times*, 20 March 1957, p.20
- 'College for Civil Engineers', *The Times*, 30 July 1841, p.6
- A Complete Guide to the Junior and Senior Departments of the Royal Military College Sandhurst* (London: CH Law, 1849)
- Conner, W D, 'Entrenchments in the War in South Africa', in *RMA Magazine*, 2.5 (April 1901), 21
- à Court Repington, Charles, *Vestigia* (London: Constable & Co. Ltd, 1919)
- Courthorpe, WJ, 'The Report of the Military Education Committee', *The Times*, 12 June 1902, p.6

'Cricket: Colchester & Essex County Vs. Suffolk', *Essex Standard*, 8 August 1866

'Cricket: Witham vs Colchester & North-Essex', *Essex Standard*, 14 June 1867

Cuthbertson, Bennett, *A System for the Compleat Interior Management and Economy of a Battalion of Infantry* (Dublin: Boulter Grierson, 1768)

da Costa Porter, Reginald, 'Warfare against Uncivilised Races: or, How to fight greatly Superior Forces of an Uncivilised and Badly-armed Enemy', *Professional Papers of the Corps of Royal Engineers*, 6 (1882), 305-360

Davies, Thomas Stephens, *A Course of Mathematics in Two Volumes Composed for the use of The Royal Military Academy by Charles Hutton*, 2 vols., I (London: Longman, Brown & Co., 1841)

Davies, Thomas Stephens, *An Elementary Course of Mathematics, Prepared for the use of the Royal Military Academy Vol.2: The Geometry* (London: HMSO, 1853)

Dawson, Douglas, Sir, *A Soldier Diplomat* (London: John Murray, 1927)

De Gruyther, Cuthbert, *Tactics for Beginners*, 3rd edn, (London: Gale & Polden, 1906)

De Ross, Hew, *The Young Officer's Companion: Or, Essays on Military Duties and Qualities; with Examples and Illustration from History*, 2nd edn, (London: John W Parker & Son, 1857)

'A December Night', *Royal Military College Magazine*, 4 (June 1891), 65-6

'Defects in our Military System', *United Service Journal*, 1 (1840), 3-8

'Discussion on Papers II & III: General Sir JF Burgoyne in the Chair', *Papers Connected with The Duties of the Corps of the Royal Engineers, New Series*, 15 (1866), 57-78

'Discussion on Paper VII. On the Scale of Shade Simplified: Lt Gen Sir J Lintorn Simmons in the chair', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers, New Series*, 22 (1874), 155-175

Dooner, W T, Colonel, 'The Provision of Officers and Men for the King's Army', *Journal of the United Service Institution*, 45 (Jan 1901) 509-540

Drayson, Alfred Wilkes, *The Gentleman Cadet: His Career and Adventures at the Royal Military Academy, Woolwich* (London: Griffith & Farran, 1875)

Drayson, Alfred Wilkes, *Experiences of a Woolwich Professor: During Fifteen Years at the Royal Military Academy* (London: Chapman & Hall, 1886)

Dunsterville, Lionel, *Stalky's Reminiscences*, (London: Jonathan Cape, 1928)

Durand, Mortimer, Sir, *The Life of Field-Marshal Field Marshal Sir George White*, (Edinburgh and London: William Blackwood & Sons, 1915)

Eardley Wilmot, Frances Augusta, *Memorials of Major General Frederick M Eardley Wilmot RA FRS* (London: Clowes, 1879)

Eardley Wilmot, Frederick M, *Soldierly Discipline; Or Hints to Officers on Entering the Army. Founded on the Regulations of the Royal Military Academy* (Woolwich: [n.pub.], 1849)

'The Edinburgh Review on Military Education', *United Service Journal*, 2 (1829), 602-614

'Editor's Portfolio', *United Service Journal*, 3 (1832), 558

'Editor's Portfolio', *United Service Journal*, 3 (1834), 553-562

'Editor's Portfolio', *United Service Journal*, 1 (1835), 125-135

'Editor's Portfolio', *United Service Journal*, 2 (1835), 269-279

'Editor's Portfolio', *United Service Journal*, 3 (1835), 553-568

'Editor's Portfolio', *United Service Journal*, 2 (1837), 265-281

'Editor's Portfolio', *United Service Journal*, 3 (1837), 553-569

'Editor's Portfolio: East India Company's Military Seminary, Addiscombe', *United Service Journal*, 1 (1838), 125-134

'Editor's Portfolio: Half Yearly Public Examinations at Sandhurst', *United Service Journal*, 2 (1839), 419-423

'Editor's Portfolio', *United Service Journal*, 1 (1840), 272-276

'Editor's Portfolio', *United Service Journal*, 2 (1840), 265-281, 413-424

'Editor's Portfolio', *United Service Journal*, 3 (1840), 539-572

'Editor's Portfolio', *United Service Journal*, 2 (1842), 257-275

'Editor's Portfolio: 'East India Company's Military Seminary', *United Service Magazine*, 1, (1843), 113-147

'Editor's Portfolio: Half-Yearly Examinations at Sandhurst, Near Bagshot', *United Service Magazine*, 2 (1849), 458-469

'Editor's Portfolio: The Senior Class at King's College', *United Service Magazine*, 1 (Feb 1857), 259-266

'The Education and Training of Military Officers', *The Spectator*, 14 June 1902, pp.906-907

An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 3, Part I: Mechanics, Including Statics and Dynamics; Hydrostatics and Hydrodynamics, Including Pneumatics (London: HMSO, 1853)

An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 3, Part II: Geodesy, Including Practical Astronomy By Captain Yolland, RE, FRAS (London: HMSO, 1853)

'End Matter', *United Service Institution Journal*, 1.1 (1857), (Request by Secretary Capt. B Burgess)

'Ensign James Hoste Obituary', *United Service Journal*, 1 (1837), 288

'Eton College', *The Times*, 16 November 1847, p.4

Ewart, John Alexander, *The Story of a Soldier's Life*, 2 vols (London: Sampson Low & Co., 1881)

Farrell, S B, Captain, 'Military Surveying', *Journal of the Royal United Services Institution*, 5.26 (1862), 79-86

Fenwick, Horace, Lieutenant, *Essays on Field Fortification* (London: [n. pub.], 1833)

Fergusson, John Adam, Lt Colonel, 'The Fatal Field Day', *The Times*, 30 June 1900, p.16

'A Few Hints on the Education of Candidates for the British Army', *United Service Journal*, 3 (1842), 588-591

French, Gerald, Major, the Hon. *The Life of Field-Marshal Sir John French* (London: Cassell and Co. Ltd, 1931)

- Fuller, John Frederick Charles, *Memoirs of an Unconventional Soldier* (London: Ivor Nicholson & Watson Ltd, 1936)
- Guggisberg, Frederick G, "*The Shop*" *The Story of the Royal Military Academy* (London, Cassell and Co, 1900)
- Gardiner, Charles Henry, *Centurions of a Century* (Brighton: [n. pub], 1911), p.332
- Gatacre, Beatrice, *General Gatacre: The Story of the Life and Services of Sir William Forbes Gatacre 1843-1906* (London: John Murray, 1910)
- Gleichen, Edward, *A Guardsman's Memories: A Book of Recollections* (Edinburgh & London: Blackwood & Sons, 1932)
- Gleig, George Robert, 'Military Education', *Quarterly Review*, 166 (1848), 419-450
- Godley, Alexander, *Life of an Irish Soldier* (London: John Murray, 1939)
- Godwin-Austen, Henry Haversham, Lt Colonel, 'Exploration Survey Work', *Professional Papers of the Corps of Royal Engineers*, 20 (1894), 163-174
- 'The Good Soldier', *Royal Military College Magazine*, 1.1 (March 1891), 6
- Gough, Hubert, *Soldiering On* (London: Arthur Baker 1954)
- Greaves, George Richards, *Memoirs of General Sir George Richards Greaves* (London: John Murray, 1924)
- Haldane, Aylmer, *A Soldier's Saga: The Autobiography of General Sir Aylmer Haldane* (Edinburgh and London: Blackwood & Sons, 1948)
- Hamilton, Ian, *When I Was a Boy* (London: Faber and Faber Ltd, 1939)
- Hamilton, James, *The First Six Books of the Aenid of Virgil* (London: [no pub.], 1839)
- Hamley, Edward Bruce, *The Operations of War*, 2nd edn, (London: Blackwood, 1869)
- Hammond, Egerton Douglas, *Memoir of Captain M M Hammond* (London: James Nisbet and Co, 1858)
- Harfield, Alan G, *The Life and Times of a Victorian Officer, being the Journals and Letters of Colonel Benjamin Donisthorpe Alsop Donne* (Wincanton: Wincanton Press, Somerset, 1985)

Harness, H D ed., *An Elementary Course of Mathematics Prepared for the Use of the Royal Military Academy by Order of the Master-General and Board of Ordnance. Vol. 1* (London: HMSO, 1853)

Harington, Charles, *Tim Harington Looks Back* (London: John Murray, 1940)

Harris, Susan, Countess of Malmesbury, *The Life of Major-General Sir John Ardagh* (London: John Murray, 1909)

Harrison, Richard, Sir, *Recollections of a Life in the British Army during the Latter Half of the 19th Century* (London: Smith, Elder & Co, 1908)

Hearn, George Whitehead, *Researches on Curves of the Second Order* (London: George Bell, 1846)

Hearn, George Whitehead, 'Investigation of an Extensive Class of Partial Differential Equations of the Second Order, in which the Equation of Laplace's Functions is Included', *Philosophical Transactions of the Royal Society of London*, 136 (1846), 133-136

Hearn, George Whitehead, 'On the Cause of the Discrepancies observed by Mr Baily with the Cavendish Apparatus for Determining the Mean Density of the Earth [abstract]', *Abstract of the Papers Communicated to the Royal Society of London*, 5 (1843 - 1840), 668-669, 11th March 1847

Henderson, G F R, Lt Colonel, 'Lessons from the Past for the Present', *Journal of the Royal United Service Institution*, 38 (Jan 1894) 1183-1206

Henderson, G F R, *The Science of War: A Collection of Essays and Lectures 1891-1903*, ed. by Colonel Neill Malcolm, (London: Longmans, Green and Co, 1916)

'Hints from the Crimea on the Organisation of the British Army', *United Service Magazine*, 1 (Feb 1855), 256-65

'Hints to Young Officers', *Naval & Military Magazine*, 2 (1827), 8-23

Holden, R, Captain, 'The Education and Training of Infantry Militia Officers', *Journal of the Royal United Service Institution*, 35 (Jan 1891) 519-546

Howard, Francis, *Reminiscences 1848-1890* (London: John Murray, 1924)

Humfrey, John Hambly, Lt Colonel, *An Essay on the Modern System of Fortification Adopted for the Defence of the Rhine Frontier* (London: John Weale, 1838)

Huston, Desmond Chapman and Owen Rutter, *General Sir John Cowans, The Quartermaster of the Great War*, 2 vols (London: Hutchinson and Co., 1924)

'Increase of Pay to the Officers of the Army and Examinations of Candidates for Commissions', *United Service Magazine*, 2 (1844), pp.614-6

Jackson, Basil, *Elementary Surveying*, (London: Simpkin and Marshall, 1842)

Jackson, Basil, *A Treatise on Military Surveying: Including Sketching in the Field, Plan Drawing, Levelling, Military Reconnaissance etc.*, 4th edn, (London: WH Allen & Co., 1853)

James, E R, Captain, 'Military Sketching', *Papers Connected with The Duties of the Corps of the Royal Engineers, New Series*, 15 (1866), 45-56

James, Walter Haweis, Captain *1,260 Questions in Topography, Tactics, Military Law, Fortification, Military Administration, Drill* (London: Harrison, 1881)

James, Walter Haweis, Captain, 'Military Education and Training', *Journal of the Royal United Service Institution*, 26 (Jan 1883), 370-395

Jones, Henry Bence, *The Life and Letters of Faraday, Vol. 2* (London: Longmans, Green & Co, 1870)

Jones, James P, *History of the South Staffordshire Regiment* (Wolverhampton: Whitehead Bros, 1923)

Jones, William D, *Records of the Royal Military Academy*, (London: RA Institution, 1851)

Kenney-Herbert, Arthur Herbert Cleveland, 'On the Best Method of Teaching Military Sketching', *Journal of the Royal United Service Institution*, 40 (Jan 1896), 221-246

Kingsley, Frances Eliza, *Charles Kingsley: His Letters and Memories of His Life Edited by His Wife*, 2 Vols, 3rd edn (London: Henry S King, 1877)

Lane-Pole, Stanley, *Watson Pasha: A Record of the Life-Work of Sir Charles Moore Watson* (London: John Murray, 1919)

Leedham, John, Captain, 'Lessons from the Late War', *Journal of the Royal United Service Institution*, 22 (1878), 941-956

Legard, James D, 'Army Reorganisation: With Special Reference to the Infantry of the Line and Militia', *Journal of the Royal United Service Institution*, 42 (Jan 1898) 233-262

- Lendy, Auguste, *Treatise on Fortification* (London: W Mitchell, 1862)
- Lendy, Auguste, *A Practical Course in Military Surveying* (London: Atchley & Co, 1869)
- A Letter by Authority on the Royal Military College at Sandhurst, 12th October 1848, by 'Z'* (London: Spottiswoode and Shaw, 1848)
- 'A Letter by Authority on the Royal Military College at Sandhurst', 12th October 1848, by 'Z'; *The Times*, 1 December 1848, p.4
- 'Letter to editor by Lt Colonel Montagu Wynyard, 18.2.1891', *Royal Military College Magazine*, 1.1 (March 1891), p.12
- Liddell, Robert Spencer, *Memoirs of the 10th Royal Hussars* (London: Longmans, 1891)
- List of Officers of the Royal Regiment of Artillery 1716-1899* (RAI: Woolwich, 1890)
- Lyttelton, Neville, General Sir, *Eighty Years Soldiering, Politics, Games* (London: Hodder and Stoughton, 1927)
- MacAulay, J S, *A Treatise on Field Fortification and Other Subjects*, 3rd edn (London: Bosworth, 1855)
- MacBean, Forbes, 'What I Saw of Majuba', *Royal Military College Magazine*, 2 (April 1891), 31-32
- Macdiarmid, Duncan Stewart, *The Life of Lieut. General Sir James Moncrieff Grierson* (London: Constable and Co., 1923)
- MacDougall, Patrick Leonard, *The Theory of War*, 3rd edn, (London: Longman, Green, Longman and Roberts, 1862)
- Macready, Nevil, Sir, *Annals of an Active Life* (London: Hutchinson and Co, 1924)
- Maguire, T Miller, 'On Military Education in England from a National and an Imperial Point of View', *Journal of the Royal United Service Institution*, 46 (July 1902), 1007-1046
- 'The Major and the Cornet', *United Service Journal*, 3 (1839), 491-497
- 'Major W N Bolton', *The Times*, 14 August 1930, p.15
- Man, Henry Garnet, Lt Colonel, 'Military Drawing', *Journal of the Royal United Services Institution*, 5.19 (1862), 397-404

- Marling, Percival, *Rifleman and Hussar* (London: John Murray, 1931)
- Marshall-Cornwall, James, *Wars and Rumours of Wars: A Memoir* (London: Leo Cooper, 1984)
- Maunsell, Mark Stuart Ker, Brigadier, *Morale, Leadership, Discipline – A Study* (Aldershot: RMA Sandhurst, 1947)
- Maurice, Frederick Barton, *Sir Frederick Maurice: A Record of His Work and Opinions* (London: E Arnold, 1913)
- Maxse, Frederick Ivor, Colonel, *Seymour Vandeleur: The Story of a British Officer Being a Memoir of Bt Lt Colonel Vandeleur DSO, Scots Guards and Irish Guards, with a General Description of his Campaigns* (London: The National Review, 1905)
- May, Edward, Sir, *Changes and Chances of a Soldier's Life* (London: Philip Allan & Co, 1925)
- Metcalfe, Thomas Washington, *Memorials of the Military Life* (London: Ivor Nicholson & Watson, 1936)
- 'Military Education', *United Service Journal*, 1 (1834), 40-50
- 'Military Education: The Royal Visit to Sandhurst', *United Service Journal*, 2 (1834) 145-153
- 'Military Education' by 'Diocledes', *United Service Magazine*, 1 (1849), 161-170
- 'Military Mathematics', *United Service Magazine*, 1(1841), 311-317
- 'Military Surveying', *United Service Journal*, 1 (1829), 337-345, and *United Service Journal*, 2 (1829), 176-186
- 'Military Surveying', *United Service Magazine*, 2 (Jun 1857), 208-214
- 'The Military System', *United Service Magazine*, 1 (1849), 50-63
- Millar, J A, Captain, 'The Scale of Shade Simplified', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers, New Series*, 22 (1874), 76-79
- Mockler-Ferryman, Augustus Ferryman, *Annals of Sandhurst* (William Heinemann, London, 1900)
- Montgomery-Cuninghame, T, Sir, *Dusty Measure: A Record of Troubled Times* (London: John Murray, 1939)

- Mott, Edward Spenser, *A Mingled Yarn: The Autobiography of Edward Spenser Mott* (London: Edward Arnold, 1898)
- Muller, John, *A Treatise Containing the Elementary Part of Fortification, Regular and Irregular*, 4th edn (London: C Nourse, 1782)
- Murray-Philipson, Nini ed., *Colonel Standfast: The Memoirs of WA Tilney 1868-1947: A Soldier's Life in England, India, The Boer War and Ireland* (Norwich: Michael Russell, 2001)
- 'My Experiences Under Fire', *Royal Military College Magazine*, 3 (May 1891), 50-51, and 4 (June 1891), 60-62
- Napier, William Francis Patrick, Lt General, Sir, *The Life and Opinions of General Sir Charles James Napier*, 4 vols. (London: John Murray; London, 1857)
- Narrien, John, *Elements of Geometry: Consisting of the First Four and the Sixth Books of Euclid ... for the use of the Royal Military College*, (London: Longman, Brown, Green and Longmans, 1842)
- Narrien, John, *Practical Astronomy and Geodesy: Including the Projections of the Sphere and Spherical Trigonometry: For the Use of the Royal Military College* (London: Longman, Brown, Green and Longmans, 1845)
- Narrien, John, *Analytical Geometry: With the Properties of Conic Sections, and an Appendix Constituting a Tract on Descriptive Geometry. For the Use of the Royal Military College* (London: Longman, Brown, Green and Longmans, 1846)
- Neilson, Richard J, Lt 'Notes on the Constitution and System of Education of the Prussian Army', Appendix I 'Examination for 2nd Lieutenant's Commission: Permanent Fortification', *United Service Journal*, 3 (1839), 14-18, 214-223, 498-520
- Norman Campbell, E S, *A Dictionary of the Military Science* (London: James Maynard, 1844)
- 'Notes and Notices', *RMA Magazine*, 1 (May 1900), 26-29
- 'Notes and Notices', *RMA Magazine*, 2.6 (Jul 1901), 51-53
- O'Brien, E D C, 'Description and Sketches of French and Prussian Works constructed during the War of 1870-71', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers*, 20 (1872), 81-82
- O'Callaghan, Desmond, Sir, *Guns, Gunners and Others* (London: Chapman and Hall, 1925)

O'Donoghue, Ensign, 'Sandhurst College and Woolwich Academy', *Fraser's Magazine*, 14.80 (1836), 168-179

'Obituary', *United Service Journal*, 3 (1841), p.591

'Obituary', *The Times*, 6 July 1897, p.12

'Obituary: Sir Francis Clery: Tactics in Theory and Practice', *The Times*, 26 June 1926, p.16

'Official Despatches: Expedition to San Juan de Nicaragua, 28th April 1848', *United Service Magazine*, 2 (1848), 307-8

'On Naval and Military Education, a letter by 'Navalis'', *United Service Journal*, 1 (1837), 105-6

'On the Qualifications Requisite for the Military Profession', *United Service Magazine*, 3 (1849), 199-202

Outline of a Course of Lectures on Fortification, Military Tactics and Perspective with the Attack and Defence of Fortresses, (London: Printed for Private Circulation, 1845)

Owen, Charles Henry and T L Dames, *Elementary Lectures on Artillery, Prepared for the use of the Gentleman Cadets of the Royal Military Academy*, 3rd edn, (London: Boddy, 1861)

Owen, Charles Henry, *Elementary Lectures on Artillery Prepared for the Use of the Gentleman Cadets of the Royal Military Academy*, 4th edn (Woolwich: Royal Artillery Institution, 1865)

Owen, Charles Henry, *Remarks on the Education Given at the Royal Military Academy at Woolwich with a few Observations on the Training of Artillery Officers* (Woolwich: Boddy, 1868)

Owen, Charles Henry, 'Modern Artillery, as Exhibited at Paris in 1867', *Journal of the Royal United Services Institution*, 12, (1869), 90-103

Owen, Charles Henry, *The Principles and Practice of Modern Artillery*, (London: J Murray, 1873)

'Our Military Colleges and the Staff', *United Service Magazine*, 2 (May 1856), 1-6

Papers on Geometrical Drawing, On the Arms in Use and Permanent Fortification, on the Attack and Defence of Fortresses, On Military Mining and on the Defence of Coasts (London: HMSO, 1858)

Parrant, John, 'Reminiscences of an Old College Employee', *Royal Military College Magazine and Record*, 17 (1922), 55-57

- Paterson, William, *A Treatise on Military Drawing and Surveying* (London: Trubner & Co., 1862)
- Paterson, William, *Notes on Military Surveying and Reconnaissance*, 6th edn, (London: Trubner & co, 1882)
- Philips, George, Captain, 'Remarks on some Prussian Field Redoubts used in the Investment of Paris, 1870-71', *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers*, 20 (1872), 79-80
- Philips, George, *Textbook on Fortification etc.* 2nd edn. (London: Pardon & Sons, 1874) (4th edn., 1884; 5th edn 1892, 6th edn, 1899)
- Piggott, Francis Stewart Gilderoy, *Broken Thread: An Autobiography* (Aldershot: Gale & Polden, 1950)
- 'A Popular View of Fortification and Gunnery', *United Service Magazine*, 1 (1830), 49-58, 316-323, 586-594; *United Service Journal*, 2 (1830), 59-70, 311-322, 831-845; *United Service Journal*, 1 (1831), 218-227, 489-499; *United Service Journal*, 2 (1831), 505-512; *United Service Journal*, 1 (1832), 72-79
- Porter, Whitworth, *History of the Corps of Royal Engineers* 2 vols. (London: Longman & Co., 1889)
- Portlock, J E, Major General, *Course of Artillery, Geometrical Drawing and Fortification Compiled for the Use of the Royal Military College Sandhurst* (London: HSMO, 1862)
- 'Preliminary Naval Education', *United Service Magazine*, 1 (1830), 59-61
- Procter, George, *The History of Italy from the Fall of the Western Empire to the Commencement of the Wars of the French Revolution* 2 vols (London: G B Whittaker, 1825)
- Prosser, George Walter, Major, 'An Essay on the Past and Present State of Fortification in Europe', *United Service Journal*, 2 (1839), 170-182, 472-482; 3 (1839), 300-310; 3 (1840) 75-84
- The Queen's Most Gracious Speech, upon the Presentation of Colours by Her Majesty to the Gentlemen Cadets of the Royal Military College on Thursday 12th August 1813 with the Consecration Prayer and a Sermon, Preached on the Subject on the Following Sunday by Reverend William Wheeler MA* (London: T Egerton, 1813)
- Raglan, Lord, 'The Militia in 1897', *Journal of the Royal United Service Institution*, 41 (Jan 1897) 254-295
- 'Reminiscences of the Egyptian War of 1882', *Royal Military College Magazine*, 3 (May 1891)

'Report of the Military Education Committee' (From a Military Correspondent), *The Times*, 9 June 1902, p.4.

'A Revived Baronetcy', *The Times*, 8 December 1914, p.11 [Obit. Of John F Twisden]

'Rewards for Gallant Services at Jellalabad to Officers and Men of the Queen's 13th Light Infantry etc., Letter by "Miles" ', *United Service Journal*, 3 (1842), 114-5

Richards, William Hamilton, *Textbook of Military Topography: including the courses of Instruction at the Royal military Academy, the Royal Military College, The Staff College, Garrison Instruction and Examinations for Promotion* (London: HMSO, 1883)

Rolt, John, Lt Colonel, 'On Moral Command', *United Service Journal*, 1 (1836), pp.23-34, 195-200

Rolt, John, Colonel, *Rolt on Moral Command* (London: W Clowes and Sons, 1842)

The Royal Military Academy and the Artillery and Engineer Services (London: Simpkin, Marshall & Co., 1855)

'The Royal Military Academy', *United Services Magazine*, 1 (March 1856), 338-345

'Royal Military College Sandhurst', *Colburn's United Service Magazine*, 1 (1830), 76-83

'The Royal Military College Sandhurst', *Boy's Own Magazine*, 3.17 (1864), 393-398

'The Royal Military College, Sandhurst [from] The Parent of a Cadet', *The Times*, 27 December 1842, p.6

'The Royal Military College Sandhurst by an Old Cadet', *United Service Magazine*, 1 (1843) 392-404

'Sandhurst College and its Mathematics', *New Edinburgh Review*, 1 (Oct-Dec 1844), 139-149 (142)

Sandys, Edward W, *The Subaltern Officer and His Duties; Or, A Practical Guide to the Junior Officers of the Army* (London: W Mitchell, 1863)

Scott, Henry, Major, 'On the Representation of Ground', *Papers Connected with The Duties of the Corps of the Royal Engineers, New Series*, 12 (1863), 144-164

Scott, William, *Elements of Arithmetic and Algebra for the Use of the Royal Military College* (London: [n.pub.], 1844)

Scott, William, *Plane Trigonometry and Mensuration, for the Use of the Royal Military College* (London: [n.pub.], 1845)

'Scottish Military Education', *Edinburgh Magazine and Literary Miscellany*, 15 (August 1824), 214-218

Serve to Lead (An Anthology) (Camberley: RMA Sandhurst, 1959)

Shand, Alexander Innes, *The Life of General Sir Edward Bruce Hamley* 2 vols. (Edinburgh: Blackwood & Sons, 1895)

Shaw, Charles, Colonel *Personal Memoirs and Correspondence of Colonel Charles Shaw*, 2 vols. (London: Henry Colburn, 1837)

Smith, Richard Baird, 'Essay on Geology as a Branch of Study especially meriting the Attention of the Corps of Engineers', *Corps Papers of the Royal Engineers and EIC Engineers*, 1 (1849-50), 27-33

Spearman, James Morton *The British Gunner* 3rd Edition, (London: Parker, Furnivall & Parker, 1844)

Spearman, James Morton, *Notes on Military Education* (London: Parker, Furnivall & Parker, 1853)

Stirling, Walter Francis, Lt Colonel, *Safety Last* (London: Hollis and Carter, 1953)

Stocqueler, J H *The British Officer: His Position, Duties, Emoluments and Privileges* (London: Smith, Elder and Co., 1851)

Straith, Hector, *A Treatise on Fortification, Deduced from Established Principles*, (Croydon: William Annan, 1833)

Strange, T Bland, *Gunner Jingo's Jubilee* (London: Remington & Co, 1893)

'Suggestions for Improving the Military System, Letter dated 19th April 1842', *United Service Journal*, 2 (1842), 111-113

'Summer Camp: The Royal Military Academy Camp on Salisbury Plain', *RMA Magazine*, 3.11 (Jul 1901), 110-130

Swinton, Ernest, Sir, *Over My Shoulder* (Oxford: George Ronald, 1951)

Sykes, Frederick, Major General, Rt. Hon. Sir, *From Many Angles: An Autobiography* (London: George G Harrap and Co., 1942)

Syllabus of the Course of Instruction at the Royal Military College, Sandhurst, 1898 (London: HMSO, 1898)

Symes, Stewart, Sir, *Tour of Duty* (London: Collins, 1946)

Synopsis of the Course of Instruction at the Royal Military College, 1879 (London: HMSO, 1879)

Synopsis of the Course of Instruction at the Royal Military College, 1881 (London, HMSO, 1881)

Talbot, Johnston Stoney, 'Reminiscences of a Campaign: My First Night in the Desert', *Royal Military College Magazine*, 1.5 (July 1891), 86-89

Taylor, Thomas W, 'Remarks on the System of Equitation', *United Service Journal*, 2 (1835), 227-237

Thoughts of a Gentleman Cadet in Solitary Confinement, (Woolwich: WP Jackson, n.d)

'To The Editor of the Times [from] The Parent of a Cadet', *The Times*, 22 September 1842, p.5

Torrens, Arthur Wellesley, *Six Familiar Lectures for the Use of Young Military Officers by a Field Officer* (London: Parker, Furnivall and Parker, 1851)

Treatises on Mechanical Drawings, On the Arms in Use, On Permanent Fortification, The Attack and Defence of Fortresses and on Military Mines, Compiled by the Professors and Instructors and printed for the use of the Gentleman Cadets, at the Royal Military Academy Woolwich (Woolwich: E Jones, 1847), Preface

Tulloch Alexander Bruce, Colonel, 'Battle Training of Regimental Officers', *Journal of the Royal United Service Institution*, 33 (Jan 1889), 769-802

Tulloch, Alexander Bruce, Major-General, 'The Education and Training of Naval and Military Cadets', *Journal of the Royal United Service Institution*, 41 (Jul 1897), 807-843

Tulloch, Alexander Bruce, *Recollections of 40 Years' Service* (Edinburgh & London: Blackwood, 1903)

'The Verdict Against Sandhurst', *Saturday Review*, 21 June 1902, pp.798-9

Verner, Willoughby, 'Military Topography', *Proceedings of the Military Society of Ireland*, 1893, 1-34 (29-30)

- Verner, Willoughby, *Military Life of HRH George, Duke of Cambridge*, 2 vols (London: John Murray, London, 1905)
- Vibart, Henry Meredith, *Addiscombe: Its Heroes and Men of Note* (London: Constable & Co., 1894)
- War Office, *Instruction in Fortification, Military Engineering and Geometrical Drawing at the Royal Military Academy, Woolwich* (London: HMSO, 1871)
- War Office, *Textbook of Fortification and Military Engineering, for use at the Royal Military Academy Woolwich, Part I* (London: HMSO, 1877)
- War Office, *Infantry Drill as revised 1889* (London: HMSO, 1889)
- Walker, Edmond, *Military Elements: Notes from Lectures Addressed to the Gentleman Cadets, RM College*, 2nd edn, (York Town: W Webb, 1868)
- Walker, G G, Colonel 'Our Militia and How to Improve it', *Journal of the Royal United Service Institution*, 24 (Jan 1881) 445-478
- Warre, Edmund, 'On the Relation of Public Secondary Schools to the Organisation of National Defence', *Journal of the Royal United Services Institution*, 44 (Jul 1900), 1238-1268
- Waters, Welscourt Hely-Hutchinson, "*Private and Personal*": *Further Experiences of a Military Attaché* (London: John Murray, 1928)
- Webber, C E, Captain, 'Representing Ground etc', *Papers Connected with the Duties of the Corps of the Royal Engineers, New Series*, 15 (1866), 29-44
- Weddle, Thomas, 'A New Method of Solving Numerical Equations [abstract]', *Abstracts of the Papers Printed in the Philosophical Transactions of the Royal Society of London*, 4 (1837 – 1843), 300-301, 29 April 1841
- Western, John Sutton Edward, *Reminiscences of an Indian Cavalry Officer* (London: Allen & Unwin, 1922)
- Wilkinson, Nevile Rodwell, *To All and Singular* (London: Nisbet and Co., 1933)
- Wilkinson, Spenser, 'An Experiment in Military Education', *Army Quarterly*, 3 (Oct 1921-Jan 1922), 50-69
- Willcocks, James, *From Kabul to Kumassi, Twenty-Four Years of Soldiering and Sport* (London: John Murray, 1904)

Williams, A B, Major, 'The Evolution of the Militia as the Basis of the Army', *Journal of the Royal United Service Institution*, 41 (Jan 1897) 23-47

Williams, Watkin *The Life of General Sir Charles Warren* (Oxford: Basil Blackwell, 1941)

Wolseley, Garnet, *The Soldier's Pocket-Book for Field Service*, 2nd edn, (London: MacMillan and Co., 1871)

Wolseley, Garnet, *The Story of a Soldier's Life*, 2 vols, (Archibald Constable; London, 1903)

Wood, Evelyn, *From Midshipman to Field Marshal*, 2 vols (London: Methuen, 1906)

Woodyatt, Nigel, *Under Ten Viceroy: Reminiscences of a Gurkha* (London: Herbert Jenkins, 1922)

Younghusband, George John, *The Queen's Commission: how to prepare for it, how to obtain it and how to use it* (London: John Murray, 1891)

Younghusband, George John, *A Soldier's Memories in Peace and War* (London: Herbert Jenkins Ltd, 1917)

(III) Secondary Sources

Anderson, R E, 'Ivory, James (1765-1842)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004)

<<http://www.oxforddnb.com/view/article/14506>> [accessed 8 Mar 2018]

Argles, Michael, *South Kensington to Robbins: An Account of English Technical and Scientific Education since 1851* (London: Longmans, 1964)

Baignet, Elizabeth, 'Dalby, Isaac (1744-1824)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004)

<<http://www.oxforddnb.com/view/article/7011>> [accessed 2 Mar 2018]

Barnett, Corelli, *Britain and Her Army, 1509-1970* (London: Allen Lane The Penguin Press, 1970)

Barrow, Edmund George, Sir, *The Life of General Sir Charles Carmichael Monro* (London: Hutchinson and Co, 1931)

Battye, Evelyn Desiree, *The Fighting Ten* (London: British Association of Cemeteries in South Asia, 1984)

Baynes, John, *Far From a Donkey: The Life of General Sir Ivor Maxse* (London: Brassey's, 1995)

Beckett, Ian F W, *The Amateur Military Tradition 1558-1945* (Manchester: Manchester University Press, 1991)

Beckett, Ian F W, *The Victorians at War* (London: Hambledon and London, 2003)

Beckett, Ian FW, *A British Profession of Arms: The Politics of Command in the Late Victorian Army* (Norman, Oklahoma, USA: Oklahoma University Press, 2018)

Belich, James, 'Grey, Sir George (1812 – 1898)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004)

<<http://www.oxforddnb.com/view/article/11534>> [accessed 2 Mar 2018]

Black, Jeremy, *Rethinking Military History* (Abingdon: Routledge, 2004)

Bond, Brian, *The Victorian Army and the Staff College, 1854-1914* (London: Eyre Methuen, 1972)

Bowman, Timothy and Mark Connelly, *The Edwardian Army: Recruiting, Training and Deploying the British Army, 1902-1914* (Oxford: Oxford University Press, 2012)

- Brice, Christopher, *The Thinking Man's Soldier: The Life and Career of General Sir Henry Brackenbury* (Solihull: Helion and Co., 2013)
- Bruce, Anthony, *The Purchase System in the British Army 1660-1871* (London: Royal Historical Society, 1980)
- Buchanan, Robert Angus, *The Engineers: A History of the Engineering Profession in Britain 1750-1914* (London: Jessica Kingsley Publishers, 1989)
- 'Cairnes, William Elliot (1862-1902)', in *Concise Dictionary of National Biography*, 3 vols. (Oxford: Oxford University Press, 1992), I, pp.436-7
- Callwell, Charles Edward, Sir, and John Headlam, *The History of the Royal Artillery Vol.1 1860-1899* (Woolwich: Royal Artillery Institution, 1931)
- Campbell, James D, *'The Army Isn't All work' Physical Culture and the Evolution of the British Army 1860-1920* (Farnham, UK: Ashgate, 2012)
- Cantor, Geoffrey, David Gooding and Frank AJL James, *Michael Faraday* (New Jersey, USA: Humanities Press International, 1991)
- Chandos, John, *Boys Together: English Public Schools 1800-1860* (London: Hutchinson and Co., 1984)
- Clayton, Anthony, *The British Officer: Leading the Army from 1660 to the Present* (London: Pearson Longman, 2006)
- Clemente, Steven E, *For King and Kaiser! The Making of the Prussian Army Officer, 1860-1914* (Westport, CT, USA: Greenport Press, 1992)
- Clerke, A M, 'Barlow, Peter (1776-1862)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004)
<<http://www.oxforddnb.com/view/article/1435>> [accessed 20 Mar 2018]
- Cotgrove, Stephen F, *Technical Education and Social Change* (London: George Allen & Unwin, 1958)
- Crackel, Theodore J, *West Point: A Bicentennial History* (Lawrence, Kansas: University Press of Kansas, 2002)
- Craik, Alex DD, *Mr Hopkin's Men: Cambridge Reform and British Mathematics in the Nineteenth Century* (London: Springer, 2008)

- Creagh, O'Moore, Sir, *The Distinguished Service Order, 1886-1923: A Complete record of the recipients from its institution in 1886, to the 12th June 1923 with descriptions of the deeds and services for which the award was given and with many biographical and other details* (London: J B Hayward, 1978)
- Cunningham, Hugh, *The Volunteer Force: A Social and Political History 1859-1908* (London: Croom Helm, 1975)
- Curtis, Stanley James, *History of Education in Great Britain, 7th edn*, (London: University Tutorial Press, 1967)
- De Groot, Gerard J, *Douglas Haig 1861-1928* (London: Unwin Hyman Ltd, 1988)
- Dickinson, Harry W, *Educating the Royal Navy: Eighteenth and Nineteenth Century Education for Officers* (London: Taylor & Francis, 2012)
- Dobbie, Sybil, *Faith and Fortitude: The Life and Work of General Sir William Dobbie* (Gillingham, Kent: Johnston, 1979)
- Downes, Cathy, *Special Trust and Confidence: The Making of an Officer* (London: Frank Cass and Co. Ltd, 1991)
- Duffy, Christopher, *The Fortress in the Age of Vauban and Frederick the Great, 1660-1789: Siege Warfare Volume 2* (London: Routledge and Keegan Paul, 1985)
- Dunning, Eric and Kenneth Sheard, *Barbarians, Gentlemen and Players: A Sociological Study of the Development of Rugby Football* (Oxford: Martin Robertson, 1979)
- Elton, Godfrey, Lord, *General Gordon* (London: Collins, 1954)
- Farrington, Anthony, *The Records of the East India College Haileybury and Other Institutions* (London: HMSO, 1976)
- Farwell, Byron, *For Queen and Country: A Social History of the Victorian and Edwardian Army* (London: Allen Lane, 1981)
- Featherstone, Donald, *Captain Carey's Blunder: The Death of the Crown Prince Imperial, June 1879* (London: Leo Cooper, 1973)
- Forman, Sidney, *West Point: A History of the United States Military Academy* (New York: Columbia University Press, 1950)
- Fortescue, John W, Hon. *A History of the British Army*, 13 vols (London: MacMillan & Co., 1930)

- French, David, *The British Way in Warfare 1688-2000* (London: Unwin Hyman, 1990)
- French, David, *Military Identities: The Regimental System, the British Army and the British People c. 1870-2000* (Oxford: Oxford University Press, 2005)
- Furneux, Holly, *Military Men of Feeling: Emotion, Touch and Masculinity in the Crimean War* (Oxford: Oxford University Press, 2016)
- Gardner, Brian *The Public Schools: An Historical Survey* (London: Hamish Hamilton, 1973)
- Glover, Richard, *Peninsular Preparation: The Reform of the British Army 1795-1809* (Cambridge: Cambridge University Press, 1963)
- Gordon, Alexander, 'Gregory, Olinthus Gilbert (1774 – 1841)' *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/11469> [accessed 2 Mar 2018]
- Guicciardini, Niccolò, 'Hutton, Charles (1737 - 1823)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/14300> [accessed 2 Mar 2018]
- Guicciardini, Niccolò, 'Leybourn, Thomas (c.1760-1840)', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/16622>> [accessed 8 Mar 2018]
- Hamer, William Spencer, *The British Army: Civil-Military Relations 1885-1905* (Oxford: Oxford University Press, 1970)
- Harries-Jenkins, Gwyn, *The Army in Victorian Society* (London: Routledge & Kegan Paul, 1977)
- Harrison, John Fletcher Clews, *Late Victorian Britain* (Abingdon: Routledge, 1991)
- Heathcote, T A, *The Military in British India: The Development of British Land Forces in South Asia, 1600-1947* (Manchester: Manchester University Press, 1995)
- Holdsworth, Angela and Christopher Pugsley, eds., *Sandhurst: A Tradition of Leadership* (London: Third Millennium Publishing, 2005)
- Huntington, Samuel P, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, Massachusetts: Harvard University Press, 1957)

- Janowitz, Morris, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, 1960)
- Johnson, Irene N and Eugene Seneta, 'Crofton, Morgan William (1826 – 1915)', *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004), <www.oxforddnb.com/view/article/54490> [accessed 5 Mar 2018]
- Jones, Spencer, *From Boer War to World War: Tactical Reform of the British Army 1902-1914* (Norman: University of Oklahoma Press, 2012)
- 'Kelly, Richard Denis, Sir (1815 – 1897) The O'Kelly Mor, General (Retired)', *Who's Who & Who Was Who*, online edn, December 2007 (Oxford: Oxford University Press, 2007), <<http://www.ukwhoswho.com/view/article/187750>> [accessed 8 Mar 2018]
- Kitchen, James, *The British Imperial Army in the Middle East: Morale and Military Identity in the Sinai and Palestine Campaigns, 1916-1918* (London: Bloomsbury, 2014)
- Kochanski, Halik, *Sir Garnet Wolseley: Victorian Hero* (London: The Hambledon Press, 1990)
- Lloyd, E M, 'McMurdo, Sir William Montagu Scott (1819-1894)', *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004) <<http://www.oxforddnb.com/view/article/17698>> [accessed 8 Mar 2018]
- Lonsdale, Jeremy, *The Army's Grace: The Life of Brigadier General R M Poore* (Tunbridge Wells, Kent: Spellmount Ltd, 1992)
- Lowerson, John, *Sport and the English Middle Classes 1870-1914* (Manchester: Manchester University Press, 1993)
- Luvaas, Jay, *The Education of an Army: British Military Thought, 1815-1940* (London: Cassell, 1964)
- Mason, Tony and Eliza Riedi, *Sport and the Military: The British Armed Forces 1880-1960* (Cambridge: Cambridge University Press, 2010)
- Moore, David, *Solent Papers Number 6: Fort Brockhurst and the Gomer-Elson Forts*, (Gosport: D Moore, 2011)
- Moorehead, Catherine, *The K2 Man (and his molluscs): The Extraordinary Life of Haversham Godwin-Austen* (Castle Douglas, Scotland, UK: Neil Wilson Publishing, 2013)
- Murray, Nicholas, *The Rocky Road to the Great War: The Evolution of Trench Warfare to 1914* (Dulles, Virginia, USA: Potomac Books, 2013)

- Newsome, David, *Godliness and Good Learning* (London: John Murray, 1961)
- Nichol, Graham, *Uncle George: Field Marshal Lord Milne of Salonika and Rubislaw* (London: Redminster Publications, 1976)
- O'Neill, Mora Dianne, *Robert Petley: Recollections of Nova Scotia* (Halifax, NS: Art Gallery of Nova Scotia, 1999)
- Parshall, Karen Hunger, 'Sylvester, James Joseph (1814-1897), mathematician', in *Oxford Dictionary of National Biography*, online edn, September 2004 (Oxford: Oxford University Press, 2004), <<http://www.oxforddnb.com/view/article/26872>> [accessed 2 Mar 2018]
- Parshall, Karen Hunger, *James Joseph Sylvester: Jewish Mathematician in a Victorian World* (Baltimore: John Hopkins University Press, 2006)
- Pollock, John, *Gordon: The Man Behind the Legend* (London: Constable, 1993)
- Pollock, John, *Kitchener: The Road to Omdurman* (London; Constable, 1998)
- Porch, Douglas, *The March to the Marne: The French Army 1871-1914* (Cambridge: Cambridge University Press, 1981)
- Preston, Richard Arthur, *Canada's RMC: A History of the Royal Military College* (Toronto: University of Toronto Press, 1969)
- Reader, WJ, *Professional Men: The Rise of the Professional Classes in Nineteenth Century England* (London: Weidenfeld and Nicolson, 1966)
- Ritchie, Lionel Alexander, 'Anderson, John, Sir, 1814-1886', in *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004), <<http://www.oxforddnb.com/view/article/46572>> [accessed 2 Mar 2018]
- Rolt, L T C, *The Mechanicals: Progress of a Profession* (London: Heinemann, 1967)
- Russell, Anthony, *The Clerical Profession* (London: Society for Promoting Christian Knowledge, 1980)
- Russell, Douglas Sharman, *Winston Churchill Soldier: The Military Life of a Gentleman at War* (London: Brassey's, 2005)
- Samuels, Martin, *Command or Control? Command, Training and Tactics in the British and German Armies, 1888-1918* (London: Frank Cass, 1995)

Sanderson, Michael, *The Universities and British Industry 1850-1870* (London: Routledge & Kegan Paul, 1972)

Saunders, Andrew, *Fortress Britain: Artillery Fortifications in the British Isles and Ireland* (Liphook: Beaufort Publishing, 1989)

Seaver, George, *Francis Younghusband: Explorer and Mystic* (London: John Murray, 1952)

Sedgwick, W F, 'Rutherford, William (1797/8 – 1871), mathematician', in *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004), <<http://www.oxforddnb.com/view/article/24365>> [accessed 2 Mar 2018]

Sheffield, Gary D, *Leadership in the Trenches: Officer-Man Relations, Morale and Discipline in the British Army in the Era of the First World War* (London: Macmillan, 2000)

Sheffield, Gary D, *The Chief: Douglas Haig and the British Army* (London: Arum Press Ltd, 2011)

Shepperd, Alan, *Sandhurst: The Royal Military Academy Sandhurst and its Predecessors* (London: Country Life Books, 1980)

Shrosbree, Colin, *Public Schools and Private Education: The Clarendon Commission, 1861-64, and the Public Schools Acts* (Manchester: Manchester University Press, 1988)

Smyth, John, *Sandhurst: The History of the Royal Military Academy Woolwich, the Royal Military College, Sandhurst, and the Royal Military Academy Sandhurst 1741-1961* (London: Weidenfeld and Nicolson, 1961)

Snape, Michael, *The Redcoat and Religion: The Forgotten History of the British Soldier from the Age of Marlborough to the Eve of the First World War* (Abingdon: Routledge, 2005)

Spiers, Edward M, *The Army and Society 1815-1914* (London: Longman, 1980)

Spiers, Edward M, *The Late Victorian Army 1868-1902* (Manchester: Manchester University Press, 1992)

Strachan, Hew, *Wellington's Legacy: The Reform of the British Army 1830-54* (Manchester: Manchester University Press, 1984)

Strachan, Hew, *From Waterloo to Balaclava: Tactics, Technology and the British Army 1815-1854* (Cambridge: Cambridge University Press, 1985)

- Stronach, George, 'Wallace, William (1768-1843)', *Oxford Dictionary of National Biography*, online edn, 23rd September 2004 (Oxford: Oxford University Press, 2004)
<<http://www.oxforddnb.com/view/article/28545>> [accessed 8 Mar 2018]
- Sweetman, John, *War and Administration: The Significance of the Crimean War for the British Army* (Edinburgh: Scottish Academic Press, 1984)
- Thomas, Hugh, *The Story of Sandhurst* (London: Hutchinson & Co, 1961)
- Thompson, F M L, *Chartered Surveyors: The Growth of a Profession* (London: Routledge & Kegan Paul, 1968)
- Timbers, Ken ed. *The Royal Artillery, Woolwich: A Celebration* (London: Third Millennium Publishing, 2008)
- Torrens, H S, 'Tennant, James, 1808-1881', in *Oxford Dictionary of National Biography*, online edn, September 2004, (Oxford: Oxford University Press, 2004),
<<http://www.oxforddnb.com/view/article/27133>> [accessed 6 Mar 2018]
- Trythall, Anthony John, *Boney Fuller: The Intellectual General 1878-1966* (London: Cassell, 1977)
- Urban, Mark, *The Man Who Broke Napoleon's Codes: The Story of George Scovell* (London: Faber & Faber, 2001)
- Ward, Bernard Rowland, *The School of Military Engineering 1812-1909* (Chatham: Royal Engineers Institute, 1909)
- Warsop, Keith, *The Early FA Cup Finals and the Southern Amateurs* (Nottingham: Tony Brown, 2004)
- Welch, Michael D, *Science and the British Officer: the Early Days of the Royal United Service Institute for Defence Studies* (London: Royal United Services Institute for Defence Studies, 1998)
- Welch, Michael D, *Science in a Pickelhaube: British Military Lesson Learning at the RUSI (1870-1900)* (London: Royal United Services Institute for Defence Studies, 1999)
- Who Was Who 1897-1916* (London: Black, 1920)
- The Wisden Book of Obituaries: Obituaries from Wisden Cricketer's Almanack 1892-1985* (London: Queen Anne Press, 1986)
- Yardley, Michael, *Sandhurst: A Documentary* (London: Harrap, 1987)

Published Articles & Book Chapters

Anderson, Olive, 'The Growth of Christian Militarism in mid-Victorian Britain' *English Historical Review*, 86 (1971), 46-72

Archibald, Raymond Clare, 'Notes on Some Minor English Mathematical Serials', *Mathematical Gazette*, 14.200 (April 1929), 379-400

Barnett, Corelli, 'The Education of Military Elites', *Journal of Contemporary History*, 2.3 (July 1967), 25-35

Black, John, 'The Military Influence on Engineering Education in Britain and India, 1848-1906' *Indian Economic Social History Review*, 46, (2009), 211-239

Buchanan, R A, 'The Rise of Scientific Engineering in Britain', *British Journal for the History of Science*, 18, No.2 (July 1985), 218-233

Compton, J M, 'Open Competition and the Indian Civil Service, 1854-1876', *English Historical Review*, 83.327 (April 1968), 265-284

Craik, A D D, 'Victorian 'applied mathematics'', in *Mathematics in Victorian Britain*, ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.177-198

Deakin, Stephen, 'Education in an Ethos at the Royal Military Academy Sandhurst' in *Ethics Education in the Military*, ed. by Paul Robinson, Nigel de Lee and Don Carrick (Aldershot: Ashgate, 2008), pp.15-30

Despeaux, Sloan Evans, 'A Voice for Mathematics: Victorian Mathematical Journals and Societies', in *Mathematics in Victorian Britain*, ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.155-174

Grattan-Guinness, Ivor, 'The Contributions of JJ Sylvester, FRS, to Mechanics and Mathematical Physics', *Notes and Records of the Royal Society of London*, 55.2, (May 2001), pp.253-265

Grattan-Guinness, Ivor, 'The Ecole Polytechnique, 1794-1850: Differences over Educational Purpose and Teaching Practice', *American Mathematical Monthly*, 112.3 (Mar 2005), 233-250

Haythornwaite, Philip 'Sieges in the Peninsular War', in *A History of the Peninsular War: Modern Studies of the War in Spain and Portugal, 1808-1814*, ed. by Paddy Griffith, (London: Greenhill Books, 1999), pp.213-229

Hearl, Trevor, 'Military Education and the School Curriculum 1800-1870', *History of Education*, 5.3 (1976), 251-264

James, I M, 'James Joseph Sylvester, FRS (1814-1897)', *Notes and Records of the Royal Society of London*, 51.2, (July 1997), 257-261

Mangan, James Anthony, 'Epilogue: Many Mansions and Many Architectural Styles', in *Militarism, Sport, Europe: War Without Weapons* ed. by James Anthony Mangan (London: Frank Cass, 2003), pp.281-286

Mangan, James Anthony and Callum McKenzie, "'Pig-Sticking is the Greatest Fun'": Martial Conditioning on the Hunting Fields of Empire', in *Militarism, Sport, Europe: War Without Weapons* ed. by JA Mangan (London: Frank Cass, 2003) pp.97-119

McLelland, Nicola, 'French and German in British schools (1850-1945)', *Documents pour l'histoire du français langue étrangère ou second*, 53 (2014), online edn 10.9.2017

McLelland, Nicola, 'The history of language learning and teaching in Britain', *Language Learning Journal*, 46 (2018), 6-16

Mileham, Patrick, 'Fit and Proper Persons: Officership Revisited', *Sandhurst Occasional Papers*, 10 (2012)

O'Connor, D P, 'The RUSI, Imperial Defence and the Expansion of Empire, 1829-90', online, www.rusi.org/downloads/assets/OConnor,_The_Influence_of_the_RUSI.pdf [access 6.12.2013]

Orgill, Andrew, 'The Sandhurst Generation of 1881', *Wish Stream*, 2007, pp.85-88

Otley, Charles, B, 'The Social Origins of British Army Officers', *Sociological Review*, 18 (1970), 213-239

Proescholdt, C W, 'The Introduction of German Language Teaching into England', *German Life and Letters*, 44.2 (Jan 1991), 93-102

Rice, Adrian, 'Mathematics in the Metropolis: A Survey of Victorian London', in *Mathematics in Victorian Britain*, ed. by, R Flood, A Rice and R Wilson (Oxford: Oxford University Press, 2011), pp.53-73

Rose, E P F, 'Military Men: Napoleonic warfare and early members of the Geological Society', in *Geological Society, London, Special Publications*, 317 (2009), 219-241

Stone, Jay, 'The Anglo-Boer War and Military Reforms in the United Kingdom', *The Boer War and Military Reforms*, ed. by Ewrin A Schmidl and Jay Stone, (Lanham, USA: University Press of America, 1988), 1-164

Thwaites, Peter, 'Military Justice in the Georgian Army: the Trial of Colonel James Butler, 1828', *Sandhurst Occasional Papers*, 2 (2010)

Travers, Tim, 'The Development of British Military Historical Writing and Thought from the Eighteenth Century to the Present', in *Military History and the Military Profession*, ed. by David A Charters, Marc Milner, and J Brent Wilson, (Westport, CT, USA: Praeger Publishers, 1992), 23-42

Trevelyan, Charles E, Edward Hughes and H O'Brien, 'Sir Charles Trevelyan and Civil Service Reform, 1853', *English Historical Review*, 64.250 (Jan 1949), 53-88

Tucker, Albert, 'The Army in the Nineteenth Century', in *A Guide to the Sources of British Military History*, ed. by Robin Higham (Berkeley & Los Angeles: University of California Press, 1971), pp.208-229

Tucker, Albert, 'The Army in the Nineteenth Century', in *British Military History: A Supplement to Robin Higham's Guide to the Sources*, ed. by Gerald Jordan (New York & London: Garland Publishing, Inc, 1988), pp.231-241

Theses & Dissertations

Bailes, Howard, 'The Influence of Continental Examples and Colonial Warfare upon the Reform of the Late Victorian Army' (PhD thesis, King's College, University of London, 1980)

Bourne, John Michael, 'The Civil and Military Patronage of the East India Company, 1784-1858' (PhD thesis, University of Leicester, 1977)

Burley, Roy David, 'An Age of Negligence? British Army Chaplaincy, 1796-1844', (MPhil dissertation, University of Birmingham, 2013)

Duncan, Andrew George, 'The Military Education of Junior Officers in the Edwardian Army' (PhD thesis, University of Birmingham, 2016)

Evans, Nicholas, 'From Drill to Doctrine: Forging the British Army's Tactics 1897-1907' (PhD thesis, King's College London, 2007)

Gartrell-Mills, Claire F, 'Christian Science: an American Religion in Britain, 1895-1940' (PhD thesis, Oxford University, 1991)

Jones, David R, Reverend, 'The Rev. GR Gleig and Early Victorian Army Education' (MA dissertation, Queen's University of Belfast, 1983)

Jones, Spencer, 'The Influence of the Boer War (1899-1902) on the Tactical Development of the Regular British Army 1902-1914' (PhD thesis, University of Wolverhampton, 2009)

Mahaffey, Corinne Lydia, 'The Fighting Profession: The Professionalization of the British Line Infantry Officer Corps, 1870-1902' (PhD thesis, University of Glasgow, 2004)

Malcolm, Bridget Dorcas, 'Educational Reform at the Royal Military Academy Woolwich and the Royal Military College Sandhurst, 1854-1874' (MPhil dissertation, King's College London, 1986)

Otley, Christopher Blackwood, 'The Origins and Recruitment of the British Army Elite, 1870-1959' (PhD thesis, University of Hull, 1965)

Scales, Robert Hinds, 'Artillery in Small Wars: The Evolution of British Artillery Doctrine, 1860-1914' (PhD thesis, Duke University, 1976)

Thompson, John Handby, "The Free Church Army Chaplain 1830-1930" (PhD thesis, University of Sheffield, 1990)

Welch, Michael, 'Military Science and Military History: Bloch, Fuller, Henderson and the Royal United Service Institution (1830 – 1901)' (PhD thesis, University of Lancaster, 1997);

Worthington, Ian, 'Antecedent Education and Officer Recruitment: An Analysis of the Public School-Army Nexus, 1849 – 1908' (PhD thesis, University of Lancaster, 1982)