From Drill to Doctrine.

Forging the British Army’s Tactics 1897-1909

When ‘Omer smote ‘is bloomin’ lyre.
He’d ‘eard men sing by land and sea,
An’ what ‘e thought might require,
‘E went an’ took-the same as me!

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# Table of Contents

Frontispiece and Index 1-2

Abstract 3-4

Chapter 1 Introduction 5-26

Chapter 2 Tactics, Tirah and LI 27-71

Chapter 3 The South African War 72-93

Chapter 4 Firepower 94-134

Chapter 5 Mobility and Manoeuvre 135-175

Chapter 6 Protection 176-202

Chapter 7 Discipline, Initiative, Education and Training 203-247

Chapter 8 The Russo-Japanese War 248-285

Chapter 9 Doctrine, Command, the Staff and Training 286-329

Chapter 10 Conclusions 330-338

Bibliographies, Indexes, Glossaries and Tables 339-506
Abstract. *From Drill to Doctrine. Forging the British Army's Tactics 1897-1909*

This thesis examines the development of the Army's tactics from the 1897-8 Frontier Campaigns until the publication of *Field Service Regulations (FSRs)* 1909.\(^2\) It scrutinises how the 3 tactical factors of firepower, mobility and protection, together with experience from the NW Frontier, the South African War and Manchuria caused British tactics to develop. The thesis shows that the Army's attitude towards low-level initiative developed significantly. Increased firepower made tactical extension essential. This prevented commanders controlling and made subordinate initiative vital. Developing initiative among subordinates caused the Army's disciplinary, educational and training systems to alter.

The thesis finally examines doctrine's development, a system of fundamental principles designed to guide commanders, who now had to use initiative, in increasingly complex combat. This was caused by greater firepower, longer ranges, smokeless ammunition and wider extensions. This thesis demonstrates that the Army developed doctrine in the modern sense. Consequently changes occurred in the staff system, professional education and general training.

The thesis argues that the Army's firepower grew quantitatively and qualitatively with the introduction of independent and Indirect Fire. Weapons were now developed doctrinally. The Army attached great significance to mobility and manoeuvre, seeing these as the means whereby it could defeat superior numbers. Cavalry roles developed to stress operational level manoeuvre rather than battlefield shock. It examines protection, arguing that the need for tactical extension and fieldcraft, both impelled by greater firepower, enforced initiative.

The thesis argues that contemporaries felt that the 3 wars all taught broadly

\(^2\) All other abbreviations are in the Glossary.
similar lessons and that the resulting doctrine matched the short war which armies expected.
Now all you recruits what's drafted today,
You shut up your rag-box an' 'ark to my lay,
And I'll sing you a soldier as far as I may.

Outline

Between 1897-1909 the British Army advanced from drill to doctrine. During this period it fought its largest 19th Century Frontier campaign and the South African War, while scrutinising both these conflicts and the Russo-Japanese War for lessons. More or less simultaneously significant technical change occurred, principally the first extensive use of smokeless ammunition, magazine rifles and QF artillery. All increased firepower thus affecting mobility and protection. This thesis examines these 3 fundamental tactical factors, how they changed and their influence on tactics.

This introduction states the thesis' proposition, examines the contemporary contexts and constraints on the Army, current scholarship on British tactics pre-1914 and the thesis' methodology. It analyses tactics, two forms of war, manoeuvre and attrition, which affected how tactics developed, and finally outlines the chapters.

The Thesis’ Proposition

This thesis aims to understand why British tactics changed and why the Army in 1909 emphasised mobility and manoeuvre rather than firepower and attrition. It aims to prove that between 1897-1909 the Army made a reasonably coherent attempt to develop tactical doctrine for major warfare. No longer could subordinates receive exact, timely orders in the teeth of enemy fire; instead, often out of communication with superiors, they had to use initiative guided by doctrine. This adoption of doctrine, which Chapter 9 outlines, was very significant. It demanded analysis to develop, thus having implications for the staff, the body charged with examining issues systematically. Furthermore doctrine implies that judgement is required for the exercise of command, rather than
applying drill-derived rules. This in turn affected training and education, while these factors and discipline were altered to instil initiative.

There is no doubt that flaws existed in British tactics in 1909. Firepower and consequently attrition were not accorded the recognition that 1915-1918 was to demand.¹ But the context must be borne in mind, a small regular army, financially stretched, strategically poised between Europe and Empire, later committed to continental campaigning but denied conscription. Thus, given that increasing numbers was impossible, manoeuvre had to be used rather than firepower-dominated attrition.² British tactics in 1909 were designed to defeat superior numbers. Firepower was not devalued; indeed the Army improved its marksmanship and increased weapon numbers. It emphasised protection and technology. The Army’s tactical preparations, generally coherent, were based on examination of evidence derived from the 3 wars. The resulting doctrine matched the type of war expected. Scholars working back from the trenches have criticised this, but then as now the future is obscure.³

**Contexts and Constraints**

1899-1902 had demonstrated both that Britain was diplomatically isolated and that the Army’s performance was poor. Reform was imperative. Financial stringency exacerbated by heavy expenditure between 1899-1902, the growth of naval which overtook military spending, and the pressures, political and economic, following the 1906 Election and the rise of the Labour Party, dominated the period. The Army had to maintain expensive global deployments and give drafting priority to overseas units; British-based units consequently resembled in Wolseley’s graphic words: ‘squeezed lemons.’ This damaged training, yet conscription was politically and logistically

¹ Gen Farndale History of the Royal Regiment of Artillery (Woolwich 1986), Annex B.
² DMO (1996), pp 4-21-22.
impossible. Major contingencies ranged from amphibious operations on the American seaboard, combat across the prairies, colonial warfare versus a European power, war in Afghanistan against Russia and European warfare in varying permutations. Minor commitments ranged from: 'Birr to Bareilly,...Hong Kong and Peshawar.' As the German threat strengthened, the Army's focus switched towards continental warfare, though its integration in French plans was limited until 1911. But, unlike the RN, it was unable to call the legions home. A very real constraint was that the Army began the period which this thesis covers with a very undeveloped staff system. These contexts influenced the Army, they cannot be analysed fully in this thesis, but should be remembered.

Current Scholarship

Scholarship has focused on the establishment of the GS, Brodrick's and Arnold Foster's attempted reforms of the Army's structure and war-planning. There has been no comprehensive examination of British tactics before 1914. Scholarship has concentrated on tactics from 1914, tending to work backwards when analysing prewar tactics. But contemporaries were unaware of the course of the First World War, while Bloch had forecast that sustained, mass warfare was impossible.

Dr Samuels' Command or Control, the main work on pre-1914 tactics, cannot examine British tactics fully as it covers both British and German tactics between 1888-1918. His thesis is that British over-rigidity caused 1916-18's tactical mistakes. He contrasts this with greater German flexibility. His book is based on 2 case studies, the

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5 Professor Bond The Victorian Army and the Staff College (1972), pp 153-4.
6 Professor Gooch The Plans of War (1974), Professor Spiers Haldane An Army Reformer (Edinburgh 1980).
7 JS Bloch Modern Weapons and Modern War (1900), p xi.
8 Dr Samuels' Command or Control (1995). It examines British tactics pre-1914 between pp 34-60, 1914-18 occupies pp 82-269. Given this disparity, it is argued that Samuels has worked backwards from 1914-18. His work has not analysed British development of initiative and manoeuvre pre-1914.
battles of Thiepval and St Quentin, which distort his conclusions on pre-1914 tactics. Both were atypical of attrition's strengths against better-trained enemies. Great firepower and tactical surprise inflicted heavy blows as 14 July 1916 or Messines showed. However correct Samuels' thesis may be for 1915-17, it does not automatically apply beforehand. 1914-15 forms a tactical watershed and some of his criticisms, overcontrol and rigidity, were due to wartime circumstances rather than prewar error. 9

The other important work is Professor Travers' *The Killing Ground 1900-1918*. This blames many 1914-1918 failures on 'internal' factors, ie mental rigidity and technological neglect, principally of firepower. Travers' analysis can be criticised: firstly artillery rearmament, Indirect Fire's introduction, the development of aircraft and motorization impugn his criticisms that the British neglected technology. Nor does Travers demonstrate that other European armies were significantly better at incorporating new equipments than Britain. 10 Secondly he attributes failure to learn from South Africa to: 'a surprisingly widespread belief in [its] abnormality.' 11 Many contemporaries, far from exclusively British, commented on this. South Africa was far more open than Western Europe, thus favouring firepower at the expense of movement under fire, and mobility when not fighting; the Boers' irregular character, their strategic failure to mount an immediate all-out invasion and their selection of Natal as their objective rather than the more politically-promising Cape Colony, their initial reluctance to assault, their eccentric artillery tactics and their high mobility. 12 All were exceptional by European standards, while the vast size of South Africa, roughly equivalent to Western Europe, favoured mobility, only constrained by poor communications and the

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9 Gen Falkenhayn *General Headquarters 1914-1916* (1919), p 74 suggests that British tactical problems between 1914-16 were caused by insufficient trained cadres.

10 AR Millett & W Murray *Military Effectiveness* I (Boston 1988), pp 84-5 for German defects. They claim the French were the most technically backward of the major armies in 1914, Ibid p 212.


resulting logistical difficulties. These factors unsurprisingly made contemporaries reluctant to draw lessons. This posed particular problems for cavalry tactics. Opponents of shock emphasised that there were few charges; traditionalists argued that, as the British did not face cavalry, deducing shock’s redundancy was unsound.

Griffiths’ *Battle Tactics of the Western Front*, Weller’s *Weapons and Tactics*, Myatt’s *The British Infantry 1660-1945*, Carver’s *Britain’s Army in the 20th Century* and *The Boer War*, Ramsay’s *Command and Cohesion* and Simpson’s *Directing Operations* focus on general themes or 1914-18 rather than prewar tactics. Scholarly works on broader themes can err. D’Ombrain’s *War Machinery and High Policy*’s claim that the 18 Pounder was the last significant British innovation before 1914 ignores the introduction of howitzers, motorization and aircraft.13

Coverage of tactical developments in the arms is imperfect; the most significant contribution covering mainly artillery is Bidwell and Graham’s *Firepower*. This argues that artillery was neglected, but it does not examine the contemporary constraints on the arm, while its pre-1914 coverage is small.15 Scales’ *Artillery in Small Wars* does not analyse 1897-1909 in depth.16 Scales suggests that the British neglected Indirect Fire but ignores conflicting evidence. His argument that the RA erred after 1900 by basing its tactics on small wars, which South Africa was not numerically, downplays Manchuria’s influence.17 Gen Bailey’s *Field Artillery and Firepower* does not examine developments before 1914 in depth, while Dr Marble’s thesis focuses from 1914.18 Cavalry are well

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14 *War Machinery and High Policy*’ (1973), p 150 fn 23.

15 *Firepower* (1982).


17 Scales does not cite Maj Geddes *Notes on Japanese and Russian Artillery in Manchuria* (1907) and *Notes upon Russian Artillery Tactics in the War of 1904-5* (1907).

18 *Field Artillery and Firepower* (Annapolis 2004); *The Infantry cannot do with a Gun Less* (KC1. 1999).
covered; the historiography includes Dr Badsey’s thesis *Fire and the Sword*, concentrating on the fire versus shock controversy, and Anglesey’s *History of the British Cavalry*. Infantry are poorly served with most emphasis post-1914, a noticeable feature of English and Gudmundsson’s *On Infantry*. Priestley’s *The Signals Service in the European War of 1914-1918* concentrates on 1914-18. Brig Gen Baker-Brown’s volume of *The History of the Corps of Royal Engineers* does not link changes to wider themes.\(^\text{19}\)

Initiative has hardly been tackled as Dr Sheffield’s *Leadership in the Trenches* focuses from 1914.\(^\text{20}\) Professor Holden-Reid summarises British doctrine masterfully but, though giving an invaluable overview, he cannot examine 1897-1909 in depth in an annexe to a manual.\(^\text{21}\)

Analysis of wars in the period is flawed. Dr Moreman has scrupulously examined Frontier operations but his work is not intended to consider the 1897-8 Campaigns’ wider tactical relevance.\(^\text{22}\) *The Times History of the War in South Africa* contains much useful material but was written to stimulate reform and consequently has biases. Furthermore the work, completed in 1909, does not provide perspective. Dr Towle’s *The Influence of the Russo-Japanese War on British Military and Naval Thought* lacks wider tactical context and therefore does not appreciate certain developments fully. He, like others, has seen Manchuria through the prism of 1914-18, distorting some of his conclusions.\(^\text{23}\)

Clearly there are gaps in the historiography. There is no broad study linking increased firepower to changes in mobility, protection and developing initiative. The next section briefly summarises the thesis’ methodology.

\(^{19}\) (Cambridge 1986); \(1899\)-\(1913\) (1986); (Chatham 1921); \(1914\) (Chatham 1952).

\(^{20}\) (KCL 1973); (2000).

Methodology

The thesis tries to work forward towards 1914 rather than backwards from the trenches. It uses military theory to give context to tactical alterations, but has tried to avoid imposing current concepts anachronistically. It is primarily concerned with the development of ideas. Here it must be stressed that between injunction and implementation there is a wide gap. In a largely regimentally-based Army, change took time and was incomplete in 1914.

Much has been made of personalities' malign influences: here Professor Travers' illuminating work seems to miss the prime question, were these worse in the British than in other armies? This would be hard to maintain; L'Affaire and Les Fiches disrupted the French, friction between Bulow and Kluck damaged German effectiveness in 1914, while there were tensions within the German Army and state. Whether Samsonov thrashed Rennenkampf on Mukden station is immaterial, but there were serious flaws in Russia and its Army.24 This thesis has avoided personalities, looking at the military basis for change.

Tactics and Tactical Factors

Many factors influence tactics, i.e., the conduct of combat. Basically, however, tactics have 3 fundamental constituents: firepower, mobility and protection.25 These three are interdependent; changing one affects the others. Before 1914 firepower increased forcing more attention to protection; Infantry had to extend, entrench and use ground and cover to the utmost. This was a new emphasis for armies, which until then had fought in relatively close-order and discouraged individual fieldcraft.

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24 D Porch The March to the Marne (Cambridge 1981), Chapters 4-7; ED Brose The Kaiser's Army (Oxford 2001), pp 5-6; Millett &Murray Effectiveness pp 81-2; Maj Gen Knox With The Russian Army 1914-1917 (1921), pp xxxiv-v.
Before 1897 commanders felt that soldiers were unreliable when extended while less effective firearms demanded physical concentration to generate the necessary firepower. Black powder ammunition meant that concealment was lost as soon as fire was opened.\textsuperscript{26} Cavalry shock action was becoming problematic due to greater firepower, but many argued that dynamic manoeuvre could defeat well-armed, well dug-in enemies by exploiting their static nature. But to defeat defensive firepower the attacker needs more firepower to restore his own mobility, thus the RA was significantly strengthened from 1900. These interrelated factors and their effects are complex and are therefore best described in a generic example which could be drawn from any date from 1908, the introduction of the Army’s first grenade, until Afghanistan in 2007.

An Infantry section advances to mop up snipers harassing sappers repairing a road. The section prepares for battle, adjusts camouflage and extends. Soldiers deploy some 10 yards apart; this enhances protection and enables ground to be used for cover, but thus separated, the corporal cannot control each soldier exactly. Individual initiative is vital, individual determination essential, because, so separated, individuals can evade danger at the expense of their task and their comrades. In dispersed combat isolation is real, the sense of uncertainty against an unseen enemy using smokeless ammunition oppressive.\textsuperscript{27} When soldiers fought shoulder to shoulder casualties were often heavy, but there was at least the close presence of comrades.\textsuperscript{28} Obedience was all and the dilemmas of decision were spared soldiers, and for that matter many officers. Extension had and for that matter continues to have implications for discipline, leadership and morale.

\textsuperscript{26} Chapter 2, Capt Gawne \textit{A Summer Night’s Dream} (Kansas City nd), pp 19-20. The book, attributed to Meckel, was influential in Germany.
\textsuperscript{27} Col Marshall \textit{Men Against Fire} (Gloucester 1978), pp 44-5. Marshall’s methodology has been severely criticised but few combatants would disagree with this point.
\textsuperscript{28} J Keegan \textit{The Face of Battle} (1976), p 183; Maj Gen Thompson ‘Falklands’ OCFW 2007.
The section enters a thicket; on entering it the formation contracts automatically. Leaving it the soldiers, unprompted, extend and, on the commander's order, dash to a sunken lane which offers a covered approach to their objective. As they emerge from it a shot rings out and those moving go through the drill: 'dash, down, crawl, observe, sights, fire.' Though called a drill and practised till responses are instinctive, this differs radically from that conducted upon the square under the RSM. Individuals must think for themselves; decide where to get most cover, from whence their weapons can be most effective and how best to cooperate with their comrades in executing their mission.

The sniper has betrayed his position and those covering their comrades' movement return fire forthwith. The corporal shouts a brief order, fire redoubles while two infantrymen dash to a wall flanking the sniper's hide. Here we see fire countered by greater firepower, affording protection and consequently unscathed movement. They close on the hide, covered by the wall and their comrades' fire, till a well-thrown grenade kills the sniper. The action has taken some 30 minutes from start-line to objective.

This skirmish hardly rates a line even in a unit history but encapsulates the interplay of firepower, protection and mobility.\textsuperscript{29} The section camouflaged up and extended, maximising protection and reducing the effects of enemy firepower even before crossing their start-line. The advancing infantrymen used ground for cover, thus increasing protection. Ease of movement had to be balanced against exposure. As the ground became open, they instinctively extended, contracting when entering denser cover. We observe the commander first using the lane, not just for protection, it hid the section, but also for faster movement. Both generated surprise. Then, when forced to cross open ground, he deployed men to cover the rest across. We note the prompt return

\textsuperscript{29} R Holmes \textit{Firing Line} (1985), p 3 notes the lack of tactical detail in many histories.
of fire and the intelligent individual reactions. Movement was directed at weakness, the enemy's flank, fulfilling the commander's aim, and thus becoming manoeuvre. Manoeuvre maximised surprise and surprise provided protection. When soldiers moved, fire increased, pinning the sniper down, unable to reply or withdraw. This integration of fire and manoeuvre is tactically key.\textsuperscript{30} In short the 3 fundamentals of fire, protection and mobility were combined to defeat the enemy. The proportions of each factor varied as the ground and the threat changed.

Theoretically overwhelming firepower alone could have killed the sniper. An arsenal of artillery ammunition would have been needed, crippling logistics if all actions were so fought. Furthermore, in an age before RT, the time needed would have been significantly greater. A non-gunner may remark that the likely endstate, far from being a clean kill, would probably have been an array of ready-made defensive positions, themselves no mean obstacle to movement.\textsuperscript{31} Another alternative would have been to sap forward, maximising protection, but wasting time. A charge, bald-headed, reckless of cover and covering fire, might have saved time, though not casualties. But it could not have catered for the unexpected. Few tactical situations demand one only of the three fundamentals; reliance on two may not guarantee success, indeed in combat there are no certainties, only probabilities.

Tensions exist between the three tactical factors, had the section been armed with a couple of field guns, its firepower would have been greatly strengthened but its ability to move and use cover would have declined. Maximising mobility by discarding ammunition would have weakened firepower while overemphasising protection would have ensured that the section never crossed their start-line.

\textsuperscript{30} Brig Gen Edmonds \textit{MOFB 1914 I} (1922), p 9.
\textsuperscript{31} Literally the sticking point 1915-17.
There are other deductions. Firstly the skirmish was based on orders and fitted into a higher plan. Due to prior training, individuals understood this and cooperated to achieve their mission. The commander did not have to order individuals exactly what to do; initiative and training oiled the tactical mechanism. Their task, an advance over relatively open country against a dug-in, hidden enemy, has proved one, if not the hardest tactical problem of 20th Century land warfare. We should note that time, a factor of great tactical importance, was well used. The section neither procrastinated, stymieing the sappers, perhaps delaying a division and allowing the enemy time to react, nor rushed, risking unnecessary casualties.

Another observation is that the corporal did not literally lead; he commanded not through his physical position but more subtly by leadership. This combination of example, persuasion and compulsion fundamentally differed from the Napoleonic era when officers physically led and social status told.32 In the magazine rifle era, professional ability was essential as commanders were generally unable to lead physically, while combat was becoming more complex.33 Prior training enabled soldiers to cooperate amid combat's chaos. When initiative was not required and when command was relatively easy, training could consist of drill; now doctrine was needed to guide both tactics and training. The corporal and his section did not consciously apply doctrine; nevertheless doctrine was present in the skirmish.

Tactical combat in the rough period 1890-1942 faced a crisis in the means of command. Increased firepower demanded dispersion, but primitive tactical communications constrained superior commanders from controlling and hence

33 Commanders can of course still lead physically, but effective forward command is hard, given dispersal and the consequent difficulties of controlling reserves and fire. As Chapter 3 describes, Symons, Buller and Methuen met this problem in 1899. All became casualties from being too far forward.
initiative, delegated downward. Chapters 7 and 9 examine these points.

The above example illustrates low-level tactics. At higher levels the tensions inherent between firepower, mobility and protection give rise to two fundamental forms of combat: manoeuvre and attrition.\textsuperscript{34} The former favours movement, initiative, surprise, timing and risk-taking, the latter numbers, firepower and more methodical, managerial tactics with risks reduced. To understand why British tactics developed in the way that they did, it is necessary to examine these two forms of war.

\section*{Attrition v Manoeuvre}

The relationship between manoeuvre and attrition is important for this thesis. States with professional armies tend not to plan long, high-intensity attritional wars, the costs being too high, unless there are strong, countervailing reasons. Generally attrition tends to be adopted as an expedient when manoeuvre is unattainable, because of terrain, force ratios, inadequate skills or for strategic reasons.\textsuperscript{35} High-intensity attrition emphasises numbers and firepower and tends to be positional and linear, stressing setpiece attack and defence.\textsuperscript{36} Attrition is dominated by combat’s mathematics so when exchange rates are more or less equivalent, numbers prevail. Strategy will ultimately decide whether attrition is adopted, but attrition’s decisive level is the tactical where combat occurs and where casualties are inflicted.\textsuperscript{37}

Attrition’s emphases subtly alter command and staffwork. Essentially attrition means firepower’s application on an enemy, often static in position, thus tactical skills,

\begin{footnotesize}
\begin{enumerate}
\item DMO (1989), pp 22-3.
\item RT Foley German Strategy and the Path to Verdun (Cambridge 2005), pp 124-5. Dr W Philpott ‘Total War’ OCFW 2007.
\item M van Crevel, KS Brower & S Canby Air Power and Manoeuver Warfare (Honolulu 2002), p 9.
\item FW Lanchester Aircraft in War (1916) and Brig Bidwell Modern Warfare (1973) outline combat’s mathematics; Ibid pp 67-68 for manoeuvre and fire. Malkasian emphasises that combat is not only means of attrition, citing Wellington’s withdrawal to Torres Vedras, A History of Modern Wars of Attrition (Westport 2002), p 6. This was arguably manoeuvre. Malkasian defines attrition as slow by nature and piecemeal, stressing firepower as a significant tool. He cites other types of attrition, here high-intensity attrition between roughly comparable forces on the battlefield is meant.
\end{enumerate}
\end{footnotesize}
risktaking and the like, are less critical than in manoeuvre. In attrition firepower dominates, thus the managerial processes of assembling and generating it tend to predominate. Here America, with its strong managerial ethos, an unrivalled ability to mass produce weapons and an engineering bias at West Point, has tended towards attrition in fighting its wars. Dumping ammunition and developing logistic facilities for attrition take months; here the Somme's preparations are instructive. Monash, an ex-civil engineer, proved adept at attritional warfare. It is hard to see Rommel, an arch-manoeuvrist, meticulously planning down to section-level like Monash. These factors tend to favour central control in attrition. Another reason for central control in attrition is that firepower, the means of causing casualties and the dominant tactical factor, is most effective when concentrated. This is particularly the case with artillery, which saw centralised structures develop faster from 1914 then they had between 1902-1913. This thesis does not argue that the RA were consciously preparing for attrition, but longer-range weapons demanded greater central control.

Contrastingly manoeuvrist doctrine emphasises creativity, with commanders making decisions on inadequate intelligence in order to maintain tempo. But attrition also demands skill; the British development of artillery C3I structures and CB tactics in 1916-17 was a lengthy, scientific process differing from the Germans' emphasis on infiltration. Historians have contrasted British and German infantry tactics rather than comparing the latter with British artillery tactics. Artillery-dominated attrition aimed to

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39 Brig Gen Edmonds MOFB 1916 I (1932), Chapter X; Ibid pp 301-2; Malkasian's caveats should be noted but fundamentally the Somme was attritional, Attrition pp 37-8,47.
41 R Lewin Rommel as Military Commander (1968), p 4; G Serle John Monash (Melbourne 1982), p 287. Divisional commanders typically think 2 down ie at battalion level, DMO p72; Monash thought 5 down, suggesting tight control. Time would preclude this in high-tempo manoeuvre; Brig Bidwell Gunners at War (1970), p 128.
defeat German tactical skills industrially and scientifically.42

Manoeuvre and attrition differ in other ways. One substantial difference is that manoeuvre battles are generally based on a clear, central command aim. Manoeuvre plans to concentrate on enemy weaknesses; consequently all forces must support this. This reinforces the importance of all-arms cooperation in manoeuvre. Manoeuvre relates particularly to war's operational level where campaign aims are decided as Knox and Murray suggest: 'Seekt believed that movement was the essence of operations.' Here Seekt, who developed the Germans' 1939-45 doctrine, was referring to war's operational level.43 Seekt contrasted manoeuvre and attrition:

[t]he soldier who seeks a decision in mobility, rapidity and inspiration, has grave doubts whether armed masses can ever secure such a decision, and whether nations in arms can avoid finishing in the trenches once more.

Seekt implies a relationship between manoeuvre, surprise and creativity. He also suggests the importance of human factors, echoing Clausewitz. Incidentally Seekt fostered initiative during his period as head of the German Army. Chapter 7 argues that initiative is needed to facilitate manoeuvre; Seekt stressed it for similar reasons.44

Numbers may not favour mobile forces. In several manoeuvre battles the victorious, albeit more mobile force, has been inferior. This fact reinforces the importance of aims, staffwork and coordination as, unlike in attrition, numbers cannot compensate for errors.45 This also suggests why inter-arm cooperation is important in manoeuvre. There is also the technical factor. Manoeuvre forces require sappers to bridge rivers, artillery to cover movement and to provide depth fire, mobile forces to exploit, infantry to seize

42 DMO (1989), p 49; Farndale Artillery Annexes H&L; Samuels Command has no index entry for CB.
43 The Dynamics of Military Revolution 1300-2050 (Cambridge 2001), p 185; JS Corum The Roots of Blitzkrieg (Lawrence 1992), Chapter 4.
45 BR Posen The Sources of Military Doctrine (Ithaca 1984), Table 2 p 83. Examples include COMPASS and SICHELSCHNITT, described in R Holmes Army Battlefield Guide (1995), Chapter 4, and Jackson's Valley Campaign; J Keegan Intelligence in War (2006), Chapter 3.
ground, with signals to articulate the whole, all coordinated in dynamic manoeuvre by
the staff. Attrition's brutal formula: 'guns conquer, infantry occupy' suggests that inter-
arm cooperation, however desirable, is fundamentally subordinate in the
materialschlacht.46

Attrition essentially involves tactical destruction, while in manoeuvre the enemy
may be beaten by dislocation at the operational level based on combining aim, mobility,
tempo and surprise. This reduces but does not completely eliminate the need for combat.
It therefore follows that the commander's aim is critical in manoeuvre.47 When attrition
domintates, though aims are important, they are somewhat less so and numbers have
enhanced significance.

Dynamic manoeuvre, say a cavalry action, though contemporaries might cite an
air/attack helicopter/air manoeuvre mission, demands initiative and stresses time in a
way that attritional, positional warfare, say a siege, does not.48 In siege warfare, though
time is important, Wellington's sieges were botched by the need for speed, but it is
measured in days rather than manoeuvre's minutes.49 Siege warfare is dominated by
fire; consequently immense logistic preparations are needed, risking surprise. This is
another reason why manoeuvre may emphasise numbers less than attrition does. In
attrition time for logistic preparations allow communications to be established, plans
rehearsed and control imposed.50 Here the Somme's rigid barrage programmes and
setpiece attacks are suggestive. Of these General Farndale commented mordantly: 'time-

47 A Home To Lose a Battle (1969), pp 323,328-330. There is of course combat in manoeuvre, but the
fighting and casualties in SICHELSCHNITT relative to GERICH'T are suggestive. For the importance of
the commander's aim in manoeuvre, see Capt Falls Military Operations Egypt and Palestine II (1930),
Chapter 21 or Manstein's effect on SICHELSCHNITT, Maj Ellis The War in France and Flanders
(1953), pp 339-41.
48 A Green Writing the Great War (2003). p 70 for 76 pages and 365 instructions that took 3 days to
condense into a brigade operation order in 1916.
49 Lt Col Maude Cavalry: its past and future (1903), pp x-xi.
50 Eg the spectrum of control lines; MOFB 1917 I Maps (1940), Map 5.
tables kill initiative.' Generally less initiative is needed in attritional, positional warfare than in manoeuvre;\(^{51}\) in attrition material superiority aims to compensate for inferior skills and initiative. But firepower does enforce low-level initiative through dispersion and cut communications. The explanation is that in manoeuvre initiative is inherent; in attrition it is a consequence of firepower.\(^{52}\)

The attritional battles of 1916-17 contrast with the confused mobile actions around Tobruk in 1941-2. There command was hard for both sides, imposed control from the rear nearly impossible.\(^{53}\) In 1916-18 numbers proved decisive, but at Gazala, despite superior numbers, the British lost. German training, tempo, all-arms cooperation, and, by extension, doctrine proved decisive. Contrastingly attrition in 1916-7 eroded superior German training and C\(^2\).\(^{54}\) Suggestively the Germans, obligated by geography and likely numerical inferiority to emphasise manoeuvre, developed modern doctrine.\(^{55}\) In manoeuvre combat the relationship between success and numerical superiority is more subtle than attrition’s mathematics. Smaller forces move faster, command is simpler and logistics are less complex.\(^{56}\) Superior mobility transformed into manoeuvre may enable smaller forces to defeat larger ones. But there are many risks and a point at which numbers ultimately prevail.

The relationships suggested above are broad, there are elements of attrition in manoeuvre and the reverse. Firepower is often needed to kickstart manoeuvre, while

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51 Edmonds *MOFB 1916* I p 296; *History of the [RAJ] Western Front* (Woolwich 1986), pp 142-3 details the 7000 miles of buried and 43,000 surface-laid cable.


53 Green *Great* p 70; Bidwell *Gunners* p 163.

54 FM Carver *Tobruk* (1972), pp 267-8,273; M van Creveld *Fighting Power* (Pennsylvania 1983), pp 30-1 citing *Truppenfuhrung 1936*. These emphasise doctrine as well as initiative; Capt Miles *MOFB 1916* II (1938), pp 555-6.


56 Crude speeds are not faster but smaller traffic volumes, orders that have to percolate less far increase tempo, eg Jackson’s Valley Campaign. Carver contrasts German with more sluggish British C3 at Gazala, *Tobruk*, pp 262,263-4. Smaller forces are easier to provide with advanced equipments, eg British motorization pre-1914.
manoeuvre makes fire more effective.\textsuperscript{57}

The next section outlines the chapters and their contents. South Africa, a seminal experience for the Army, has been given 4 chapters; one examines general issues, the other chapters analyse firepower, mobility and protection.

\textbf{Chapter Outline}

\textit{Chapter 2. The 1897-8 Frontier Campaigns}

This chapter assesses British tactics in 1897. They were dominated by control, much low-level training was monotonous drill and the implications of growing firepower were largely ignored. \textit{IDB 1896}, the only all-arms tactical manual, overemphasised control, ignored fieldcraft and downplayed initiative.

In Tirah the British discovered that their tactics were inadequate against rifle-armed foes. Consequently they introduced looser formations and greater low-level initiative. Artillery organisations and shooting improved to counter enhanced enemy firepower and fieldcraft. The reaction to increased enemy firepower blended firepower, mobility and protection. Tirah was a precursor to South Africa.

\textit{Chapter 3 South Africa}

The chapter sets the scene for later ones analysing the war. It looks at the pattern of operations in South Africa. The exhaustive examination of the war for lessons has been under-researched. This investigation was substantial, probing, but in the spirit of the time was partly left to individuals and semi-official bodies. South African operations were more complex than many have realised. Too many mistakes have been ascribed to stupidity or conservatism, while conditions there have not been fully appreciated. The Boers, using magazine rifles, technically superior artillery, high mobility and careful attention to protection, were formidable foes. They combined these 3 fundamental

tactical elements effectively. Part of the British tactical problem stemmed from insufficient artillery, a longstanding defect, cavalry weaknesses exacerbated by the open terrain, part from the circumstances of mobilization and the sea-movement of animals to South Africa which impaired mobility.

Buller's troops, obliged by insufficient mobility to attack frontally, learnt lessons, especially on howitzers, machine guns and integrating fire to cover attacks that Roberts' forces were less exposed to. But Roberts' organisational changes maximised mobility, while he ensured that it was fully exploited. During the guerrilla phase extra emphasis was given to mobility. The war taught that, to counter enhanced enemy firepower, the British needed more firepower, principally additional artillery, extra mobility to outmanoeuvre the enemy, better protection to defeat hostile fire and initiative to oil the tactical mechanism.

Chapter 4 Firepower

The chapter analyses South Africa's firepower lessons. Boer fire and the resulting casualties shocked the British. Broadly the Army concluded that more firepower was needed to counter greater enemy fire. Consequently British artillery was significantly enhanced both quantitatively and qualitatively. South African experience influenced the weapons used between 1914-18, the SMLE, the Vickers machine gun, the 13, 18 and 60 Pounders, and the 4.5" Howitzer. QF artillery rearmament was one of the Army's largest peacetime programmes before 1914. Practical marksmanship was emphasised, independent fire replaced volleys, and artillery used more Indirect Fire.

Chapter 5 Mobility and Manoeuvre

The chapter analyses South Africa's mobility lessons. Exceptionally nearly all Boers were mounted. To counter high Boer mobility, Roberts reorganised his mounted troops and transport. After the war the Army substantially improved its mobility. This
was not caused by a reactionary cavalry clique but was a reasoned response to overcome entrenched firepower. The Cavalry retrained after the war while animal management and transport improved.

Essentially the Army aimed to use superior mobility to remedy numerical inferiority. In some respects the Army was applying a manoeuvrist approach; unsurprisingly the most influential contemporary book, *Stonewall Jackson*, examined the defeat of large, less mobile forces by a smaller, speedier one exploiting surprise to achieve operational-level results. That Henderson, its author, was intimately involved with drafting *CTrg 1902*, reinforces the book’s importance. It is argued that the Cavalry’s roles were shifting from tactical shock towards operational level manoeuvre and reconnaissance in the period.

**Chapter 6 Protection**

Increased firepower made protection more essential. Consequently fieldcraft, entrenchment, extension and general protection were much improved between 1899-1902. Protection involves a variety of elements including entrenchment, extension and fieldcraft. The Chapter also briefly examines the REs and technology due to the links between the two.

**Chapter 7 Initiative**

The Chapter continues Chapter 2’s analysis of low-level initiative. Smokeless ammunition and greater firepower demanded that initiative was delegated. This change was incomplete in 1914; it involved altering regimental cultures, many were resistant to change; others, often LI, influenced by their own culture of delegation, adapted more swiftly. There was much interest in the LI; this began before 1899 and South Africa

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58 Lt Col Henderson *Stonewall Jackson* (1898).
59 *RCWSA Evidence* I p 45.
strengthened it. The many works written on scouting after 1902 suggest how initiative was being developed in the junior ranks. Many argued for higher-calibre recruits to meet modern war’s demands and recommended increasing pay to obtain them. But improved soldiers’ conditions were instituted for other reasons than just the tactical; recruiting and rising civil expectations also featured. Initiative was encouraged and education became mandatory for receiving Service Pay. The Army was moving from imposed towards internal discipline fostered by patriotism and education, partly to enhance initiative.

Chapter 8 The Russo-Japanese War

The chapter looks at the British analysis of Manchuria’s lessons. Broadly the British felt that Manchuria’s lessons were similar to South Africa’s; this is sharply at variance with current scholarship. The British criticised both sides’ immobility, though they partly blamed Manchuria’s rough terrain and defects in the Russian cavalry. Many diagnosed that the Russians had suffered from inertia and poor education, while the Japanese victory seemed to be founded largely on morale and initiative. The British had suffered from defective human factors between 1899-1902 and had altered their own system, thus the Japanese example proved interesting. The British made further changes, based on Manchuria, in their treatment of human factors. British reports criticised both sides’ infantry tactics as primitive. Manchuria encouraged the adoption of Indirect Fire, arguably the most significant single tactical development between 1900-14. But Manchuria was not the only cause; South African experience was significant. Manchuria renewed British interest in night operations, siege-warfare and spurred development of siege weapons.

60 FM Roberts ‘The Army-As It Was...’ 19C LVII (1905), p 3.
61 Lt Col Baden-Powell Aids to Scouting for NCOs and Men (Aldershot 1899), Col Furse Scouting (1902).
62 Eg A Lee ‘The Recruiting Question’ 19C XLIX (1901), pp 1058-60.
The chapter argues that the results of attrition in Manchuria appeared to confirm the British emphasis on manoeuvre. There is clearly, however, tension between the detailed reports on grenades, entrenchment, artillery’s enhanced effects and British conclusions on manoeuvre and cavalry. It argues that the Russo-Japanese War was more influential tactically than Dr Towle states.

Chapter 9 Doctrine

The chapter argues that the Army started to switch from drill to doctrine, thus relying more on principles, judgement and initiative. It scrutinises the relationship between doctrine, initiative, manoeuvre and the operational level of war. The chapter examines the contents and themes of CTrg 1902, CTrg 1905 and FSRs 1909 to show how tactics developed. It looks at the GS’s creation and importance for training and doctrine. It argues that a system of training, doctrine and manoeuvre was developed. This demanded a significant alteration to the Army’s mental attitudes.

Chapter 10 Conclusions

This chapter summarises the thesis’ arguments outlined above. It explains why British tactics put a premium on manoeuvre and mobility rather than on firepower or protection. But it argues that neither of these factors was neglected even though they did not receive as much attention as 1915-17 was to demand. It illuminates the relationships between attrition and manoeuvre and between doctrine, manoeuvre and initiative. It argues that the British stress on cavalry represented a shift towards the operational level of war. Current military science suggests that this was not inappropriate. To view the British emphasis on cavalry in 1914 as just the product of reactionary internal forces is wrong. But that is not to say that such forces did not exist in the Army.

\[6^1\] Brig Gen Haking *Company Training* (1913), p 1.

\[6^4\] Capt Nash ‘A Brief Summary of the Manchurian Campaign’ *RAI* XXXII (1905-6), p 324.
Inevitably there are gaps in this work. It lacks comparisons with foreign armies and the effects of wider social trends have been under-examined. Some areas where further research is needed are outlined in an annexe.
Chapter 2 Tactics, Tirah and LI

For the tale is on the Frontier and from Michni to Mooltan,
They know that worthy general as that most immoral man.

Introduction

As Kipling points out, reputations were lost on the Frontier and if military
change is measured by generals dismissed, then the 1897-8 Frontier Campaigns were
influential. Defeat, by general agreement, is more productive of military innovation
than victory, and though these campaigns in which Imperial forces fought hard,
sometimes unsuccessfully, were not a rout, yet they gave valuable lessons. They and
renewed interest in LI culminated in Henderson’s lecture ‘The Technical Training of
Infantry.’ Henderson and his collaborator, Verner, synthesising the two, proposed
new Infantry tactics based on initiative, independent fire and fieldcraft. Contrastingly
_IDB_ 1896 emphasised control, close-order and volleys.

This chapter briefly examines Infantry tactics in 1897, the LI revival, the
Campaigns’ lessons, their application and finally the links which contemporaries
made between Tirah, the most tactically-advanced of the 1897-8 Campaigns, and
South Africa.

The Campaigns

The 1897-8 Campaigns were the largest Indian operation between 1881-1914.

Some saw them as the:

most arduous contest … since the great mutiny…For the first time in our Indian
history we have … found ourselves confronted by modern weapons, combined
with full ability to use them, tactics exactly suited … to our disadvantage, and a
knowledge of the art of modern war.¹

Their scale required units, untrained for hill-warfare, to deploy.² These units,
unaware of its specialised tactics, tended to follow _IDB 1896_ and suffered in
consequence.

The history of the Campaigns is unimportant for this thesis and is merely

¹ _USG_ (29/1/98), p 92.
summarised here. Operations began on 10 July 1897 when a column was ambushed in the Tochi. Though this rising was quickly quelled, other revolts soon erupted. These were generally less demanding than Tirah as the tribes had fewer firearms and the terrain was easier, but there were still some hard-fought actions. Later the Afridis rebelled, expelling the Khyber garrison. This humiliation triggered the invasion of Tirah, the Afridi heartland, but logistic constraints and other continuing operations delayed this until mid-October 1897. At 2nd Dargai hard fighting and heavy shelling from two divisions’ guns were needed to storm the pass, conquered with many casualties. Thereafter combat degenerated into skirmishes in which several British battalions suffered severely. Withdrawal in December resembled a defeat, casualties were heavy and operations continued into 1898.

Tactical Performance in 1897

To see why Tirah was significant, it is necessary though hard to establish the Army’s existing tactical standards. Professors Beckett and Gooch argue that they had advanced considerably before 1897. There had undoubtedly been change. Wood had improved training at Aldershot, some decentralisation had occurred, artillery training had been overhauled and major manoeuvres reintroduced. But these measures were inadequate judging by performance in 1897 and 1899. A low threat of major war, financial stringency and the need to provide colonial drafts damaged training in Britain. Military, particularly overseas service was unpopular so recruit-

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3 Maj Kemball Operations of the Tochi Field Force in 1897-98 (Simla 1900); Capt Walters Operations of the Malakand Field Force and the Buner Field Force (Simla 1900); Maj Hoghton Operations of the Mohmand Field Force in 1897 (Simla 1899), Capt Walters Operations of the Tirah Expeditionary Force 1897-8 (Simla 1900).


5 RCTTEF Appendix CC; L/MIL/7/15867 No 89D; Capt Shadwell Lockhart's Advance Through Tirah (1902), pp 200-4. Later another British unit was mauled, Col Callwell Tirah 1897 (1911), p 95; WPs 38/11/40; L/MIL/3/1082 GO 620 Simla 3/6/98 lists 287 killed, 853 wounded, 10 missing, plus sick.


calibre was often poor, especially for Infantry. This further encouraged over-control by superiors.

The British emphasis on control, dense formations and fire-tactics centred on volleys, weakened initiative and were unsuited to the dispersed warfare which modern weapons now demanded. On manoeuvres a brigade deployed with 10 paces between units, the commander controlling: ‘up to a late point in the … attack.’

Close-order prevented individuals from using cover effectively, while fieldcraft training was either poor or non-existent. ‘In peace training the idea has prevailed that it is not desirable to impress the soldier too much with the care of his own skin.’ A senior officer commented that the 1898 Manoeuvres had:

constantly afforded examples which proved that there was no adequate conception of the power of the modern magazine rifle.

Most colonial particularly many African campaigns were against primitive foes, thus reinforcing control-based tactics. This damaged performance against more tactically-advanced enemies. The Akers-Douglas Committee assessed that colonial warfare had weakened professionalism; careers were generally founded on campaigning rather than study. General Maurice blamed the Sudan’s close-order formations and volleys for South Africa’s initial failures, while Ellison reflected in 1900:

the small campaigns of the past [25] years … had an adverse influence on our military system, not only as regards the tactical ideas … prevalent prior to [1899], but also [on] the actual conduct of … operations.

Though the Army’s tactics were based on the German Army’s reassessment of 1870 and were designed for conventional combat, close-order and volleys suited most colonial wars.

8Lt Col Barrow Infantry Fire Tactics (Hong Kong 1895), pp 4-5; ‘Staff Officer’ ‘The War and the Drill Book’ CR LXXVIII (1900), p 208; Col Mackinnon The Volley and The Instruction of Recruits and Trained Soldiers (1897), p 7.

9 HuPs 50102; ‘Curragh Drill Season 1897… 9th July;’ Ibid’ 8/6/97; ‘Staff Officer’ ‘War,’ p 211.

10 PRO 30/40/16 ‘untitled memorandum on weapons.’

11 Col Clarke ‘Lessons of the War-VI Training’ The Times 28/2 01 p 8; WO 279/9 p 133.

COs, adjutants and RSMs dominated Infantry training, much was drill, appropriate for close-order combat but impairing initiative in dispersed fighting.\textsuperscript{14} That company commanders tended to be relatively junior and that there was little effective organisation below company-level further reinforced battalion control. As a result many British battalions were over-centralised and thus unready for open-order combat. Infantry basic training was governed by: 'regulations which lacked commonsense and promoted the machine mentality.'\textsuperscript{15} A contemporary summarised prewar conditions:

training was dull, uninteresting, and unpractical; money was ... not unfrequently (sic) absolutely withheld for manoeuvres... while military virtue carried ... no reward.\textsuperscript{16}

India had many advantages over Britain: there was more land for exercises, more frequent manoeuvres, more chances of action and for juniors to use initiative.\textsuperscript{17} Units were stronger, making training more realistic. The best Indian infantry and cavalry, unlike most British units, were trained in skirmishing or in combined fire and mounted tactics. That the Army in India was better trained and more tactically advanced than that in Britain, yet it suffered in Tirah. This made the lessons of 1897-8 more salient.\textsuperscript{18}

Formations were usually established on mobilization. A Tirah veteran commented that a brigade might consist of units: ‘from Bangalore, Mhow and Peshawar ... the General from Belgaum, with ... staff from anywhere (except ... Simla).’ There were insufficient pscs and staffwork was unsystematic, exacerbating

\textsuperscript{13} Initial German lessons on dispersal were countered by works such as Meckel’s \textit{A Summer Night’s Dream}; Col Maude analysed this reaction, \textit{Notes on the Evolution of Infantry Tactics} (1905). Similarly RA tactics were based on 1870 but fitted many colonial wars, see Chapter 4.

\textsuperscript{14} Omdurman was the last battle in which foot-drill played a significant part, Col Callwell \textit{Small Wars} (1906), pp 387-8; Maj Pollock ‘The Battle-Drill of Infantry’ \textit{JRUSI} XLII (1898), pp 540-1.

\textsuperscript{15} Maude \textit{Infantry Tactics}, p 88, he excepted LI; \textit{BA} LIX (1897), pp 575-6; MMPs 2/2 ‘Infantry Attachment’ p 3; Lt Col Pollock ‘The Training of the Army’ \textit{JRUSI} XLVII (1903), p 177.


\textsuperscript{17} \textit{BA} 88 (1912),p369; Akers-Douglas Report (1902), p 50. Long officer leave and high sickness rates allowed subordinates scope. Maj Yate \textit{The Life of Lieut. Col John Haughton} (1900), p 74; Maj Gen Collen \textit{RCWSA Evidence II} (1903),Qs 21061-7.

\textsuperscript{18} Maj Yate ‘North-West Frontier Warfare’ \textit{JRUSI} XII (1898), p 1191.
the problem of incoherent organisations. Both were more acute in India, both impaired tactical performance, while staff weaknesses prevented thorough analysis of tactics. 19

The Army's only all-arms tactical manual, Part V of IDB 1896, forbade 'normal' formations, but often generals devised their own, discouraging initiative and impairing tactical coordination. 20 Henderson commented tellingly: 'in a normal formation the importance of ground is apt to receive less consideration than the maintenance of order, regularity and fire-discipline.' 21 IDB 1896 had no detailed instructions on fieldcraft or skirmishing. Battalions which practiced skirmishing, principally LI, were censured, despite IDB 1896's advice: 'conditions of modern warfare render it imperative that all ranks ... act for themselves.' 22 Many criticised the omission of skirmishing from IDB. Col Meysey-Thompson commented:

after nine year's experience skirmishing as adjutant and five year's experience of the "attack" as [CO], that for [LI] work the present system cannot compare with the old. 23

That the Army's only all-arms tactical manual was an Infantry work probably damaged inter-arm cooperation, while its title 'Drill Book' suggests rigidity; it contains much drill, relatively little tactics and even less all-arms tactics. 24 It implied that drill remained useful in combat as Omdurman had demonstrated. Its fire-tactics stressed: 'volley firing is the description of collective fire generally employed, while independent is the exception.' It defined fire-discipline as the: 'unhesitating obedience to ...orders of the fire unit commander [by] the men who deliver the fire.'

19 Hutchinson 'Tirah' JUSII, p 254. Geographers will appreciate his irony! 'An Eyewitness' 'The Tirah Campaign' FR LXIII (1898), pp 392-4; USG (11/9/97), p 723; CAB 14/17 Clarke/Kitchener 20/9/05 p 2. In Britain in 1904-5 63.45% of pscs were in staff posts, in India 23.3%. There were probably fewer pscs serving on the Indian staff in 1897.
20 IDB p 129; Glossary. Only IDB's Part V covered all-arms tactics. Formations with unique tactics find cooperation with others hard.
21 Lt Col Henderson 'The Training of Infantry for Attack' USM XIX (1899), p 504.
22 IDB 1896's 'Drill of a Section in Extended Order' was mechanical compared to the definition of skirmishing see fn 27 below; 'Staff Officer' 'War' p 209 felt that provisos weakened IDB's advice on initiative; IDB p 130; Lt Col Verner 'A Red Light Bob on Riflemen' RBC (1899), pp 107-8.
23 Reminiscences of the Course, the Camp and the Chase (1898), p 153.
24 IDB's Part V 'Combined Tactics' extends between pp107-132; low-level drill pp 1-75.
A contemporary castigated the results:

A fruitful cause of insufficient extension and taking cover is the fetish of volley firing. Volleys require control: control means men kept together.\textsuperscript{25}

This damaged initiative, impaired individual fieldcraft and caused unnecessary casualties. Veterans later felt that ‘Aldershot tactics,’ based on control and close-order, had ill results in South Africa. Against tactically primitive or poorly-armed foes, modern weapons, close-order tactics, imposed discipline and logistics prevailed as Omdurman had demonstrated. But they failed against small-bore, flat-trajectory rifles and the dispersed tactics used by Afridis and Boers.

\textbf{The LI Revival}

In contrast to the close-order tactics outlined above, there was a renewal of interest in LI in the 1890s. To understand this process, it is necessary to look at LI’s culture, developed for extended-order combat. This is commonly ascribed to Moore and Shorncliffe, though recent scholarship suggests that its origins are more complex.\textsuperscript{26} Whatever the causes, LI, especially those units which had fought in the Peninsular Light Division, continued to emphasise the tactical importance of companies, initiative, individual marksmanship, ‘internal’ discipline, education, fieldcraft and skirmishing, which an LI officer defined:

\begin{quote}
The men follow the lead of their officers, \textit{thinking and acting for themselves} (sic). By this is meant that they judge where to find cover, how to make the best use of it, when to leave their cover, when to fire...[and] what to fire at.\textsuperscript{27}
\end{quote}

Here the link between fieldcraft, initiative and fire-tactics is made explicit. Contemporaries saw skirmishing, inserted in \textit{IDB 1889} by a rifleman but later deleted, as a specialist LI skill. Skirmishing was becoming essential for all Infantry as commanders could no longer control or soldiers survive in the teeth of enemy

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\textsuperscript{25} \textit{MRs 1898} pp 82,79; ‘Staff Officer’ ‘War’ p 208.  
\textsuperscript{26} D Gates \textit{The British Light Infantry Arm} (1987), Chapter 4.  
\textsuperscript{27} ‘Col Manningham’s Regulations for Rifle Corps’ reprinted \textit{RBC} (1897); Col Plowden ‘Notes on Skirmishing’ \textit{OXLI} (1900), p 286, this used much Tirah material; [SOS] 1st \textit{Battalion Oxfordshire Light Infantry} (Portsmouth 1890), p 37 ordered officers to own a unit work on skirmishing; Glossary.
\end{flushright}
fire. The LI system's qualities of initiative, intelligence and leadership were becoming necessary for all infantrymen in dispersed fighting. Consequently LI skills indicate tactical change and contemporaries cited them when advocating reform.

Interest in LI and their tactics increased in the 1890s. It is impossible to prove why this occurred but it was possibly a reaction to the reassessment of the tactical lessons of 1870-1, which had reimposed close-order and control. But even some LI units were poor at fieldcraft, suggesting that the long Victorian peace had weakened their tactical heritage.

The first visible sign of the LI revival was the founding of two regimental annuals in the early 1890s, The RBC and The OXLIC. The former inspired the latter. Both were more professionally-orientated than most regimental productions; both reprinted historically significant works. The OXLIC 1897 republished Gawler's *The Essentials of Good Skirmishing*, possibly because of Tirah. The edition had much Frontier material, Tirah had shown that skirmishing was essential, yet *IDB 1896* did not cover it. Later the editor, Mockler-Ferryman, remarked:

> the principles laid down in [Gawler] are as sound ... as they were when written... forming the foundation of the resuscitated skirmishing in the new *Infantry Drill* (sic).

This referred to Lt Col Verner who had passed a copy of Gawler's book and other LI works to Henderson to aid him in drafting *IT 1902*.

From 1899 non-LI officers, including Henderson and later Roberts, became interested in LI methods and there were several books on the LI pioneers. A magazine urged: 'it is to this old system of [LI] training that we must look for the effectiveness of our military training in the future.' Maude, an ex-sapper, praised the

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28 'Review Infantry Training (Provisional) 1902' *RBC* (1902), p 159; Lt Col Martin *Mountain and Savage Warfare* (Allahabad 1899), p 3. See the comment on *IDB 1896*’s S 47 ‘Drill of a Section in Extended Order,’ fn above.

29 HuPs 50112 pp 13-15. Hutton served under Hawley who, possibly unconsciously, followed Moore's methods. Hutton as Adjutant fell out with an authoritarian CO who rejected his unit's ethos.

30 *OXLIC* X(1901), pp 161-2; *The RBC* began in 1890, *The OXLIC* in 1893. Verner and Mockler-Ferryman, the respective editors, toured the Peninsular battlefields together. The latter wrote on shooting, see Chapter 4.
Peninsular LI and a widely-circulated article stressed the LI system as an example of how the Army could improve its tactical performance. This system combined training, leadership, education, delegation and ‘internal’ discipline to develop judgement so that initiative was used correctly. Later Col Maurice, a non-LI officer, stressed the value of Moore’s system in training subordinates to use initiative.

The Frontier’s Terrain, Enemy and Tactics

This section examines what was significant tactically in 1897-8 and outlines the complex interrelationship between terrain, threat and tactical factors. It provides context for later analysis, supporting the argument that Tirah particularly saw modern tactical features.

The first factor was the Frontier’s very broken terrain. On Tirah’s Marches: ‘higher and steeper’ mountains, valleys: ‘V-shaped instead of flat-bottomed ... added to the difficulties of regular troops.’ These features limited movement to frontages sometimes only yards wide. Transport, itself pack, usually had to move in single file extending column-lengths inordinately. Broken terrain and long-range fire had the effect of: ‘breaking [troops] up into small parties.’ This demanded low-level initiative, but many juniors were untrained to display it. Terrain militated against close-order tactics, replicating firepower’s effects in more intense combat. Not that tribal firepower was puny. India had not appreciated that 50% of the 30,000 Afridis had breech-loading, long-range rifles. Greater tribal firepower forced the use of cover, ground and covering fire, for, when caught unextended, Imperial casualties

31 BA LXVIII (1902), p 622; eg ed Maj Gen Maurice Moore’s Diary (1904), ed CG Moore-Smith Autobiography of Lt Gen Sir Harry Smith (1902); Lt Col Maude ‘Evolution of Infantry Tactics’ USM XXIV (1902), p 18; Col Verner ‘A Century of Fighting’ MM 82 (1900). Verner was a Rifleman, however, and not unbiased.
32 The Use and Abuse of the Initiative’ AR I (1914), pp 5-7. His father had edited Moore’s Diary.
33 The Campaign in Tirah 1897-1898 (1898), p 24.
34 Brig Gen Egerton Hill Warfare (Allahabad 1899), pp 1-2. In relatively benign terrain a brigade and supplies might extend over 5-6 miles; Table 16 shows pack transport’s inefficiency.
35 Maj Callwell Small Wars (1899), p 254.
were often heavy. Advances slowed as pickets had to move further out to counter long-range fire. This increased dispersal and made giving covering small arms fire harder. This in turn strengthened the tactical importance of artillery, a long-range weapon. Dispersal also required more subordinate initiative. Slower picketing delayed columns’ progress, in turn demanding more food and longer transport-trains, themselves more vulnerable to modern rifles. Movement was slowed still further. Signalling was more necessary in view of the greater dispersion and broken terrain. These factors, which complicated tactics, when combined with the Campaigns’ greater scale made staffwork more important. However, few pscs served on the staff in India and staff arrangements in Tirah were often chaotic.

The Campaigns Analysed

Several generals failed, the Khyber was abandoned temporarily, there were grave reservations about the performance of British relative to Indian units, despite the former's magazine rifles, and, by Frontier standards, heavy casualties. The Army in India consequently suffered a shock. Henderson reported criticisms of COs’ and company officers’ ‘leading,’ implying defective initiative. Critics denounced bad staffwork, poor staff selection, improvised formations and the use of over-large, clumsy divisions. They recommended standardising staffwork and formations and establishing an Indian staff college. One Tirah brigadier, Kempster, was effectively dismissed and a divisional commander probably would have been, but he died first. Compared to the many stellenbosched from 1899, these numbers were

36 Capt Slessor The 2nd Battalion Derbyshire Regiment in Tirah (1900), p 93.
37 The Matabele used some in 1896, a few were used in the other 1897 campaigns, but their fire was tactically insignificant; Hutchinson Tirah pp 227-8 for the problems of attacking uphill against sangars containing riflemen; Callwell Tirah p 37.
39 BeFs 830/12, p 31; BA XL (1898), pp 258-9; ‘Eyewitness’ ‘Tirah’ pp 393-4. In South Africa similar criticisms were made of the corps-based organisation; ANG XL (1899), p 100. Slessor Derbyshires pp 62, 66 suggests problems at 2nd Dargai. Maj Rodwell Four Bangalore Lectures (Lahore 1899), p 66 poor transmission of orders caused Haughton’s death.
insignificant, but inferior British performance relative to Indian was not, as Col Holdich, a Tirah veteran, recounted:

Time after time has [the jawan] assisted to cover a badly conducted retirement, and to help British regiments out of serious difficulties; nor is it ... beyond his ken that British regiments have been most severely shaken ... under ... fire.  

Churchill warned on the Imperial implications, while articles are peppered with criticisms of poor performance during Tirah, though, by modern standards, they were veiled.  

Also, as Henderson warned:

there [on the Frontier] we may have to fight for our very existence...  

Many saw war with Russia on the Frontier as the most likely major threat that Britain faced. These pressures forced a searching re-evaluation of hill-warfare tactics and training. This was not just limited to tribal enemies.

The number of works on the Campaigns was unprecedented; four official histories, many specialist reports and private works resulted. There was substantial newspaper coverage. Several correspondents later wrote books. Veterans, including 2 brigadiers, produced explicitly didactic works. Of the more junior commentators, Plowden later wrote on skirmishing, stimulated by Tirah, and Rodwell on scouts. Lectures, professional articles and changes to the Indian military education system supplemented the books. The whole represents the most substantial analysis after any 19th Century Frontier campaign, suggesting the anxiety aroused. This scale of analysis increased the probability that significant tactical change would ensue.
Later hill-warfare manoeuvres held all over India complemented the analysis, with the best reported at Attock. Most change occurred in India but Tirah affected training in Britain. Though commentators were mainly concerned with hill-warfare many of their recommendations also applied to conventional combat.

The Immediate Analysis

Analysis began during operations and reached the highest level. A formal enquiry followed the ambush of a retiring detachment. White, the CinC India, criticised the detachment’s slow movement, its failure to withdraw by alternate companies and that there had been no covering fire. It: ‘had straggled off anyhow,’ thus suffering: ‘serious loss ... by a ridiculously small number of Afridis.’ Officers from brigadiers to half-company commanders had failed to command. This and a similar incident caused General Lockhart, CinC TEF, to issue a memorandum stressing covering fire, mutual support, both recognising greater tribal firepower, controlled withdrawals, fieldcraft, use of ground and faster movement. It also recommended extension to save casualties and artillery covering retirements. Despite its publication and retraining during operations, weaknesses recurred and special orders on protective tactics were issued on 11 December 1897.

Veterans assessed the tribesmen as formidable: ‘[o]ur foe was not a badly armed horde but a trained force of skilled fighting men, armed with Lee-Metford rifles.’ Lockhart remarked: ‘we are opposed to perhaps the best skirmishers and the best natural shots in the world.’ They:

appear to be as well armed as our own native troops, ...they shoot with remarkable accuracy and they are adepts at skirmishing ... There are many ... discharged officers and soldiers ... who doubtless impart military training.

Col Hutchinson described the Afridis as: ‘first rate shots. Their ... skirmishing is

45 BA XL (1898), pp 597-8; L/MIL/17/5/358 16/8/00 suggests their pan-Indian scope.
46 L/MIL/7/15882; WPs 27B/1 of 22/11/97.
48 Yate Haughton p 188.
49 The Bugle (KOYLI) XVIII (1/4/01), p 9.
quite extraordinary... their activity marvellous.’ Pollock, a Frontier veteran, considered them:

excellent shots and the finest material for [LI] in the world; whose knowledge of hill tactics is excellent, who see faults and know how to take advantage of them, and from whom we have much to learn.\textsuperscript{50}

Churchill remarked: ‘[t]o the ferocity of the Zulu are added the craft of the Redskin and the marksmanship of the Boer’\textsuperscript{51} Hart, an ex-Tirah brigadier, commented that the Afridis: ‘excel as skirmishers.’\textsuperscript{52} Lt Col Haughton attributed disproportionate Imperial casualties to: ‘guerrilla tactics...and their being so well armed (especially with Lee-Metfords).’ He noted that smokeless ammunition and long-range rifles had complicated tactics. Hamilton also highlighted these two factors. Afridi tactics emphasised sniping, skirmishing, covering fire, and fieldcraft, Imperial tactics based on volleys and close-order were consequently ineffective. Casualty-rolls show that injuries from swords and stones were more common in the Malakand. In Tirah most were gunshot-wounds, demonstrating that combat there was more advanced.\textsuperscript{53} That Imperial combatants stressed that they were fighting well-armed ex-Indian Army veterans implied conditions approaching conventional combat. Thus the lessons of Tirah potentially applied to modern warfare. Praise for Afridi skirmishing, tactics which combined low-level initiative, fieldcraft and independent fire, suggests Imperial defects in these skills.\textsuperscript{54}

Retraining started during Tirah. The Green Howards were briefed on tactics before deploying, later training 60 ‘climbers.’ The Sussex instructed 100 mountain

\textsuperscript{50} L/P&S/7/97 5/11/97; Hutchinson ‘Tirah’ \textit{JUSII}, p 242; Lt Col Pollock ‘Notes on Hill Warfare’ \textit{JUSII} XXVIII (1898), p 137.
\textsuperscript{51}Churchill \textit{Malakand}, pp 4-5.
\textsuperscript{52} Reflections on the Art of War (1901),p 342a; ‘The Tactical Principles.... India’ \textit{JUSII} XXVIII (1899),p 193.
\textsuperscript{53} L/MIL 3/1073 ‘Malakand Despatches’ pp 11-16 analyses Malakand casualties, L/MIL/3/1082 Letter 94 lists Tirah casualties. Hutchinson \textit{Tirah} p 230 notes that Afridi tactics had generally changed from rushes of swordsmen to sniping. But, as Meade emphasised, volleys and close-order tactics were effective against primitive tribal tactics, eg Churchill \textit{Malakand} pp 228-9. But there are suggestions tribal assaults there were due to insufficient rifles, L/MIL/7/15866 ‘MFF Diary 20-21/9/97.’
\textsuperscript{54} Yate Haughton pp 224-5; HamPs 1/2/24 Hamilton Wilkinson 20/3/98. Chapter 3 analyses smokeless ammunition’s effects.
scouts; most British units followed their example. One can deduce that these groups enjoyed greater initiative than the average company. The Ghurkha Scouts and 2 OXLI trained during operations.\textsuperscript{55} This scale of retraining during operations was unusual. It does not appear to have occurred in the other 1897 Campaigns, suggesting both that Tirah was tactically harder and that Imperial performance there was worse. Emphasis on scout-training during Tirah suggests the new importance of open-order tactics.\textsuperscript{56}

The Later Analysis

Introduction

Analysts examined firepower, manoeuvre, (generally involving tactical outflanking), and protection, (highlighting fieldcraft). Some scrutinised initiative, while several criticised IDB 1896, thus preparing the way for later changes caused by South Africa.

Firepower

The first lesson was the increase, both quantitative and qualitative, of tribal firepower. Hutchinson remarked:

\begin{quote}
In former days......we have found them ...armed with ... a few Sniders and Enfields. The extreme effective range of the best of these weapons was barely 1000 yards, so that if the flanks of a marching column were protected by detachments pushed out half a mile... the column was fairly safe. But the Martini is effective up to \textit{a mile} and the Lee-Metford up to \textit{two} (sic).\textsuperscript{57}
\end{quote}

Many Afridis now were as well-armed as the jawans, while tribesmen carrying Lee-Metfords were better. These weapons fired smokeless ammunition, thus facilitating fieldcraft. IA units, carrying black powder firing Martinis, were at a severe disadvantage. The Lee-Metford's higher muzzle velocity meant a flatter trajectory, more chance of hitting and a longer range. This was a great advantage in mountains.

\textsuperscript{55} Lt Col Franklyn 'Tirah' GHG VII (Aug 1899),pp 66-9; Ibid (Jun 1900),p 51; BA XL (1898),p 467; 'From Our Own Correspondent' 'The Tirah Expeditionary Force' 95 XIV (Apr 1898),p 54; BA XL (1898),p 358; COLPs pp 10,13.

\textsuperscript{56} The Malakand and Tochi were smaller, shorter operations so were not equivalent to Tirah. Retraining during the 1895 Chitral Expedition has not been traced, but tribal firepower was less there.

\textsuperscript{57} Hutchinson \textit{Tirah} pp 225,227. Long columns of pack animals were large, slow targets.
Lt Col Martin deduced that tactics were related to enemy weapons, therefore to defeat rifle-armed foes demanded greater extension, fieldcraft, covering fire and outflanking. Martin's deductions are explored later, but evidence that contemporaries saw that increased firepower caused tactical change is important.

*IDB 1896* did not emphasise the growth of defensive firepower or the resulting need for covering fire. A consequence of greater tribal firepower was that most commentators stressed fire from successive positions both in attack and withdrawal to cover movement:

Perhaps the most important exercise in our training is the covering by fire of the ... assaulting unit, without which diversion the attackers are bound to lose heavily.

Rodwell noted flat-trajectory fire made hilltops poor defensive positions for riflemen as steep slopes allowed the enemy to approach them in dead ground. Plowden recommended that: 'a heavy fire from artillery or...rifle fire must be kept up...to the last moment' to cover attacks.

Volleyes, the basis of fire-tactics and fire-discipline, were, as General Blood, Commander MFF, stressed: 'not the thing for this work.' Churchill described how:

[t]ribesmen ...dart from rock to rock ... [B]efore the attention of a section could be directed to them and the rifles aimed, ... the target would have vanished ... Better results were obtained by picking out good shots and giving them permission to fire.

But independent fire demanded individual initiative, snapshotting and LI-style skills, for which British troops were untrained.

Captain Mead, an IA musketry-instructor, made the most detailed examination of Imperial marksmanship on the Frontier. He criticised MRs for being:

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58 *Mountain and Savage Warfare* (Allahabad 1899), p 1. Operational analysis from the Radfan campaign suggests that the minimum engagement range in mountains is 600 yards.

59 *IDB 1896* pp 66-7 implies covering fire; it hints at increased defensive firepower p 137.

60 Pollock 'Notes on Hill Warfare' *JUSII* XXVII (1898), pp 140-1. *MW* p 11; Gen Gatacre 'A Few Notes on the Characteristics of Hill-Fighting' *JUSII* XLIII (1899), p 1072; Plowden *Battalion* p 15.

61 *Tactical Lectures* (Lahore 1903), pp 42-4, given 1899, possibly officially; Glossary; Chapter 3

62 WPs 38/11/27 Blood/White 7/10/97.

63 Churchill *Malakand* p 285.
based on the results of wars of other countries; whilst our own experiences, though surely more valuable as being ... more recent ... have been totally neglected.

This suggests 1870's persisting influence. Mead had studied Frontier operations carefully. He remarked:

Our inferiority ... in skirmishing and firing appears to be generally admitted...it seems almost as if it was accepted as natural, and as regards...shooting, without a remedy.64

Mead disagreed, blaming unsuitable training, citing Swat and Omdurman, where, against massed enemies, Imperial shooting was good. His point on skirmishing suggests contemporary recognition of its importance. Mead blamed the Figure of Merit, ammunition shortages and overregulation for poor marksmanship in Tirah. He recommended training: 'in firing at vanishing and moving objects...at unknown distances ... under conditions which require great celerity in taking ...aim.' South Africa later emphasised snapshotting, involving similar skills and necessary for the reasons that Churchill suggests above.65 Mead saw Frontier and conventional war as demanding similar fire-tactics and he emphasised firing while skirmishing. This naturally demanded individual initiative.

Machine guns were effective at the Malakand, though less so in Tirah where there were few massed targets. Franklyn disliked his gun; it attracted spectators and staff officers, both equally objectionable, though the Derbyshires' was: 'beyond all praise.' Several trials occurred during Tirah. The trials officer stressed machine guns' ability to cover attacks, while Captain de la Bere emphasised their ability to protect withdrawals. Both imply increased tribal firepower, while the fact that two articles were written on machine guns' performance on the Frontier suggests considerable

64 'Notes on Musketry Training of Troops' JRUSI XLIII (1899),pp 234,234-6,237: Mackinnon Volley, p 10.
65 Glossary: Chapter 4, Table 17.
interest in them.  

Greater tribal firepower combined with longer ranges, characteristic of mountain warfare, demanded more artillery. Some 21 batteries saw service in 1897-8, and, for the first time in recent Frontier fighting, field artillery, more powerful than mountain, deployed in mobile Frontier operations. This was partly because there was insufficient mountain artillery to support all the 1897 operations, but field artillery’s greater firepower proved valuable. Artillery tactics altered with batteries: ‘employed in brigade divisions with greater effect than if they had fought as individual units.’ Concentration was needed to counter increased tribal firepower. Its use suggests conditions approaching conventional warfare. In one action the GOC RA had controlled 6 batteries whose fire: ‘completely drove off the enemy.’ Rodwell and Hutchinson agreed on the value of concentrated gunfire, implying that conventional tactics could apply on the Frontier. In turn some might appreciate that the reverse could apply. Rodwell emphasised that shelling should continue for as long as possible to protect attacking infantry from enemy fire. However concentration of fire and its synchronisation with other arms demanded better coordination and staffwork. The Indian IGRA cited another innovation:

on many occasions during [1897-8] batteries fired for long periods over the heads of infantry. It repeatedly happened during Tirah.... [T]he most remarkable instance occurred during the Tangai Pass action ...when the 10th Field Battery fired 476 rounds...over the heads of.... advancing troops. Fire was sometimes within 100 yards of the assaulting infantry. Overhead fire during attacks had been rare hitherto. As with machine guns, artillery was probably more effective at causing casualties in the other 1897-8 operations, but in Tirah it

67 L/MIL/7/10139 31/5/00.
69 Lt Col Rodwell Tactical Lectures ( Lahore 1903), pp 46-7 citing Lt Ballard ‘Diary of the 10th Field Battery RA with the Malakand Field Force’ PRAI XXV(1898); Hutchinson Tirah pp 236-7.
neutralised enemy fire, saving friendly lives.\textsuperscript{70}

1897-8 revealed that the current mountain gun’s shells were too light to inflict serious damage and it was too short-ranged to defeat rifle-armed foes.\textsuperscript{71} Some felt that howitzers were required; Tirah had shown that guns were unable to search into cover. Methuen concurred but emphasised that they had neutralised enemy fire.\textsuperscript{72} For the first time in India the whole RA organisation, CRAs, artillery staffs and ammunition columns, deployed on operations, giving valuable lessons.\textsuperscript{73} Service journals criticised British neglect of artillery in training. The Frontier had shown its increased power. One noted the: ‘astonishing revelation of the value of field artillery’ in Tirah.\textsuperscript{74} 1897-8 began reawakening the British to the power of artillery, an important lesson for conventional war.

Mobility and Manoeuvre

Cavalry had little value in Tirah, though influential cavalrymen: Baden-Powell, Churchill, Gough and Birdwood served there. But the arm was effective in the other 1897 Campaigns.\textsuperscript{75} The Indian IGC recommended arming cavalry with Lee-Metfords to match better tribal rifles, recognition of firepower and dismounted tactics’ importance. Churchill stressed reconnaissance and blending dismounted fire and shock tactics.\textsuperscript{76} Later this combination was to dominate British cavalry tactics, though 1899-1902 was the prime factor in causing the change. All that can be

\textsuperscript{70} L/MIL/ 7/10837 pp 13,10; overhead fire was used in 1895, HC Thomson \textit{The Chitral Campaign} (1895),p 164; Churchill \textit{Malakand} pp 291-2; Maj May ‘The Problem of the Attack’ (AMS1898), p 11 for overhead fire’s previous rareness; Chapter 4.

\textsuperscript{71} Maj Gen Headlam \textit{The History of the [RA] III} (Woolwich 1940), pp 115-6.

\textsuperscript{72} Maj Bryan ‘The Organisation of Howitzers with Field and Mountain Artillery’ \textit{USM XXI} (1900),p 488; MePs ‘Dargai’ p 6.

\textsuperscript{73} Headlam \textit{RA III}, p 114.

\textsuperscript{74} \textit{BA LIX} (1897),p 482; \textit{NAA} (21/1/99), p 436.


\textsuperscript{76} Capt Nevill \textit{Campaigns on the North-West Frontier} (1912),p 253; \textit{JUSII XXVII} (1898),pp 259-262; \textit{Malakand} pp 256-7.
concluded is that the Frontier's influence may have aided this development.

Tirah's most substantial mobility lesson was to emphasise tactical outflanking. This was a relatively new feature in colonial warfare which previously had stressed direct frontal attack. This again suggests that Tirah had lessons for conventional combat. Hutchison remarked:

I simply refer to [Second Dargai] to accentuate the fact that a direct attack, unsupported by any demonstration against a flank, must always be so costly... that it should never be resorted to if there is any way out.

The Germans later blamed many of 1899-1900’s failed frontal attacks on the baleful tactical influence of colonial warfare. Tirah taught differently. Plowden deduced that extra enemy firepower meant that: '[a] flank must be turned,' continuing:

In these attacks it has become an axiom on the frontier to adopt the same methods of approaching the position as the tribesmen ... This is, for the firing line to creep singly or in twos and threes from cover to cover. The British soldier is not taught this species of skirmishing, but its importance cannot be overrated, and even on level grounds in the plains the principles...should be carefully taught.

This was very similar to Boer stalking tactics. Plowden saw that training would need overhauling if more sophisticated tactics were to be adopted. Lt Col Martin commented that rifle-armed foes demanded that frontal and outflanking attacks should be combined. British readiness to learn from the enemy suggests the importance of improving tactics.

Another mobility lesson was the critical importance of transport. Weak animals, insufficient vets and poor staffwork had hampered both mobility and the TEF's readiness. These faults recurred in South Africa with even worse consequences.

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77 Maj Callwell Small Wars (1899), p 69, though colonial warfare demanded mobility this was mainly logistic rather than involving speed and tempo. Once troops were committed to action, direct attack was stressed; Chapter 5.
78 The Story of Tirah JUSII XXVII (1898), p 241; Trans Lt Col Waters GEOHWSA I (1904), p 28.
79 Lt Col Plowden 'The Battalion on the Frontier' OXLIC 1899 p 256; Martin Mountain p 1.
Protection

Tactical centralisation meant that initially formations were tight; soldiers deployed 1-2 paces apart while skirmishing and at $\frac{1}{2}$-1 pace in extended-order.\textsuperscript{81} This made it hard to use ground; furthermore many soldiers were untrained in fieldcraft so cover was often used poorly. Henderson recorded a veteran's views:

> Attention should be particularly directed to the training of infantry in shooting from behind cover accurately and rapidly without exposing themselves...[T]he average British infantryman usually exposes half his body... and frequently puts himself into such a position that he can neither aim accurately nor shoot quickly.\textsuperscript{82}

Snipers frequently inflicted heavy casualties on bunched troops, suggesting that firepower had been underestimated.\textsuperscript{83} Lockhart's memorandum therefore stressed cunning, or what now would be called fieldcraft, invisibility and dispersion.

Significantly the post-Tirah manual, \textit{MW 1900}, emphasised using ground for protection far more than \textit{IDB 1896} had done.\textsuperscript{84}

The need to pass long transport trains through defiles and to safeguard camps reinforced the importance of protection. Initially commanders had not taken into account long-range modern weapons when siting pickets. Consequently during Tirah pickets pushed further out to counter their fire. But increased firepower allowed picket-strengths to be cut.\textsuperscript{85} Thinning-out meant that the remaining troops could use cover better and were less vulnerable to enemy fire.\textsuperscript{86} Signalling became more important over such extended distances, Franklyn remarked: 'I always sent out a trained signaller and lamp with every picket.' Unlike in conventional warfare, pickets stood fast when attacked, hence they fortified their positions.\textsuperscript{87}

\textsuperscript{81} Pte O'Connor 'With the Malakand Field Force' \textit{QOG XVII} (1899), p 1455, but his unit were not veterans like the PFF; Capt Edwards 'Recent Frontier Warfare' \textit{JUSII} XXVIII (1898), p 361.
\textsuperscript{82} Henderson \textit{Science} pp 350-1. He apparently had served on the Frontier and South Africa.
\textsuperscript{83} L/MIL 3/1087 Letter 164 p 19.
\textsuperscript{84} Capt Walters \textit{Operations of the [TEF] 1897-8} (Simla 1900), p 104; Plowden 'Battalion' p 259. Withdrawing was dangerous as it generally involved downhill movement with the tribesmen having the advantage of height. They had a moral and physical advantage. \textit{MW} (1900), pp 2,37,8-9.
\textsuperscript{85} Capt Shadwell \textit{Lockhart's Advance Through Tirah} (1902), p 155.
\textsuperscript{86} Edwards 'Frontier Warfare' p 358.
\textsuperscript{87} Col Franklyn 'With the Yorkshire Regiment in Tirah' \textit{GHG VIII} (Jun 1900), pp 49-52.
were largely dependent on their own resources, thus putting a premium on their commanders' initiative.

The Frontier demanded constant alertness; unwary units suffered. Churchill recommended that officers should dress like their men and carry rifles; he recounted the classic Frontier adage of avoiding white stones and officers. Both attracted fire. Commanders stressed fieldcraft and using cover; but the IA's rifle, the Martini, fired black powder ammunition. A veteran noted the results:

Nothing could be more marked than the enormous disadvantage at which troops using black powder work as compared with those using cordite. Time after time did we see admirable skirmishing or stalking ... simply given away by the first round fired, and it is no exaggeration to say that a considerable percentage of the casualties incurred by the native troops were due to this cause alone.

This suggests that some Indian units had better fieldcraft training than British troops. Fieldcraft and firepower were reassessed during Tirah. In consequence, the Ghurkha Scouts, the troops most dependent on good fieldcraft, were hastily issued with Lee-Metfords. This suggests the new importance of fieldcraft. However their role also required more firepower.

Initiative on the Frontier

Low-level initiative is important for later tactical developments and is therefore analysed separately here. Tactical conditions in Tirah particularly, representative of modern warfare's dispersion, demanded that all ranks showed initiative. Officers could no longer control, while juniors, separated from superiors, had to act independently. An Infantry CO contrasted:

In Tirah a wily foe, armed with the latest breechloader ... opposing to disciplined numbers his better knowledge of the ground, [and] an inimitable

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88 IDB 1896 pp 156-7; Rodwell Bangalore Lectures pp 14-5; Lt Col Thomsett With The Peshawar Column (1899), p 126; for the continued importance of vigilance on the Frontier, Lt Col Masters Bugles and a Tiger (1956), pp 222-4. Writing post-1945 of 1930s Frontier warfare, he emphasised its value as training in vigilance and fieldcraft for major war.

89 Churchill Malakand p 289, FM Slim Unofficial History (1959), p 112, this advice is a Frontier classic; OPs p55; L/MIL/7/15886 F 21. They were the first Indian troops to be so armed.
talent for skirmishing... In Egypt ... few beneath the rank of Brigadier were called upon to show aught but courage....In Tirah, no subaltern could tell but that ... the lives of his men might not depend on his own initiative. 90

Methuen, judging from Tirah, criticised British units': 'lack of ... initiative,' noting later that IA officers were: 'more habituated’ to showing it. 91 Others shared Methuen's opinion, but even so some Indian units were hide-bound:

We went into Tirah a “drillbook” regiment. We came out of it with the firm conviction that the drillbook, regarded as a traveller's companion for Tirah, was considerably out of date. The principle which we found of greatest importance was ... the frequent necessity for initiative action by subordinate officers. 92

Some commentators analysing the campaigns hardly mentioned initiative. Generally they were either Indian or Frontier veterans, who probably saw it as inherent in hill-warfare. Instead they stressed fieldcraft, skirmishing, scouts and independent fire, all demanding initiative, rather than referring to it directly. There were, however, exceptions. Blood exemplified this indirect approach in criticising a British unit:

our officers and men have much to learn in regard to ... seeing to mutual support, and to the ground, when they get away from directing authority. All the mishaps that have occurred here are traceable to these points—which is brought out by the superior smartness of the enemy. Our volley-firing also is not the thing for this work. 93

These failures suggest poor initiative, confirmed by Blood's reference to: 'directing authority.' Volleys depended on control and close-order, the negation of initiative and fieldcraft. Blood also implied that training was defective and he felt that British troops lacked tactical cunning, ie initiative. Blood later advocated introducing the 4-company battalion, as, with the current 8-company unit, when officers reached positions of power they had become inert. He also criticised volleys as too

90 MIV p 11; GHG VII (May 1899), p 23.
91 RCWSA Evidence II Q 14268, confirmed by MePs ‘Tirah File’ ‘Dargai’ p 6.
92 Maj Callwell The Tactics of To-Day (Edinburgh 1900), p 133; OPs p50. Ormsby was a Gurkha.
93 WPs 38/11/27, Blood/White 7/10/97.
Lockhart’s Memorandum implicitly criticised poor initiative by condemning over-close formations. Its recommendations on withdrawal also demanded initiative, though it did not mention this explicitly. Similarly Egerton’s *Hill Warfare* tackled initiative indirectly by stressing scouts. Pollock’s *Notes on Hill Warfare* criticised set-pattern formations and mechanical firing, but Pollock: ‘having spent over twenty years on the frontier,’ probably did not appreciate that tyros did not understand initiative’s importance. Plowden did not comment on initiative directly, instead he stressed skirmishing, independent fire and use of ground. All required initiative.

Though Plowden was not a Frontier veteran, he was an LI officer and thus was more attuned to delegation. He commented later:

Tirah and South Africa … proved conclusively that tactics which depend on the soldier thinking and acting for himself are those best calculated to ensure success.

Hutchinson, a Gurkha, condemned set-piece formations and *IDB 1896*’s rigidity for destroying initiative, commenting that in mountains:

*[i]t is most necessary, therefore, for every officer to know beforehand what is the “general idea,” so that even when isolated …, he may intelligently co-operate. In no other kind of warfare will company and section commanders find such unlimited scope for … individual initiative … [E]verything may depend on [their] judgement and decision.*

General Hart, a Tirah brigadier, stressed:

*[t]he difficulty of exercising command in mountain warfare is great… much reliance must be placed on the intelligence, initiative … and brave leading of subordinate officers.*

Major Pearse recommended: ‘the intelligent cultivation of [the soldier’s] powers, and … encouragement of individual skill,’ seeing the Gurkha Scouts as the ideal. Pearse
was neither LI nor a Frontier veteran and was writing in Britain, perhaps suggesting
that initiative appeared more significant there. Hamilton underlined: ‘we must ...
develop the individuality & skill of ... men ...with the natural aptitude ... for
scouting.’ This demanded initiative. A journal emphasised that in hill-warfare:
‘small bodies are necessarily detached so company officers must be prepared to
assume responsibility,’ implying that they often had not. Martin, a Gurkha and
Tirah veteran, recommended that junior commanders acted: ‘on their own initiative.’
He also emphasised skirmishing, scouting and that companies were the tactical unit.
All implicitly recognised delegation, while his last point was an important South
African lesson. General Gatacre warned:

A ...commander must recognise... once on the hills, he must ... relax control of
his regiment, which owing to accidents of the ground will pass to.... the
company leaders. When this takes place he will feel, perhaps for the first time,
the immense importance of so training his officers... Above all we require
officers, by careful teaching, to extract ... more intelligence from their men in ...
company training.’

Intelligence implies initiative as does Gatacre’s emphasis on company training.

Hitherto battalions had been the tactical and training unit, inhibiting low-level
initiative. Lt Col Franklyn, a Frontier novice, made some of the most explicit
deductions:

the tendency of warfare on the [Frontier] is to bring out the individual qualities
of each soldier and to demand his employment as an individual ... It was soon
found that volleys are innocuous against a widely extended foe...[T]he great
lessons of ... Tirah ... were decentralisation and the necessity of ... refurishing the almost forgotten art of skirmishing.

Franklyn’s last point suggests the importance of skirmishing in decentralised combat,
and that contemporaries linked skirmishing and initiative. A military journal noted
that the tactical unit in Tirah were companies, in the Sudan brigades. This suggests

100 Sharpshooters’ J RUSI XLIII (1899), p 1245.
101 HampS 1/2/24 20/3/98.
102 Mountain Warfare* LX (1898), p 289.
103 Mountain and Savage Warfare p 2; ‘Characteristics’, pp 1070,1072.
104 GHG VIII (Jun 1900), p 52.
that Tirah’s tactical conditions required substantially more low-level initiative.

Furthermore as companies became the Infantry tactical unit after 1902, it suggests Tirah’s greater relevance to modern warfare.\(^{105}\) AHQ India later realised that the wing system was impractical in the face of breech-loading rifles as it was too centralised, stunting the development of initiative. Instead double companies were needed.\(^{106}\)

**Tirah and LI**

Some commentators argued for LI after Tirah. This suggests the switch towards delegated tactics, for their tactics were founded on initiative and extension. Tirah also highlighted the importance of scouts and skirmishing, both LI skills.

Hutchinson made the strongest case, commending the Gurkha Scouts whose:

> careful preparation in peace-time had made them hardy, active, intelligent, self-reliant, and resolute ...[T]hroughout the expedition, under the bold leading of their officers, they were conspicuous by their dash and daring.

Consequently he recommended reforming Light Companies in battalions. He saw them primarily as more effective combatants rather than as specialist scouts. This suggests poor Infantry tactical standards in dispersed combat.\(^{107}\) Pearse, writing in Britain, also recommended forming bodies of scouts. He argued that, as reconnaissance was the most demanding combat task, special training was essential for it. He cited the Boers in 1881 and the Gurkha Scouts to stress sharpshooters’ value both as scouts and in: ‘field duties which require special training, superior intelligence, personal activity, self-reliance and skill in shooting.’ Again Pearse, like Hutchinson, suggests their importance as combatants, implying that general infantry standards in open-order tactics were poor.\(^{108}\) Pearse was not an LI officer so his

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\(^{105}\) LXI (1898), pp 736-7.

\(^{106}\) L/MIL 3/1102 Letter 212 of 21/12/99 p 3. South Africa may possibly have exerted influence, but given the slow process of staffwork and that India’s most recent, direct experience of such weapons was in Tirah, it is likely that the latter was decisive, Glossary.

\(^{107}\) Glossary; Hutchinson *Tirah* pp 229,239; Ibid p 240.

\(^{108}\) ‘Sharpshooters’ *JRU*S XLIII (1899), p 1245.
article suggests growing recognition in Britain of LI skills’ importance and of the wider applicability of Frontier lessons. Others recommended scout and shikar training as providing excellent instruction in these skills.\textsuperscript{109}

Major Yate, writing on Frontier warfare, emphasised the role of LI in hill-warfare and their special tactical skills. His article began in America, the British LI’s cradle, commended 13\textsuperscript{th} LI’s hill-fighting skills and deduced that systematic training was essential for such combat. He praised LI skills and saw the old Light Company standard as desirable. He argued that the average soldier had neither the fitness nor mountaineering skills necessary for detached combat in hill-warfare. Yate concluded: ‘[g]ood recruits must be well paid, and without good recruits there cannot be a good Army.’ Roberts also was to emphasise this later. Yate also argued that IDB 1896 had insufficient guidance on hill-warfare.\textsuperscript{110} Martin stressed that scouts should be trained like LI, who, he noted, did far more skirmishing than other infantry. He commented that IDB 1896 had: ‘practically no instruction on this subject.’\textsuperscript{111}

The degree of emphasis on skirmishing and LI suggests that tactical conditions had changed, that Infantry training was defective and that IDB 1896 did not match these new conditions.

Training and the Manuals

Commentators felt that many units had been poorly prepared for Tirah. Partly they attributed this to the fact that there was no comprehensive manual of Frontier warfare. Also IDB 1896’s general principles of close-order and volleys were inappropriate to hill-warfare. Hutchinson, the Indian DME and thus able to influence training, was scathing.

Regiments new to ... mountain warfare, which have only practised drill-book methods of attack and retirement, find themselves seriously handicapped.

\textsuperscript{109} Eg Capt Burton ‘Shikar as Training for Scouts’ \textit{JUSI} XXVIII (1899). That it was a favourite officer recreation did not lessen its training appeal! It was also stressed after 1902.

\textsuperscript{110} ‘North-West Frontier Warfare’ \textit{JRUSI} XLII (1898), p 1172; Ibid pp 1180, 1182, 1192; Glossary.

\textsuperscript{111} Mountain pp 2-3.
He condemned *IDB*'s direction that:

> "retirements should usually be conducted in *quick time*" and that "in moving from cover to *cover an upright position* must be maintained"! ...If these are the only methods constantly practised on cantonment parade-grounds, it must be impossible to shake them off at a moment's notice.

This suggests that, even in India, training was often stereotyped. Hutchinson felt that *IDB 1896*'s: "‘attack formations’ were entirely inapplicable.' This was unfair as it forbade ‘normal’ formations, but Hutchinson’s strong criticisms can only have advanced the adoption of more decentralised tactics.\(^{112}\)

At lower levels officers found that *IDB 1896* inhibited common-sense. Ormsby, a Tirah veteran, recalled: ‘[the] first day on which we ventured to disregard the directions of the Drill Book about retiring in quick time;' consequently his troops escaped unscathed. Disobedience caused him considerable trepidation, but later the rest of his battalion conformed.\(^{113}\) This suggests how Tirah helped to inculcate flexibility.

Many Tirah veterans stressed the need for realistic training delegated to sub-units. Pollock urged:

> Take every opportunity of exercising your men in firing at unknown distances: nothing trains men for war so much ... [A] hillman is not a white target ... nor does he even at 800 yards show even a mark as large as a third class target... Train your men in peace to the manoeuvres they will have to perform in war. Forms of attack are very good in their way, but they won’t do against hill enemies.\(^{114}\)

His last comment again implies that ‘normal’ formations were still common.

Mead recommended improving training and outlined the changes which Col Hill, AAG Musketry India and an ex-Tirah brigadier, had proposed. These included less emphasis on volleys, itself encouraging extension and initiative, and more

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\(^{112}\) *The Campaign in Tirah 1897-1898* (1898), p 129; *MW 1900* stressed speedy withdrawals p 12.  
\(^{113}\) OPs p 30; Slessor Derbyshires p 44 also stressed *IDB 1896*'s inappropriateness.  
\(^{114}\) ‘Hill Warfare’ *JUSIL* XXVIII (1898), pp 146-7; Slessor Derbyshires p 4 agreed that training had been stereotyped hitherto.
practical shooting.\textsuperscript{115} Hart, Mead’s Chairman, another ex-Tirah brigadier, urged realistic training delegated to COs. This would have encouraged initiative. Gatacre also advocated practical training including field-firing and fieldcraft decentralised to companies. Decentralisation would have developed initiative. Plowden trained his battalion in skirmishing and fieldcraft after Tirah.\textsuperscript{116}

This contemporary emphasis on improving training suggests that hitherto it had been poor and over-centralised, as Hart suggests. Criticisms of IDB 1896 probably aided tactical change in Britain in 1899. The decentralised training which many recommended was better fitted to modern warfare and would have developed initiative.

India’s Reaction to Tirah

This section covers the changes which the 1897-8 Campaigns caused in India. It may be argued that these were irrelevant to the British Army. But the Army in India had a substantial British element; interchange of personnel between British and Indian-based units was common and many Tirah veterans fought in South Africa with their linked British-based battalion. The next sections examine the response and show how it affected both tactics and weapons.

Curzon commented that 1899-1901 saw: ‘special activity in remodelling and improving armament, equipment, mobilization and defences’. Not all of the resulting actions derived from the Frontier, but he emphasised that:

\[\text{[i]n 1897 the army (sic) was engaged in a series of ... campaigns.... in which ... numerous defects and shortcomings were laid bare, and the military administration is now desirous that the army.... shall profit by the lessons.}\textsuperscript{117}

The greatest effect was on firepower, but mobility was carefully examined, largely in the context of logistics and animalmastership. Tirah had demonstrated that:

\textsuperscript{115} Mead ‘Musketry’ pp 245, 259.
\textsuperscript{117} The Indian Army (Oxford 1907), pp 35-7; L/MIL/7/10139 ‘Reorganisation Artillery’ 2/11/99 p 2.
a small fully equipped force which can act at once and strike sharp, prompt blows, is more efficient, and far more economical than a large army that can only take the field after months of preparation.

This suggests the importance of tempo, critical in manoeuvre. Changes to protection are covered in the Training Section below, as developments in fieldcraft were most visible in training.

Firepower

The 1897-8 Campaigns were an important factor in India’s rearmament proposals. The most significant was reequipment with smallbore rifles. Tirah had revealed the Martini’s growing inferiority to tribal weapons. Many were worn out and their black powder ammunition impaired fieldcraft. Other changes included provision of 58 machine guns and new mountain guns. Machine guns had been trialled during the 1897-8 Campaigns. Had they been ineffective then, it is unlikely that this increase would have been recommended. India’s demand for more artillery was:

given additional weight from [1897-8]... The part played by... mountain batteries against frontier tribes is one of great and increasing importance...Our superiority in small arms is ...rapidly disappearing while ...the power of combination and tactical efficiency of the tribesmen is increasing. Under these circumstances, we must, in the future, rely largely on ...artillery.

White wished to raise the proportion of guns from 1.93 per 1000 men to 4 to reduce casualties and accelerate operational tempo. Significantly he recommended European norms as his desired goal. This suggests tactical transfer from conventional to Frontier warfare, recognition that the latter was becoming harder and therefore conversely that Frontier lessons might apply in conventional combat. White’s point that more artillery would accelerate combat is valid as he did not anticipate the

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119 OPs p55; L/MIL 3/1101 ‘Proposals to Increase Army Efficiency.’  
121 Ibid, Enclosure 2, AG/GOI 3/1/98.  

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tribes deploying it.  

Dargai had shown that concentrated artillery fire was needed to support infantry in the face of improved firearms. But:

[t]he full effect of artillery fire... can not be produced by the casual grouping of batteries ... even at the beginning of a campaign; the brigade division should be a permanent unit.  

Britain was also changing to permanently-organized artillery units, so India did not alter just because of Tirah, but doubtless the latter’s experience aided reform in India.  

**Training**

Tirah had shown that current training was inadequate for decentralised fighting. Possibly this had already been appreciated as White had sent Hutchinson, the Indian DME, specifically to Tirah to improve hill-warfare education. In 1898 a *Syllabus of Instruction in Mountain Warfare* was issued. This included large-scale attacks and withdrawals, suggesting that conditions approaching conventional warfare were anticipated. The enemy was to be specially selected to represent an ‘active’ force, while in company training scouts were to be chosen. ‘Active’ suggests dynamic and thus realistic training. Its stress on company training implies decentralisation from battalions and therefore more scope for initiative. That company scouts were to be trained suggests that Hutchinson’s ideas on scouts and LI-style skills were being implemented.

Tirah inspired hill-manoeuvres all over India. The best reported were held at Attock. The 1899 Attock Manoeuvre Instructions, issued to participants beforehand, recommended controlled, independent fire rather than volleys. They saw

122 When one side is superior in artillery, this statement is correct, though there are logistic caveats; but when there is a mutual, equivalent increase of artillery, the likely result is lengthy attrition eg 1915-17.
123 L/MIL/7/10139 M5463/1900 Military Dept 79/1900 31/5/00; India’s request to form brigade divisions effectively antedates South African lessons, given lengthy preliminary staffing.
124 L/MIL/7/15867 F10A of 27/9/97.
125 USG (15/10/98),p 834. 2nd Dargai was an example.
126 L/MIL/17/5/358 No 528 16/8/00 shows they occurred in Bengal. Others took place at Dalhousie and Quetta.
a suitable formation for scaling hills as scouts leading, followed by an extended line
with supports close behind. If an attack was decided on, infantry and artillery fire
would cover it, while outflanking and frontal action were to be combined. This
recognised greater tribal firepower and more conventional tactics. They emphasised
that depth detachments would protect retirements, showing the value of covering
fire.\textsuperscript{127}

Commanders' suggestions from the manoeuvres were carefully recorded,
indicating keenness to learn. Commanders emphasised the importance of scouts and
signalling. The former suggests the greater importance of dispersed tactics and more
attention to instructing individuals, the latter greater extension. The Attock
Manoeuvres included field-firing and conventional attacks, though hill-warfare
predominated. Tactically the main criticisms were bunching, poor fieldcraft, skylined
soldiers, bad reconnaissance, and inadequate covering fire. Batteries leapfrogged
during the manoeuvres; previously they had advanced simultaneously so as to
minimise CB. Leapfrogging in contrast ensured that covering fire was not
interrupted.\textsuperscript{128} All were valuable lessons for conventional war.

The 1900 Attock Hill Manoeuvres were equally carefully recorded. Tactical
guidance now recommended advancing on broader frontages to develop more fire
and to prevent outflanking. No reason is advanced for the change, though similar
formations were used in South Africa. Criticisms were tart, often involving
overexposure, bunching and unwariness, while the comment: '[t]his day was
instructive ... it showed many faults' suggests readiness to learn from mistakes. The
manoeuvres included field firing; during it Indian units were praised, but a British
battalion's slowness, poor covering fire and bad fieldcraft were excoriated. All these

\textsuperscript{127} DPs 7810-106-40 'Report on the Attock Manoeuvres March 1899'; Ibid pp 58-63; Denning issued
his own tactical notes, (DPs 7810-106-39), suggesting the manoeuvres' importance.
\textsuperscript{128} Ibid pp 13-14; pp 14-5; pp29,43-5; pp 37,39; p 41; p 33; Chapter 3. Glossary.
points were very relevant to conventional warfare. Again the evidence suggests that IA units were better trained than British battalions. The subsequent report recommended improved field training, scouts, and signalling.\textsuperscript{129}

In summary the Attock manoeuvres appear realistic with many lessons for conventional warfare. The obvious care taken suggests the importance of improving tactical performance. Much attention was paid to maximising firepower and to stressing both infantry and artillery covering fire, while minimising the enemy’s through fieldcraft and extension. Emphasis on scouts and company training suggests more attention to initiative and open-order combat.

Unit training altered from 1898, the Green Howards described hill-warfare schemes against their battalion scouts, using: ‘tactics learnt from our Afridi foes,’ as: ‘more attractive’ than normal exercises, while inter-company hill-warfare training was: ‘even more interesting.’\textsuperscript{130} Interesting training is far more likely to stimulate progress and develop initiative than set-piece drills. Furthermore India-wide directions issued after Attock underlined that:

\begin{quote}
[i]n special practices this summer [OCs] Companies should endeavour to bring out the individuality of their men, who in a modern fire fight would, as often as not, have to rely on their own judgement.
\end{quote}

India also introduced scout training which would have fostered initiative. That scout and hill-warfare training were conducted across India suggests that open-order tactics were being adopted.\textsuperscript{131} On the basis of the surviving evidence, the training was thorough and realistic, suggests that fundamental change was occurring.\textsuperscript{132}

\textbf{Mountain Warfare 1900}

Defects revealed during Tirah caused the issue of this new manual: ‘based on

\textsuperscript{129}L/MIL/17/5/1807 ‘Report Attock … 1900’. Comments were circulated daily; participants’ suggestions were recorded; Ibid p 2. 267 scouts participated; pp 2-10 (Special Peshawar DO 17/1/00); pp 35-6; Items 25-30 pp 88-9; Items 31-35 p 89.

\textsuperscript{130}2nd Bn News’ \textit{GHG VII} (1899),p 106.

\textsuperscript{131}L/MIL/17/5/1807 p 72; AG India No 1501D 19/7/99 on scout training.

\textsuperscript{132}‘Dalhousie Hill Manoeuvres October-November 1900’ \textit{OXLIC 1900} p 219; L/MIL/17 5 358 Bengal Command Order 528 of 16/8/00 suggests that many others had been held in Bengal.
the experience gained in the late frontier campaigns.' This suggests a more analytical approach to training. Significantly it was not titled 'Drillbook' as were other contemporary manuals, suggesting less tactical rigidity.\(^{133}\) It started with mechanical instructions on skirmishing, though noting:

…it was not titled 'Drillbook' as were other contemporary manuals, suggesting less tactical rigidity.\(^{133}\)

\[\text{(i)n teaching skirmishing, the instructor will show his men how to make use of cover; he will explain to the section commander that the men should make the most of all cover.}\]

This suggests that using cover was not universal hitherto, while its mention of section commanders implies greater emphasis on NCO initiative than \textit{IDB 1896}. It saw that section commanders might need to train their men and that they would command without an officer being present. Significantly it included skirmishing unlike \textit{IDB 1896}. This possibly suggests the influence of Hutchinson and others who had called for skirmishing's reinstatement. \textit{MW 1900} described scouts' tasks imaginatively, stressing their special training: 'as expert skirmishers over every variety of ground.' Again, that this emphasised combat rather than reconnaissance suggests poor average tactical standards. This also suggests Hutchinson's influence.

Rather anachronistically \textit{MW 1900} had a long section entitled 'company drill,' which began mechanically, but it later advised that NCOs would be: 'required to act on their responsibility in directing ... fire,' that wider extensions were necessary, while accurate dressing and regular intervals were not.\(^{134}\) Both suggest that much previous training was stereotyped, while the latter comments recognise low-level initiative. That \textit{MW 1900}'s section on company training was longer than the battalion one suggests that companies were recognised as having greater tactical importance. Later this was an important South African deduction.\(^{135}\) It instructed that:

\(^{133}\) \textit{MW 1900} (Simla 1900), preface. The skirmishing section was influenced by \textit{IDB 1896}'s Drill of a Section in Open Order.' That it used the term 'skirmishing' suggests an Li influence. It is just possible that Henderson's 'Technical Training' influenced \textit{MW 1900}, see below.

\(^{134}\) \textit{MW 1900}, pp 2,4-5,7.

\(^{135}\) Ibid pp 5-13, the battalion section covered pp 13-20, but included logistics; Ibid p 9. Chapter 7.
section commanders should clearly understand that they must take their own
section to the front whenever the ground favours it, without any regard to the
order they were in.

This implies better use of ground and more NCO initiative. It stressed covering fire,
recognition of increased enemy firepower. It saw that in open ground against
enemies armed with breechloaders, extension between 8-12 paces was not excessive,
a substantial increase on the previous 1-2 pace norm. Such extensions demanded
initiative.

MW 1900’s section ‘Instruction of the Battalion’ stressed reconnaissance; all
battalions were to have scouts and were to cultivate soldiers’ powers of observation.
Unlike IDB 1896, it endorsed initiative wholeheartedly:

There is no possibility of laying down a drill, indeed it is very important that
hard and fast rules should not be made. All ranks should be encouraged and
taught to act on their own resources... Junior officers and [NCOs] should be
taught to act on their own initiative... Once the general plan has been
explained... it will sometimes be found impossible for further orders to be
conveyed.136

Pickets and flanking parties were to be kept small to economise on manpower, again
implicitly recognising delegation and firepower, while MW stated: ‘[v]olley-firing in
hilly country is...a waste of ammunition.’137 This was a major change also needing
low-level initiative.

MW 1900 summarises India’s view of 1897-8’s lessons, here its stress on
skirmishing and scouts is important, and it gives pointers to the other 1898-9 hill
manoeuvres and unit training. Units, which had been trained in accordance with it,
would have been better prepared for conventional war.

136 Ibid p 14. Buller made similar points, see fn 157 below. This has similarities with Hutchinson’s
comment, fn 98. It is possible that Hutchinson drafted MW 1900. He had served in Tirah and had
training responsibilities.
Tirah’s Influence outside India

Tirah influenced Britain. General Wood, the AG, commenting on Hutton’s *Lessons to be Learnt from the French & German Manoeuvres of 1897*, felt that dense German attack formations were possibly wrong, continuing:

> the thought has perplexed me many times in the last month whether we have not made a mistake in doing away with skirmishing ... One officer, who has been ... in South Africa, wants us to have special skirmishing taught to battalions in that country, but it is apparently quite as much wanted on the [Frontier].... [S]ome ... regiments ... are absolutely doing nothing except firing volleys, which, at a single man.. are not much value. On the other hand we hear of 100 Ghoorkas (sic) having shot at least 100.\(^{138}\)

That a non-IA officer, the British Army’s effective 2ic, criticised tactical performance and poor initiative, while praising the Gurkha Scouts, who excelled in both skills, suggests Tirah’s influence and the need for change in Britain. Wood later selected Ian Hamilton to take over at Hythe. Hamilton had a reputation as a keen shot, but Wood may have felt that his Tirah experience would be valuable.\(^{139}\) At Hythe Hamilton criticised:

> the attempts sometimes made by [COs] to control more than any one man is competent to control properly ...[C]ontrol of fire can always , in ... service conditions, be sufficiently loosened to admit of the individual initiative of the fire unit commanders, and of the intelligent co-operation of the men.

He later told the RCWSA that his most significant deduction after Tirah was that volleys were ineffective. Hamilton’s comment in 1898 was less emphatic than his statement to the RCWSA but it implies that Hythe was changing.\(^{140}\) Decentralisation was an important lesson for conventional war.

Henderson and Verner

Tirah’s most significant effect in Britain was on two officers, Lt Cols Verner

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\(^{138}\)HuPs 50086 Wood/Hutton 10/12/97.

\(^{139}\)Gen Hamilton *Listening for the Drums* (1944),p 27. FM Wood *From Midshipman to Field Marshal* (1906), p 223. Though secondary evidence, the AG was heavily involved with personnel selection. Wood’s third son was a Tirah veteran; Ibid p 243. Wood also corresponded with Methuen. eg Wood/Methuen 28/12/97 MePs ‘Indian Diary.’ That Wood, a follower of Wolseley selected a prominent member of Roberts’ Ring as Hythe’s Commandant suggests a strong reason, perhaps recent combat service, for selecting Hamilton.

\(^{140}\)Report ... Musketry Training ... 1898 (1899),p 45; RCWSA Evidence 1 p 112.
and Henderson. They collaborated to develop a new tactical model based on Tirah and Peninsular LI tactics. Henderson in his lecture ‘The Technical Training of Infantry,’ delivered with Roberts presiding, saw 1897-8 as having significant implications for future tactics. He cited a Tirah veteran:

Some regiments, notably several belonging to the native army, were at home from the first. But ....these regiments had received a thorough [LI] training; their officers, as almost all the officers of the native army are, were accustomed to responsibility.... Anything better than the skirmishing of the Guides,...[and] the 20th PI, I never wish to see. I pity the Russians that come across them in their native hills.141

The last point emphasises the value of skirmishing in conventional combat and that Tirah’s lessons applied in major wars. The veteran then criticised British troops for inertia, bad fieldcraft and tactical naiveté. Henderson went on to conclude that India’s instructions and hill manoeuvres suggested a way ahead for tactics generally.

He then analysed tactics, concluding that progress demanded that:

1. Regimental officers, including company commanders, to be left more to themselves on field days.
2. An extended course of physical training...
3. Practice as [LI] over difficult ground.
4. Careful instruction of the individual skirmisher.

All points involved training, three emphasised subordinate initiative and two covered fieldcraft and the use of ground.142 Henderson compared the Peninsula with the Frontier, concluding that there was ‘a striking resemblance,’ while LI’s Peninsular successes were based on:

The correct habits of command instilled into...regimental officers, and...training ...their judgement...[T]he system under which the Light Brigade became so famous is the most effective means of training the British infantry of to-day. 143

LI tactics applied in continental warfare, particularly in the later stages of attacks and in broken ground where: ‘much will depend on the intelligence ... skill, and

142 He did not specify what these instructions were, though the Mountain Warfare Syllabus is possible: Science p 349; Henderson ‘Training’ pp 497-8. Ground is covered in point 3 and implicitly in 4.
143 Henderson Science pp 500-1, this section was not given in Dublin.
...readiness of the individual skirmisher.' Clearly this emphasis on skirmishing and initiative was important, but Henderson’s most important point was on the LI system’s master feature: ‘inculcating ... correct habits of command in the regimental officers (sic).’ Henderson’s analysis had implications for future training and initiative, but perhaps the most important was that it foreshadowed the need for doctrine which balances initiative and control. 144

Hitherto Henderson had very much concentrated on the American Civil War and 1870. ‘Technical Training’ which draws heavily on the Peninsula War and LI, not to mention Tirah was a new departure for him. Henderson referred to his source:

I am much indebted to Lieut-Colonel... Verner... for much information as regards the methods of training ... at Shorncliffe, and the character of the Light Brigade fighting... as well as.... many ideas as to the fighting of the present.' 145

Verner did not acknowledge Henderson when introducing A British Rifleman, possibly suggesting that he originated the idea. In it Verner remarked:

the most pressing military problem is how to conduct an attack on troops armed ... with magazine rifles, which owing to their flat trajectory and extraordinary rapidity and precision of fire, are overwhelming in their effects against favourable targets up to 2000 yards. The object-lesson most recently before us is ...[Omdurman], where the absolute impossibility of masses of men advancing under modern artillery and rifle fire, although known to students of war, was practically demonstrated again to the whole world. The unusually heavy losses experienced by our troops in the fighting on the Indian Frontier in 1897 was mostly due to the able manner which the Afridis...took advantage of the ground and worked in unison (as did the Riflemen at Tarbes.....) to assist and support one another, and thus to develop their fire so as to obtain the maximum value from it with the minimum exposure and loss to themselves. The accounts by officers who served in that campaign bear a striking resemblance ...of the methods of fighting of the Riflemen during the Peninsular War. It is notoriously difficult to prophesy, but I...believe that the ... conduct of attacks in the future will ... be solved by adopting some system based on the methods originated ... by the first regiment of Riflemen. 146

Verner stressed the Shorncliffe training system, its emphasis on companies and its current tactical applicability. Verner’s introduction does not appear to have had much subsequent influence, but Henderson’s ‘Technical Training’ was widely

reprinted, reviewed, amplified and influenced India.\textsuperscript{147} That it was given in Ireland with Roberts presiding probably accounts for the latter’s stress on skirmishing on the 1899 Irish Manoeuvres.

**Tirah’s Influence on Roberts and Buller**

Tirah influenced both the first 2 CinCs South Africa, Roberts and Buller. Both held major commands in 1899, Ireland and Aldershot respectively from whence many units deployed to South Africa. Roberts commented in 1898:

> During the recent campaign on the ... Frontier.....our enemies taught us what could be done with weapons ... inferior to ours. [W]e must discard the notion... that only volleys will be ... effective.

He continued, castigating officers who preferred drill to shooting, who showed: ‘their inability to understand the extreme importance of Musketry (sic) training.’\textsuperscript{148} It is possible that Roberts’ criticism of volleys was influenced by Ian Hamilton, though Roberts had many other sources of information on Tirah.\textsuperscript{149} In 1899 Roberts emphasised fire at moving targets at unknown distances: ‘the kind of shooting that is required in skirmishing,’ while some soldiers should be trained:

> to be real experts in the use of their arms-men who would be able to act as usefully and intelligently as the Gurkha Scouts.\textsuperscript{150}

Roberts also urged that officers be trained to accept responsibility in a document on the forthcoming 1899 manoeuvres. On the same day he advocated better barracks to attract higher-quality recruits as:

> under the conditions of modern war, the man of higher intelligence is three times as valuable as his illiterate ... comrade..... [I]n these days of extended formations, great demands are placed upon ... individual intelligence of the private soldier, and the better educated a man is, the more valuable he will be.

There is no direct connection between the two documents, but open-order tactics had

\textsuperscript{147} ANG XL (1899), pp 721,817-8; B4 LXII (1899), pp 240,263-4; Maj Mayne ‘The Training of Infantry for the Attack’ USM XX (1899); Akers-Douglas Committee Q 6378, Henderson did not expand on this.

\textsuperscript{148} RPs 7101-23-107 ‘All Ireland Rifle Meeting Speech 1898.’

\textsuperscript{149} See fn 140 above. No confirmatory correspondence survives in the Roberts or Hamilton Papers.

\textsuperscript{150} RPs 7101-23-110-1 ‘All Ireland Army Rifle Meeting 29/7/99.’
been validated in Tirah and demanded higher-quality soldiers, capable of initiative.  

That Roberts intended that the 1899 Irish Manoeuvres would train units in skirmishing and develop initiative suggests Tirah’s influence. This was probably due to Henderson’s lecture, given in March 1899. Articles in The Times on these manoeuvres, inspired by Roberts, stressed initiative, skirmishing and LI. The correspondent, almost certainly Henderson, criticised dense attacks and: ‘regular and precise methods [of the] parade ground,’ while noting that battalions in which: ‘company officers are traditionally given a free hand’ were better skirmishers. This suggests that they were LI. He continued:

Lord Roberts endorses ... that skirmishing is likely to play a conspicuous part even in Continental warfare...It is well known that Lord Roberts is as keen on good skirmishing ... [as] good marksmanship ... [T]he skirmishing tactics of the ... Light Brigade.. form .....an admirable model for the British Infantry of today.  

Skirmishing was: ‘not to be learnt in a day’ and the Manoeuvres’: ‘standard was not that of the Peninsula or Tirah.’ Till all soldiers had individual instruction in using cover, casualties would be excessive. He criticised frontal attacks when cover was available, recommended that infantry firefights should be longer. This implies that more fire would be needed to counter increased enemy firepower. He recommended that in close country companies should advance stealthily and surprise the enemy:

This was the style of fighting in which the ... Light Brigade excelled. These are the tactics of the Boer and the Afridi.

This reference to Boers may have anticipated the forthcoming war or may have looked back to 1881, but, as official warnings had already been issued on the South African situation, the former is likely. The correspondent continued:

151 Ibid ‘Irish Manoeuvres Circular Memorandum’ 6/7/99; ‘Improvements to Barracks;' Chapter 7
152 Col Henderson Akers-Douglas Committee Q 6458. Though Henderson’s evidence was years later, The Times ‘contemporaneous reports cited below support it.
153 Times 31/8/99; Evans/Archivist News International 19/11/01; career-conscious juniors do not lightly attribute opinions to Field Marshals.
we want soldiers with wits... the development of individual intelligence and resourcefulness... must be a main end of regimental training. In this respect, however, there is something still to be desired.

The Irish Manoeuvres had: 'forcibly impressed the importance of training our young officers to use their judgement and to rely on their own resources.' The article suggests a shift in Roberts' thinking. Previously he had proposed thickening formations to control skirmishers. Tirah and Henderson's lecture had probably caused this shift. This conclusion is based on negative information and thus is not totally satisfactory.\(^{155}\)

Buller's 1899 'Memorandum on Field Training' made points, which by content were probably drawn from Tirah. There is no evidence of a direct link, but at the same time as Roberts was emphasising initiative and skirmishing, Buller also did so. The coincidence that two major commands were stressing skirmishing at the same time possibly suggests that Wolseley and Wood were trying to prepare the Army for South Africa.\(^{156}\) But there is no supporting evidence for this claim and Buller may have initiated his Memorandum independently for the same purpose. In it he criticised stereotyped infantry formations, stressed modern rifles' firepower and mentioned scouts who were then most prominent on the Frontier. Buller also highlighted: '[a]t company training commanders should devote more time to practice skirmishing.' Buller was a Rifleman and thus familiar with skirmishing but had allowed it to be deleted from *IDB* 1893 despite as AG being responsible for training. Tirah probably caused his emphasis on skirmishing as in no other contemporary campaign was it so prominent. Though control was needed during range-work, Buller impressed: 'once thoroughly taught the soldier should be permitted to use his


\(^{155}\) 7101-23-100-1 Roberts/Cambridge 5/2/86; the following have been scanned: RPs 7101-23-97-1, 7101-23-97-2, 7101-23-100-1-6. This has a letter (21/9/86) on hill fighting, skirmishing is not mentioned; 7101-23-100-7, 7101-23-101-1, 7101-23-104-107, 7101-23-110-1, 7101-23-126-2, *The Rise of Wellington* (1895). Roberts was in communication with several IA officers and Hamilton, so he had ample information on Tirah.

\(^{156}\) *REJ* XXIX (1899),pp 214-5. It was published on 2/10/99 suggesting that the original was issued earlier. Roberts' circular on the Irish Manoeuvres was issued in July 1899.
individual intelligence.’ He criticised unnecessary movement and exposure, both Frontier rather than Sudanese lessons, continuing:

The stereotyped line is an evil; it is not necessary that a company when extended should move in an exact line. The formation should conform to the ground. 157

Henderson had made similar points when criticising normal formations. Buller also stressed companies, recommending delegation to their OCs. This occurred at a time when battalions were the tactical unit. Buller had not changed this emphasis on battalions during his time as AG, suggesting that his tactical thinking had developed recently. This further implies that Tirah was the cause, for, as Franklyn noted, the tactical unit in the Sudan were brigades. Buller also recommended practicing: ‘dribbling men over bullet-swept ground.’ This was a specific Frontier lesson; there was no similar exposure in the Sudan. Buller also stressed that soldiers should fire directly on seeing the enemy, this recognised soldiers’ initiative and was a Frontier not a Sudanese lesson. It represented a rejection of volleys.158

The Frontier and Modern Warfare

This section examines contemporary links between the Frontier and modern warfare or with South Africa. Hamilton exploited his Tirah experience in South Africa, while Fortescue noted that long-range rifle fire’s importance had been deduced from Tirah.159 An anonymous article on South Africa, later attributed to Henderson, commented:

much attention had been paid to skirmishing and the reduction of losses by offering the very smallest target. The importance of such tactics had been driven home by the ... Frontier; and the regimental officers in South Africa, discarding the dense and regular lines of Aldershot and Salisbury, at once deployed their men at wide intervals, encouraged them to make use of all natural cover, to imitate the Boers in invisibility.160

157 Lt Col Verner ‘Infantry Training (Provisional)’ RBC 1902 p 159; Buller ‘Memorandum’ p 215.
158 Rodwell Bangalore p 59. Aldershot training was artificial, Tirah would seem the likely source.
159 V Sampson and Gen Hamilton Anti-Commando (1931),p 112, though this is secondary evidence, Hamilton had trained his brigade in open-order tactics just beforehand and had written Tactical Deductions from Tirah suggesting the link; ‘Our Army and Its Critics’ MM 83 (1900),p73.
160 ‘The War in South Africa’ EDR CXCI (1900),p274. KT Sturridge Managing the South African War (1998),p62 attributes this to Henderson, who naturally was unlikely to underplay his own part.
Later the RUSI’s Secretary wrote on skirmishing, commenting that it had become more appreciated in India after Tirah and that modern warfare required its reintroduction. He emphasised Gawler’s work. Holden, the Secretary, had no regimental background which made him aware of skirmishing or Gawler. This suggests that he may have been encouraged to write by the Army. The RUSI had close links to the Army establishment.\(^{161}\) Also in 1900 Rifle Brigade officers published *The Theory and Practice of Skirmishing*. The appearance of 2 works on skirmishing in 1899-1900, one of which referred to Tirah, is significant. Skirmishing was associated with LI and initiative and indicates the adoption of decentralised tactics. These more or less simultaneous publications may also suggest an attempt to prepare tactically for South Africa. Somewhat later Plowden wrote *Notes on Skirmishing*, based on Tirah and South Africa. He stressed inculcating soldiers with initiative.\(^{162}\)

Methuen, a Tirah veteran, later a divisional commander in South Africa, analysed Dargai, concluding:

> The only way to carry a position in these days of quick-firing arms of precision, is to push forward at close intervals line after line of men in extended order and under perfect control.

He overestimated commanders’ powers of control, but his recommendations on extension would have counterbalanced the former. Methuen was using the Frontier to make deductions on future conventional war. He also highlighted outflanking, questioned volleys’ value in European warfare and criticised British shooting. All based on his Tirah service:

> In our small Army, it should be our first object to make up for our disparity in

\(^{161}\) Research at the RUSI has been unable to confirm this, but the Army was represented on the RUSI Council, while the RUSI’s secretary was well placed for conducting historical research. 

\(^{162}\) Lt Col Holden ‘The Art of Skirmishing’ *JRUSI XLIV* (1900), he was from a non-LI regiment and remote from unit service; *The Theory and Practice of Skirmishing* reviewed *RBC* (1900), but the work has not survived. These works on skirmishing were possibly written in autumn of 1899, suggesting an attempt to prepare for South Africa; *Notes on Skirmishing* (Lahore 1900), reprinted *OXLIC* (1900).
numbers compared to any European Army by using our best energies to produce fine shots at moving targets at unknown distances.\textsuperscript{163}

Methuen’s views were similar to Roberts’.

In September 1899 the Guards commented that scouts so speeded tactical movement that light companies might be introduced into units.\textsuperscript{164} Given that training in Britain was artificial, this implies a link both to Tirah and to Hutchinson’s and Yate’s works. Though scouts are mentioned in \textit{IDB} 1896, their operational value had been proved most recently on the Frontier. It has not been possible to find references to infantry scouts in training in Britain between 1897-8. This is negative information and thus far from satisfactory. Their comments also suggest that training was changing in 1899, possibly due to Buller’s Memorandum, which, as Chapter 3 shows, the Guards were well aware of.

In Natal Symons introduced Frontier-style training and Smith-Dorrien used Tirah’s lessons on exercise.\textsuperscript{165} In 1899 a ‘communicated’ article ‘How to Fight the Boers’ commented that Boers and Afridis had: ‘many characteristics in common,’ that they were: ‘probably about the best skirmishers in the world,’ while their tactics were: ‘almost identical.’ The article stressed fieldcraft, extension and scouts. It may have been part of an officially inspired attempt to prepare the Army for South Africa. Its comment on Afridi skirmishing seems to echo Lockhart’s Memorandum, cited above. Tainton also emphasised similarities between Afridis and Boers. It would be tempting to dismiss this linkage as flimsy, had not Roberts reached similar conclusions.\textsuperscript{166}

South African combatants stressed Tirah’s positive influence. The KOYLI’s CO felt that: ‘experience … from Tirah’ had saved many casualties. Verner praised

\textsuperscript{163} \textit{MePs} ‘Indian Diary’ ‘The Attack on Dargai’ p 1; \textit{Ibid} pp 2-3.
\textsuperscript{164} \textit{HBM} II (1899), p 633; its publication in September suggests a link to Buller’s Memorandum.
\textsuperscript{165} Maj \textit{Crum With the [MI] in South Africa} (Cambridge1903), p 8; Gen Smith-Dorrien \textit{Memories of 48 Years Service} (1925), p 134. This is secondary, but he probably was able to use contemporary documents when writing.
\textsuperscript{166} \textit{BA} LXIII (1899), p 401, 23/9/99; \textit{The War and Its Lessons} (1900), p 11; \textit{RCWSA Evidence} II p 64.
their performance; two important works concurred.167 Du Moulin, a Tirah veteran, noted that Smith-Dorrien, another Tirah veteran, commanding many others, had outsmarted the Boers due to his Frontier experience. Capt Wake recalled that: ‘[p]rofiting from …Indian hill warfare, the men had been trained to rely in each advance on covering fire directed over their heads by those behind them.’ This suggests that covering fire had been downplayed before 1897. It also shows the Frontier’s direct effect on training.168 Gen Nicholson, Lockhart’s former COS, when serving with Roberts felt that: ‘Boer tactics closely resemble those of the tribesmen on the … Frontier.’169 Lt Col May commented that the Boers had been underestimated despite Tirah. Callwell compared the 2 campaigns and Maj Norris remarked that Tirah could have been tactically beneficial in South Africa.170 The Germans emphasised that the Frontier had showed more modern conditions than most colonial wars and that it had demonstrated the need for initiative and marksmanship. Balck, who influenced CTrg 1902, concurred.171 Both had received much British help with their works and it is possible that their views reflect official British opinion. Even if this was not so, that such astute commentators stressed the Frontier’s positive effects is significant. Churchill saw many similarities between South Africa and the Frontier. A service magazine recommended that scouts, modelled on the Gurkhas, should be established. Lt Col Ovens noted the importance of scouting in South Africa, citing Tirah’s example.172 Maj Mayne and Lt Garwood linked the two campaigns. Dr Miller-Maguire felt that: ‘Tirah was more instructive

167 The Bugle XIX (Jun 1902), p 4; ‘The Naval Brigade at Graspan’ MM LXXXI (1900), p 341; Gen Maurice BROHWSA I (1906), p 224; Amery THWSA II p 339.
168 Two Years on Trek (1907), p 12; ‘The Capture of Twin Peaks’ KRRCC (1909), p 125, MW 1900 p 8.
169 PRO/30/40/3 Nicholson/Ardagh 4/4/00.
170 A Retrospect on the South African War (1901), pp 1-2; The Tactics of Today (1900), pp 102, 133; The South African War (1900), p 49.
172 Hamilton’s March pp 90-2, 94-5; BA LXIV (1900), p 418; ‘Notes on the More Obvious Lessons’ JUSII XXIX (1900).
than South Africa,' while Capt Walton saw a 'remarkable' similarity between their lessons. 173

That many saw the Frontier as significant for modern warfare, or felt it exerted a positive effect in 1899-1902, is important. Inevitably the rehearsal of evidence is tedious, but that so many made the connection suggests that it was a reasonably widespread view.

Conclusions

Too few British units fought in Tirah which occurred too soon before 1899 for its lessons to be felt across the British Army. South Africa was necessary to drive the lessons home, indeed many before 1899 saw them as relevant only to Frontier warfare. But Tirah speeded subsequent change. Some key individuals, notably Henderson and Roberts, made deductions for general warfare from Tirah, and Henderson links Tirah to the Army's 1902 manuals.

In Tirah the Army fought formidable foes armed with modern rifles. Some appreciated that defence was now more powerful, deducing that outflanking was the counter. Firepower's effects were manifested in longer engagement ranges and greater dispersion. Individual marksmanship and greater firepower were stressed. Firepower in turn demanded fieldcraft, apparently first widely taught after Tirah. Fieldcraft required individual initiative.

Combined with these changes was revival of interest in the LI system. This balanced initiative and discipline in dispersed combat. Henderson and Verner developed a new tactical model, synthesising Tirah's experience and the LI system. Tirah emphasised scouts; they remained a common theme in both professional

173 The Infantry Weapon and Its Use in War (1903), pp viii-ix; 'Realistic Targetry' JRUSI XLVI (1902); 'Strategy and Tactics in Mountain Ranges Part II' USM XXVI (1902); 'The Practical Training...' JUSII XXX (1901), p 261.
literature and training till 1914. Partly this reflects the new difficulty of 
reconnaissance, partly the need for greater individual skills in dispersed combat.

Training is fundamental in implementing tactical change. Hill-manoeuvres 
were valuable for conventional warfare, while Roberts emphasised skirmishing in 
Ireland. Tirah affected Aldershot training. Delegation of training to sub-units 
fostered initiative. The most significant Infantry lessons, drawn mainly from Tirah, 
were independent fire, fieldcraft, use of ground, and skirmishing. Artillery was 
strengthened due to growing tribal firepower, while concentration of artillery fire and 
close support of infantry were emphasised. The Campaigns demonstrated the 
importance of sound animals and well-organised transport for mobility and tempo.

As will be shown, the learning process after Tirah was similar to South 
Africa's, though smaller. In both similar weaknesses were demonstrated and similar 
remedies proposed.
Chapter 3. The South African War

*We have had no end of a lesson. It will do us no end of good!*

**Introduction**

This Chapter analyses changes in weapons technology before and the tactical results during the South African War. It also examines the course of the war briefly and the attempt to learn lessons. This was not new; Tirah had seen a similar, though smaller effort, while data had been gathered after the 1882 Egyptian Campaign. That South Africa was the commonest experience of combat for British officers in 1914 broadened this process.¹

**Weapons Technology and Tactics**

This section assesses the technological changes and their tactical implications. The main change was that South Africa was the first war in which nearly all weapons fired smokeless ammunition. As a result, the British, who were generally attacking, encountered the empty battlefield as General Lyttelton recalled:

> Few people have seen two battles in succession in such startling contrast as Omdurman and Colenso. In the first 50,000 fanatics streamed across the open regardless of cover to certain death, while at Colenso I never saw a Boer all day.²

There were stark differences between Dervish and Boer tactics and weapons, but Callwell suggested the ultimate cause:

> [t]he disappearance of black powder has exerted a far more potent influence in moulding tactics...than the increased power and accuracy or the rapid fire of the modern rifle or gun. Concealment ....has gained a ... commanding importance.

Smokeless ammunition meant that even after weapons opened fire they remained hidden. Fieldcraft consequently became much easier and reconnaissance much harder. Smokeless ammunition’s more energetic propellants led to longer-ranging fire, further enhanced by South Africa’s very open terrain. Long-range fire exacerbated the problems of locating distant, hidden weapon. Defeating them demanded more time,

¹ Tables 4&5. This was not necessarily so for the Indian Army.
² FM Lyttelton *Eighty Years* (nd), p 212. he wrote much later but his contrast is valid.

72
firepower or both. More energetic propellants also resulted in flatter trajectories. The Lee-Metford’s trajectory was half of the Martini-Henry’s, consequently hit-probabilities increased. Higher muzzle velocities demanded the introduction of smaller-calibre bullets. These weighed less, so soldiers could carry more rounds. Smokeless ammunition also meant that there was less smoke-obscuration and barrel-fouling. The Lee-Metford and the Mauser, the standard rifles carried by both sides, had magazines. The latter was cliploading. All these features meant that firepower had increased substantially. Chapter 7 examines the implications for command and initiative.

More effective weapons made entrenchment essential, but smokeless ammunition also increased the value of trenches. Increased firepower also meant that defensive positions could be extended as fewer troops were needed to hold them. This benefitted the Boers who were generally defending tactically. In turn the British needed more mobility to outflank such positions. Entrenchment and concealed enemy weapons meant that covering fire, itself more important, increasingly had to be applied to areas. For this artillery, classically an area weapon, was more effective than rifles. Consequently British artillery increased in South Africa’s conventional phase both quantitatively and qualitatively. Artillery’s higher trajectories are more effective against trenches than flat-trajectory small arms, while explosive shells damage structures.

Howitzers are generically more suitable for firing HE than guns. Furthermore howitzers then were the only British fieldpieces firing HE and thus able to destroy defences. This, together with their ability to engage defiladed targets caused the British to increase howitzer numbers. But destroying defences requires vast tonnages of shells and such volumes of fire were impossible to generate in South Africa. Consequently

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3 FW Lanchester Aircraft in Warfare (1916), pp 35-6; Chapter 2.
4 Major Callwell The Tactics of To-Day (1900), pp 6-7; WW Greener The Gun and Its Development (1899), pp 539-40, 664, Glossary; ECR Marks The Evolution of Modern Small Arms and Ammunition (1898), p 108. Lt Churchill The Story of the Mala Jackson Field Force (1899), p 288 for the flat-trajectory Lee-Metford’s effects; Table 43; PRO 30/40/16 ‘untitled memorandum on weapons’ saw these technical improvements as increasing rifles’ firepower ten-fold over single-loaders.
many argued that greater mobility was needed to defeat entrenched forces rather than artillery with its logistic penalties. This naturally assumed that there was space in which to manoeuvre.

In 1899 most artillery fired smokeless ammunition. Pieces, like British mountain guns, which still fired black powder were handicapped. Between 1899-1902 British field artillery was at a disadvantage compared to rifles whose relative ranges were greater than artillery's. Later this would encourage Indirect Fire, though, as experts predicted, concealed enemy weapons firing Indirect would also have promoted its adoption. Artillery was poised for the introduction of QF pieces, but except in France a true QF fieldgun had not yet emerged. South Africa resulted in great pressure to introduce QF artillery in the British Army.

Tactical Changes

Generally British military opinion was confident prewar: 'no one, or hardly anyone, believed in anything but a "walk over."' That the first tactical analysis came before fighting began suggests that some commanders realised that British tactics needed improving. Three commanders, Colvile, Kelly-Kenny and Roberts drew up general tactical instructions just before or at the start of the war. Colvile, issued several tactical instructions in this period. His first emphasised that all ranks should understand their superiors' aims as orders could rarely be transmitted in action. He stressed the company-level. Both implied initiative. In an attached document issued at Gibraltar, Colville considered that even company commanders would be unable to control their commands completely due to greater enemy firepower. NCOs must therefore regulate the rate of advance, again acknowledging initiative. This possibly

5 There were no HE firing pieces below corps-level except the 5" Howitzer in 1899, Table 37; Glossary.
6 Tables 22&23; LS Amery THWSA VI (1909), p 474; Ibid p 482 saw Boer riflemen as the RA's most dangerous enemy. Prewar RA tactics emphasising close-range Direct Fire exacerbated this problem.
7 Tables 22,23&20. Lt Col Emslie 'The Possible Effects on Tactics of Recent Improvements in Weapons' (AMS 1899), p 7. Long-ranges promote Indirect Fire due to intervisibility issues.
8 BulPs 2065 M /SS4/21 'Lonsdale Hale Memorandum' p 2.
reflects the experience of Tirah as NCOs had set the pace there. That Colvile was stressing the effectiveness of firepower shows that there had been recent change in British tactical thinking. Ardagh had noted that even as late as 1898 firepower had been underestimated. This suggests that Tirah may have been the cause; no other recent campaign had seen British troops so exposed to modern rifles.  

Colvile stressed rapid attacks; long firefights would be disadvantageous against: ‘good and quick shots.’ He emphasised using ground and covering fire. Both acknowledged greater enemy firepower; Tirah had stressed both. The Germans later criticised the British for overemphasising assaults, blaming this bias on colonial warfare, but there was some logic in closing rapidly with the Boers. Long firefights would allow better Boer marksmanship to tell. But these tactics demanded heavy covering fire, best delivered by artillery, or night attacks. Colvile covered neither. He condemned flanking movements under Direct Fire and halting without returning fire. Buller’s 1899 Memorandum had also emphasised both.

Colvile stressed combining fire and movement and section commanders’ duties, implicitly acknowledging low-level initiative, as did his insistence that: ‘every man in the ranks’ was to know his views. Colvile’s instruction included an extract from Buller’s Aldershot Memorandum. That this document had reached Gibraltar, suggests that it had been widely distributed, increasing its significance.

Colvile’s next document, *Infantry on the Offensive*, noted that, following 1870, the British had developed deep, narrow, 3-line brigade attack formations. Colvile analysed this in the light of the conditions anticipated in South Africa. Depth was designed to defeat counterattacks, to stiffen the firing line before assaulting, whilst reserves would

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10 Chapter 2; PRO 30/40/16 ‘untitled memorandum.’ Henderson had also underestimated firepower, RPs 7101-23-46 Henderson/Roberts 1899; Chapter 2.
11 *Guards* p 12; GEOHSA 1 (1904), p 28.
12 *Guards* pp 11-13 dated 8/10/99; Chapter 2. Gibraltar was not under Buller’s command.
permit pursuit or cover retreat. These advantages were probably worth the loss of firepower against European enemies. Against Boers, whose accuracy was equal to the British and who fired faster, Colvile had doubts. He noted superior Boer mobility, their inferior artillery and that they had no cavalry. He concluded that, as the Boers lacked bayonets, were ill-disciplined and had never let the British assault before, they would fire and then retire. Colvile consequently deduced that the British firing lines probably would not have to cross bayonets and so could be thinned-out. This would reduce casualties and enhance their ability to use ground. As the Boers would rarely counterattack, local reserves could also be cut. The second line, intended for pursuit, was unlikely to execute this as all Boers were mounted. Therefore Colvile proposed a 2 rather than 3-line formation. This would have a much stronger firing line, 15 half companies (8 in the original) with the same number as supports. It would deploy on a wider frontage, (900 as opposed to 580 yards). This was too narrow, judged by formations used later in South Africa, but was greater than current British norms.

Significantly Colvile had already considered loosening formations before he had much information on current Boer tactics. He had already appreciated the effects of greater firepower.

Colvile’s last instruction was written while moving to the front and was based on official and press sources. Firing lines were not to be reinforced prematurely, this had caused great loss, and COs were not to keep excessive reserves. At Elandslaagte Boer fire had been effective at over 2000 yards, so extension should occur some 2500 yards from them. The British had dispensed with 3 lines there, thus enabling more firepower to be generated from a broader, shallower formation. Officers should be cautious in exposing themselves, but it was their duty to lead. Colvile clearly saw the need to maximise protection and firepower. He also added: ‘interference with subordinates

during an action is likely to do more harm than good.' This recognised the difficulties of
commanders exercising close control under heavy fire and the need for subordinate
initiative. The counter to Boer mobility was a small party and machinegun on the
exposed flank. Their fire would prevent the Boers withdrawing. This suggests that
Colvile recognised machine guns' firepower comparatively early. In 1899 they, partly
due to their perceived mechanical unreliability, were poorly regarded.16

No tactical instructions issued by Methuen have survived, but an officer reported
the changes that he introduced before action:

an example of [Methuen's] practical methods: officers are to discard their useless
swords and carry rifles.... to confuse the Boer marksmen. All the old Aldershot
Drill Book Tactics are to be abolished & we shall adopt very extended order, men
getting quickly from rock to rock, irregularity of line being sought & "regular
dressing" being avoided.17

'From rock to rock' suggests Frontier experience as the area of Methuen's advance is
rolling veldt. There rocks do not provide cover except immediately around kopjes. Also
Methuen's points suggest recent combat experience against modem weapons. His
previous career, except his Tirah service, had not stressed low-level tactics.18

Furthermore Verner, an advocate of Frontier-style tactics, was on his staff, while the
KOYLI, one of Methuen's units, had served in Tirah and had benefitted tactically.

Some of Methuen's units practiced open-order formations before combat:

we had drummed it into our men that they must keep widely extended so they
kept about 6 or 10 paces apart while the Grenadiers were crowded to 1...&
suffered accordingly.19

15 Three British generals were early casualties: Symons, Buller and Methuen, Chapter 9.
16 Maj Longstaff & AH Atteridge The Book of the Machine Gun (1917), pp 137-8. The work is technical
assessment and is backed by an impressive bibliography. Colvile had served in Uganda and may have
seen their value there.
17 BAPs 7807-23 Reel 1 18/11/99.
18 Having visited both the Khyber and Methuen's route, this seems likely. That Methuen was stressing
irregularity of formation before seeing action in South Africa himself suggests recent combat experience.
As Chapter 2 argues Tirah was the probable cause; Lt Col Verner 'The Naval Brigade at Graspan' MM 81
(1900), p 338 describes kopjes. These are relatively isolated but in the dead ground at their base. extended
order is unnecessary; Glossary.
19 Chapter 2; Maj Gen Maurice BROHSA I p 224; Amery THWSA II p 339. That both works praise the
KOYLI's suggests a strong impression; BAPs Reel 1 18/11/99.
The latter seems to have been an unofficial prewar norm for British-based units. This also suggests that Colvile’s instructions were poorly implemented.

Roberts published tactical instructions soon after arriving at Capetown.20 Already, advised by Kitchener, he had demanded more machineguns and was considering whether to request QF guns.21 In his first instruction Roberts noted: ‘remarkable’ Boer mobility, marksmanship and entrenchment. Direct attacks would fail, so: ‘[t]he only chance of success lies in being able to turn one or both flanks’ or threaten Boer communications. Both demanded great mobility, thus Roberts stressed horsemastership and mounted reconnaissance. He recommended early deployment from marching columns, with 6-8 paces between men. This would increase battalion and company commanders’ responsibilities so they should have the objective explained to them. This implies that they did not previously.22 Roberts emphasised cover and its exploitation to enfilade the enemy, suggesting he understood modern firepower. He would judge officers: ‘by the initiative displayed in seizing rapidly every opportunity to further the general scheme of attack.’ Henderson’s 1899 Lecture may have stimulated his emphasis on initiative.23 Roberts noted that the RA had adapted well to local conditions, but he stressed the need for thorough artillery preparation of attacks. But he warned that, until infantry advanced within 900 yards of the enemy, artillery would have no target as the Boers would remain in cover. Consequently fire was to continue: ‘until the assault is about to be delivered.’ More effective artillery support was necessary to combat greater defensive firepower. But synchronising artillery fire and assaults demanded better signals and staffwork; both were to pose problems for the British.

Notes for Guidance in South African Warfare is shorter and was pitched at a lower
level judging by its contents. In it Roberts stressed quick cavalry scouting and reducing horse loads. Artillery was to exploit its mobility to counter long-range Boer guns. Others had deduced this already, possibly explaining Long’s action at Colenso. Roberts recommended that batteries should advance alternately and were to be well separated. This had already occurred at Elandslaagte and differed from normal tactics. Roberts also appreciated the importance of mobility, reorganised his transport to increase it and levied more mounted troops as Chapter 5 describes.

General Kelly-Kenny’s *Standing Orders and Instructions*, issued after December 1899 began by impressing:

> on all ranks the necessity of bringing common sense to bear in the execution of regulations....It is not by blind adherence to the rules of war, ... that success can be commanded. It is necessary to consider how far our teaching must be modified to meet...-Smokeless powder ...[and] [i]increased [enemy] mobility.

That Kelly-Kenny cited smokeless ammunition suggests that he had analysed tactics carefully. He felt that both these points had to be considered when applying regulations. That his orders were addressed to ‘all ranks’ suggests that he saw low-level initiative as important. Smokeless ammunition meant that locating defenders was hard, thus strengthening the defence, while Boer mobility would prevent outflanking unless British mobility improved. Kelly-Kenny considered that the Boers had selected defensive positions well. They were highly mobile, had good combat intelligence and laid ambushes effectively. They had neither counterattacked failed British assaults, nor had hardly attacked tactically. British attack formations, therefore, should sacrifice depth for width. Colvile had also stressed this. The British should use their mobility to turn or outflank Boer positions. They should try to kill the Boer horses, thus destroying their mobility. In attack the British should seize temporary positions, which could be

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24 RPs 7101-23-111-1 F69 5/2/00.
26 *GEOHS* I p 248. That the Germans received this suggests access to official British data.
entrenched by night. Such methodical tactics were used at Paardeberg. He noted that lateral extension increased low-level responsibility so subordinates must display initiative. Finally he stressed cunning and concealment by all ranks, recognising the importance of initiative and fieldcraft. Kelly-Kenny's analysis involved both manoeuvre and more positional tactics. That he stressed initiative is significant; his last experience of combat had been in Abyssinia and it may indicate that there had been a coordinated attempt to introduce more initiative as Chapter 2 suggests.

There are a number of common strands in the above analysis. Firstly tactics had started to change as operations started. Colvile's first instruction suggests that Buller's Memorandum had a positive effect. That fieldcraft, extension, and initiative were stressed from before the war's start suggests recent combat experience had caused these changes. Tirah, rather than the Sudan, was the most likely source.

The Germans suggest that other generals analysed tactics before operations began. On the voyage south Gatacre, Methuen and Clery examined the war's likely course. Warren wargamed river crossings, countering Boer mobility and using artillery in close country. He questioned the British ability to outflank the Boers, preferring intense shelling and direct assaults. The British should advance through close country to counter Boer marksmanship.

**Tactical Change during Operations**

Many commentators have seen British performance in South Africa as very poor. Reality was more complex and in certain ways British training and tactics in 1902 was worse than in 1899. Tweebosch in 1902 saw ill-trained, uncohesive troops

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27 There are similarities with Roberts' Instruction of 26/1/00; Kelly-Kenny's instruction probably followed Roberts'.


29 FM Carver 'The Boer War' JRUSIDS 144 (1999), p 80.
disintegrate, while Talana and Elandslaagte in 1899 had seen generally good tactics.\textsuperscript{30} The war’s first tactical phase, lasting approximately to Bergendal in late August 1900, was broadly conventional and generally mobile; the second involved very mobile, counter-guerrilla operations, balanced by large static British garrisons on the blockhouse lines.\textsuperscript{31}

Talana was a success, marred by the cavalry’s poor performance, despite the fact that they had manoeuvred into a potentially decisive position. The infantry attack, made in an extended formation, covered by gunfire, drove the Boers off a potentially strong position. The attack was undoubtedly slower than Symons wished, infantry/artillery communications were poor and the RA felt that their support could have been more effective. Tempo was further lost when Symons was wounded. This also may explain why the artillery did not shell the retreating Boers.\textsuperscript{32} Still it was a technical victory and hit Boer morale. It was the product in part of good training and Frontier experience. The Germans praised it.\textsuperscript{33}

Elandslaagte was marked by a high casualty ratio of defenders to attackers. Hamilton, the infantry commander, was a Tirah veteran and commanded 2 battalions with Tirah service. He had practised his brigade in extended-order tactics previously. Cavalry reconnaissance located the Boers.\textsuperscript{34} The plan combined frontal attack, designed to pin the Boers down, with outflanking by 3 battalions supported by cavalry. Artillery covered the attack effectively; batteries leapfrogged forwards, a tactical innovation. The Devons attackedfrontally with 3 companies on a 700-yard front. Contemporary British

\textsuperscript{30} Report Lieut-General Methuen ... Tweebosch (1902), p 4.
\textsuperscript{31} WO 32/8079; RCWSA Report pp 72-4. Though troop-densities were low, the lines’ lengths meant that overall garrisons were large.
\textsuperscript{32} Chapter 5; LS Amery THWSA II (1902), pp 170-1; Maurice BROHSA I p 131 states 10 paces extension The Times 23/10/99 notes magnificent artillery support and effective fire by 2 maxims. ‘Men at the Front’ Pen Pictures of the War (1900), pp 28-9 describes the artillery’s advance; SAD I p 5; Ibid ‘Elandslaagte’ pp 6-8; Maj Gen Headlam The History of the [RA] III (Woolwich 1940),p 316; MURPs ‘RA Report Talana.’
\textsuperscript{33} Maj Crum With the Mounted Infantry in South Africa (Cambridge 1903),pp 1-2. Crum’s unit was in South Africa prewar and he stressed their intelligent training, stalking and shooting. He suggests that Symons, the GOC, had influenced this; EPs 8704-35-818 pp 56-7 citing Maj Balk; GEOHSA I p 34.
norms would have put nearly 2 battalions on the same distance. Finally cavalry charged
the retreating Boers successfully, having outflanked them.

Methuen at both Belmont and Graspan captured Boer positions through a
combination of night marches, tactical outflanking, generally extended formations and
effective artillery support.\textsuperscript{35} That the Boer positions were sited on kopjes helped.
Consequently the defenders' fire was less effective, while the crests furnished an easy
target for British artillery. Methuen was unable to pursue after his victories as he had
insufficient mounted troops whose horses were unfit.\textsuperscript{36} Command failure marred
Modder River. Methuen personally advanced too far and was wounded; the ensuing
switch of command allowed the Boers to withdraw their guns. Here the Boers changed
tactics, abandoning hilltop positions for lower ground which maximised the effects of
flat-trajectory fire. At Modder the British found that heavy shelling was necessary to
counter greater Boer defensive firepower.

The 3 defeats of ‘Black Week’ in December 1899: Stormberg, Magersfontein and
Colenso were a blow as the early successes had further raised British confidence.
Colenso, due to incoherent orders, insufficient reconnaissance, divided command, and a
plan with little inter-formation coordination, appears to have been hopeless from the
start.\textsuperscript{37} Indeed some have argued that the battle was intended only as a reconnaissance
and not an attempt to relieve Ladysmith. Gatacre’s force achieved surprise at Stormberg
and, but for poor navigation and the troops’ tiredness, caused by bad staffwork, nearly
won.\textsuperscript{38} At Magersfontein a detachment broke through, but poor communications

\textsuperscript{34}Chapter2; HPs 3155-33 pp 4-6.
\textsuperscript{35}Amery \textit{THWSA} II pp 194-5,189, 184 footnote; Chapter 6; \textit{GEOHSA} I p 80 criticises Methuen for
making frontal attacks. At Belmont he tried to outflank, Amery \textit{THWSA} II p 327, similarly at Graspan,
Miller \textit{Methuen} p100, but poor mobility prevented both attempts succeeding.
\textsuperscript{36}[Amery \textit{THWSA} II pp 194-5,189, 184 footnote; Chapter 6; \textit{GEOHSA} I p 80 criticises Methuen for
making frontal attacks. At Belmont he tried to outflank, Amery \textit{THWSA} II p 327, similarly at Graspan,
Miller \textit{Methuen} p100, but poor mobility prevented both attempts succeeding.
\textsuperscript{36}Maj Baden-Powell \textit{War in Practice} (1903),pp 121-2 analyses terrain’s effect; Maj Gen
Smith \textit{A Veterinary History of the War in South Africa 1899-1902} (1919),pp 17,18.
\textsuperscript{37} \textit{BROHWSA} I pp 243-4; Williams \textit{Warren} p 360; Glossary; \textit{BROHWSA} I p 259, two batteries fired over
1000 rounds, the war’s heaviest daily expenditure by individual batteries, LS Amery \textit{THWSA} VI (1909),p
481; JB Atlay \textit{Lord Haliburton} (1909),p 227.
\textsuperscript{38}Amery \textit{THWSA} II pp 381-2. Gatacre’s division was fragmented, its staffwork was poor. Maj Pollock
\textit{With Seven Generals in the Boer War} (1900),pp 58-60,66-68.
prevented exploitation, while prior bombardment, as at Colenso, prejudiced surprise; Methuen, like Buller at Colenso, failed to use his reserves fully. 39

Buller’s outflanking move to Spion Kop was slow. Buller disorganised the command system during the operation with adverse results. 40 A single brigade assaulted the Kop which was exposed to converging Boer fire, while terrain prevented most British pieces from replying effectively. Too many troops were crowded onto the objective, suggesting that senior officers had underestimated firepower, while C3 failures contributed to the defeat. 41 Buller aborted Lyttelton’s attempt, skilfully conducted by a KRRC battalion using skills learned on the Frontier, to outflank the Boers enfilading Spion Kop. Vaalkrantz was also fought by one brigade more or less in isolation, though on more favourable ground. 42 Artillery fire was still poorly coordinated with infantry movement; there were no infantry feints, though artillery deception was used, while Buller failed to persist in attacking. However artillery was centralised and used in mass. Buller’s force developed both these tactics later. 43

The relief of Ladysmith saw varied tactical performance. Effective infantry/artillery cooperation, massed infantry covering fire, good infantry minor tactics and fieldcraft and inter-formation cooperation ensured the speedy clearance of the Tugela’s south bank. Whether Buller was personally responsible for these tactical changes is doubtful. 44 The second phase saw Buller shift his axis into cramped terrain

39CPs 2/4/12 Foreign Journals ... South Africa p 32. Spion Kop and Vaalkrantz were similarly criticised.
40 EPs 8704-35-818-54; Ellison blamed Buller’s administrative preoccupation; nominally Warren commanded, Coke took over his division yet Buller recommended Thorneycroft, CO of a unit, to command on Spion Kop where at one stage a divisional and 2 brigade commanders were also present. Clery nominally commanded at Colenso, but Buller ordered withdrawal.
41 B Williams THWSA III (1905), p 256; SKDs (1902), p 38; GEOHSA II (1906), pp 168-70.
42 Williams THWSA III p 276; KRRCC (1901), p 92, Lyttelton commended their skirmishing, but he was also a rifleman; Capt Wake ‘The Capture of Twin Peaks’ KRRCC (1909), p 125; SWPs 13/23
Hamiton/Willkinson 8/3/00.
43 Lyttelton’s brigade received excellent support, Col Stone The Employment of Heavy Artillery in the Field (Woolwich 1909), p 24; Williams THWSA III p 314; GEOHSA II pp 211,216-8.
44 Artillery was to open fire once infantry made the Boers to reveal themselves; Maj Gen Maurice BROHSA II (1907), p 447 citing 2 Division Order 18/2/00; Williams THWSA III , pp 504-6; Amery THWSA III pp 504-6 attributes these tactics to Lyttelton. Warren also had stressed fire and direct attacks.
north of Colenso where British combat power was ineffective as there was insufficient room to deploy. Hart's brigade made an isolated attack, poorly supported by artillery, and was penned against the Tugela. The last attack saw Buller switch his axis to assault Pieter's directly. Here more of his Army could fight, massed artillery could support assaults effectively and observation was easier. Artillery tactics were changing to emphasise firing until the last minute, with the ranges lengthened when troops assaulted. Howitzers shelled positions on reverse slopes, defiladed from British guns. Buller's CRA, Col Parsons, issued special orders and sited batteries personally. Parsons' permanent grouping of batteries improved coordination. Artillery, supported by heavy small arms fire, caused many Boer casualties. Despite this Buller failed to pursue.

Roberts stressed mobility, deception and surprise; his force was more mobile than Buller's, partly because it had more horses and mules, partly because its transport had been reorganised, equipment shed and its mounted troops massed in a division. Roberts took logistic risks, cutting rations in contrast to Buller. French's cavalry operation to relieve Kimberley was based on speed, surprise and a mixture of deception and security, but horsemastership was poor. This damaged mobility later. French's charge at Klip Drift was significant for future tactics. Contrastingly Buller's operations were sluggish. Roberts admittedly was moving in flatter country but was equally hampered by heat and water shortages and was operating at the end of longer lines of communication. Despite poor British staffwork, Cronje was surrounded at Paardeberg.

46 CP’s 2/4/14.
47 RCWSA Evidence II p 233. Also seen at Spion Kop, EPs 8704-35-17.
48 Maj Molony ‘Pieter’s Hill: A Tactical Study’ PPCREs XXX (Chatham 1904), p 264. Boer positions were sited to counter Direct Fire. Glossary, Chapter 4.
49 D Reitz Commando (1968), pp 86-9; RCWSA Evidence II p 661 for Barton’s complaint; Churchill London to Ladysmith (1900), p 455; Chapter 5.
50 Maurice BROHSA II, p 16; EPs 8704-35-818-85; Chapter 5; THWSA III p 395. Horses and mules were faster than oxen and did not halt for hours to graze, but, unlike oxen, they needed forage supplies.
51 Chapter 5; Roberts/Lansdowne 16/2/00.
but Kitchener coordinated the initial attacks poorly. Inadequate signals and Kitchener's ambiguous status contributed to this, while it was necessary to attack Cronje immediately to prevent a breakout. But isolated, weak attacks, poorly supported by artillery, failed with heavy casualties. Paardeberg then became a siege in which sapping, night attacks and heavy shelling finally compelled Cronje's surrender. Though this combination was tactically effective, the lesson which contemporaries emphasised most was the manoeuvre which encircled Cronje. 52

Thereafter the heavy casualties that his force had suffered in the first assault at Paardeberg largely deterred Roberts from attacking frontally. The major exception was Driefontein, where Kelly-Kenny made a frontal attack, well supported by artillery, and inflicted heavy casualties. 53 Roberts' artillery provided poor support at Paardeberg and later at Doornkop. Contrastingly Buller's artillery was very effective from Pieter's. 54

Roberts' force occupied Bloemfontein and then Pretoria. Due to his numerical superiority and improved mobility, the Boers were unable to resist his advance, but in turn Roberts proved unable to encircle them. In his advance the problems were logistic. Failure to provide sufficient forage killed many animals and disease, exacerbated by scanty rations and limited medical support, many men. As Roberts marched on Pretoria, the Boers adopted guerrilla warfare.

Roberts' and Buller's forces differed tactically; Buller's was obliged to break through. His force was too immobile to outflank as both Colenso and the move to Spion Kop had demonstrated. Consequently it emphasised combat power, particularly massed artillery used close to assaulting infantry. It has been suggested that this was effectively a creeping barrage. Though there were similarities in the synchronisation of fire and movement, there were also substantial differences. Creeping barrages were fired

52 Amery THWSA III pp 447-51,452-3.
53 Roberts did not support frontal attacks, RPs7101-23-110-1 Irish Manoeuvres Memorandum 6/7/99. He was criticised for overemphasising outflanking, GEOHSA II pp 337-8. THWSA III pp 581,585.
54 B Williams THWSA IV (19060,p 144.)
Indirect, thus needing careful calculation and planning. Buller’s pieces, except the howitzers, fired Direct. Buller’s formations concentrated machine guns, sometimes brigading them as at Vaalkrantz, and massed riflemen to cover attacks. Good Infantry/Artillery cooperation was crucial at Pieter’s.

Common failings affected both Buller and Roberts. Both found it hard to synchronise attacks so that formations attacked simultaneously. Poor communications, undertrained staffs lacking common procedures, improvised formations and unnecessary changes of command caused this. Generals, however capable in smaller expeditions, found it hard to adapt to using staffs. Under both operation orders were poorly written. Both CinCs failed to attack relentlessly. One can speculate, though not prove, that this partly explains why 1914-18 attacks were continued over-long. The Germans criticised repeated British failures to reconnoitre and to win fire superiority. They felt that the British over-relied on the bayonet and their interarm cooperation was poor. Here Langlois argued that the British did not follow their own manuals. The Germans condemned British failure to grip the enemy frontally, which would have enabled them to outflank and encircle the Boers, but it was hard to pin mobile, wary foes in open terrain.

In the war’s anti-guerrilla phase tactics became less relevant to conventional war except that:

mobility, physical and mental, strategical, tactical and individual seemed to be supremely requisite... [It] will be equally valuable in any campaign of any sort

55 CPs 2/4/14 for Warren and Buller’s orders. Buller’s did not mention artillery, Warren emphasised close artillery support and lengthening ranges as infantry advanced; Powell Scapegoat p 173.
56 Amery THWSA III p 318; Churchill Ladysmith pp 435-6 noted similar fire support on the Frontier; Lt Col Keene ‘Medium Guns and Howitzers’ JUSII XXXII (1903); Maj Scales Artillery in Small Wars: (Ann Arbor 1976), p 206. Chapter 4; Malony Pieter’s, p 268; Table 36.
57 Kitchener’s position at Paardeberg and Roberts’ subordination of Colvile to Hamilton; Williams THWSA IV p 89.
58 GEOHSA II pp 270-1. White was similarly criticised, Amery THWSA II p 219. Williams THWSA IV pp 410, 412, comments that Roberts’ staff system was subject to ‘an almost complete breakdown.’ His private secretary issued many orders. Roberts’ Intelligence staff was unnecessarily disrupted; Williams THWSA III pp 453-5, GEOHSA II p 287.
59 Gen Langlois Lessons from Two Recent Wars (1909),p 145. The Akers-Douglas criticised the manuals heavily.
that the future may have in store for us.  

This was to be significant as the British developed their tactics after 1902. Both sides introduced mounted charging tactics in this period. Imperial forces had to maintain tempo in pursuing guerrillas. The Boers' firepower was now insufficient to stop mounted assaults and they had to withdraw if they were to survive. Consequently British mounted troops often charged positions. Similarly poor British marksmanship allowed Boers to attack on horseback firing rifles. This gave ammunition to those who argued that shock was still viable. Raids on Boer laagers re-emphasised night operations' value after the failed night attacks during Black Week.

That the guerrilla phase was both longer and followed conventional operations, may have led to some of the latter's lessons being underemphasized. But widely dispersed anti-guerrilla operations gave great scope to younger commanders, amongst whom were Haig, Allenby and Gough. South Africa saw a generational change with younger officers coming forward. In contrast Kitchener's attempts to control numerous mobile columns from Pretoria overstrained the communications net and often proved ineffective.

The Guerrilla phase's high mobility was balanced by the construction of some 3700 miles of blockhouses. Initially these were designed to protect railways, but from June 1901 cross-country lines were built to counter Boer mobility. Modern rifles' firepower and the absence of Boer artillery meant that these could be held by 30 men per mile. The men thus saved were available for offensive operations. But dispersal demanded much of junior leaders.

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60 GEOHSA II pp 329-31; GEOHSA I p 28; GEOHSA II p 328-9, 337; E Childers THWSA V (1906), p xii.
61 HWPs 6503-39-12 p 1; Lt Col Pilcher Some Lessons From the Boer War (1903), p 14.
62 RCWSA Evidence I p 288; HamP 2/3/1 Hamilton/Roberts 13/11/01; L Oppenheim 'The Fight at Rooival (50)' 19C LI (1902), p 910.
63 Childers THWSA V pp 329-30; GEOHSA I p 28; Belmont, Spion Kop, the Ladysmith sorties.
64 Table 25. Capt Grant BROWWSA IV (1910), p 338 lists 45 columns operating in the ORC in 4 months.
Transport was again reorganised in November 1900 to increase mobility further. This was a reversion towards the regimental system. Roberts issued memoranda on reducing horse-loads and on animalmastership.\textsuperscript{66} Both were critical for mobility and were developed from 1902.

**The Immediate Analysis**

The Army produced an elaborate series of reports on South Africa. This effort exceeded that carried out immediately after 1918 and was the first major British attempt to gather data systematically after a war. There were four broad categories of report; Army HQ South Africa initiated the first, the WO the second, these were mainly concerned with weapons and equipment, third were works written later such as the Medical and Veterinary Histories. Finally there were individual reports.\textsuperscript{67}

Roberts, possibly prompted by Brackenbury, the Director Ordnance, established committees to consider organisation and equipment issues at Pretoria. Reports from the Cavalry, 7 and 11 Divisions, the Provost Marshal, the Lines of Communication, the REs, the Chaplains, the AOD, and Army signals resulted.\textsuperscript{68} No field artillery report survives but Headlam refers to the Pretoria Committee, which examined all categories of artillery. HQ SAFF initiated a report on heavy artillery, probably based on the Pretoria Committee’s work. This was later incorporated into the WO Report.\textsuperscript{69}

French established 3 boards under Generals Dickson, Broadwood and Gordon to examine respectively: personnel and organisation: equipment: horses and mobility. Dickson’s recommendations were most controversial. He criticised both officer and soldier standards, this suggests the Cavalry’s manning problems. Better quality personnel would enhance initiative, allowing more extended formations to be used.\textsuperscript{70}

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\textsuperscript{66} Ibid pp 598-9; RPs 7101-23-111-1 F68 ‘COSCM 8;’ RPs 7101-23-111-2 F663 ‘COSCM 11.’

\textsuperscript{67} Table 6; eg Grierson’s, WO 108/184.


\textsuperscript{69} Headlam RA III, Appendix G; Circular letter 10/11/00; WO 108/266 p 125 et seq.

\textsuperscript{70} WO 108/250 p 3.
French disagreed with their criticisms of officer standards and felt that they were over-harsh on soldiers. Dickson’s Board recommended one machine gun per squadron, an RHA battery and 2 pom poms per brigade and another divisional RHA battery. This recommendation would have substantially increased cavalry firepower above prewar norms. Manoeuvre was to be enhanced by an extra squadron per regiment. They did not denigrate shock, recommending that each brigade should have a lancer regiment. They considered that shock was: ‘of primary importance.’ However they later stressed that a: ‘more prominent position must be given to...training ...in the use of the fire weapon.’ This generic designation suggests that cavalry might be rifle-armed in future. Dickson recommended brigading regiments: ‘as much as possible with RHA.’ This would have facilitated inter-arm coordination, making artillery support more effective. He considered that the IGC should limit his activities below brigades. This would give brigadiers more responsibility, thereby encouraging initiative. Musketry should be carried out throughout the year to improve marksmanship. One notes a balance between shock and fire and concern with initiative and interarm cooperation.

Broadwood’s board recommended lighter equipment to improve mobility. Carbines were too short-ranged, so they advocated rifles, while pointing swords should replace the current weapons. They proposed one Maxim per squadron and 2 pom poms per brigade. Gordon’s team examined horses, transport and remounts. Their detailed report, commended by French, emphasised mobility. Entrenching tools were to be carried with squadrons, recognising dismounted action’s importance. They recommended lightening horse-loads. Carbines were inferior so they stated: ‘if a cavalry man is called upon, as he is now, to act repeatedly on foot, he should be armed with a weapon as good as his infantry comrade.’ All 3 boards urged extra firepower. This

72 Ibid p 5.

89
was not strictly within their terms of reference, but their joint approach suggests that cavalry attitudes were changing towards dismounted action and increased fire support. Modern theory argues that enhancing firepower increases mobility. Their reports were later carefully analysed in Britain.\textsuperscript{74}

The infantry committees stuck more to their terms of reference and consequently are less valuable. Pole-Carew established a committee of all his battalion COs presided over by a brigadier to produce 11 Division’s report. This recommended more initiative for company commanders. Three officers were needed per company, demands for MI and staff officers had impaired companies’ efficiency, while demands for good soldiers for signalling, MI and other duties were: ‘most serious.’ Implicitly this recognised the new importance of individuals and initiative, as well as the greater tactical importance of companies. They recommended many improvements to rifles, most significantly cliploading which would increase the rate of fire and lighter, more practical equipment. They stressed the need for more entrenching tools, recognition of protection. All section commanders should carry binoculars, again recognising low-level initiative. They were unimpressed with machine guns, though allowing their defensive value. This is probably due to the fact that Roberts’ force was manoeuvring rather than breaking through. The machine gun report contradicted them.\textsuperscript{75}

A committee, chaired by a Tirah veteran, drafted the 7 Division report. They felt that entrenching tools should be improved, and cliploading introduced, reservists were undisciplined and punishments on operations were insufficient, but they concluded, rather against the trend of their previous remarks, by recommending more scope for low-level initiative. Their GOC stressed efficient signallers, lighter, more practical equipment and criticised reservists’ indiscipline.\textsuperscript{76}

\textsuperscript{74} WO 32/6781; Chapter 5.
\textsuperscript{75} WO108/253 pp 5,5-6, 6-10; L/MIL/7/2462 para 29 noted binoculars aided musketry; Chapter 4.
\textsuperscript{76} WO108/253 pp 10-12; 1-2.
The signals and the signals equipment reports are short but significant. Poor communications had caused several defeats. General Macdonald commented that:

the want of cohesion between co-operating columns, owing to the failure of the system of communications, has been...a very great...cause of the prolongation of the ...campaign.

The Director of Signals noted that: '[t]he present system of organisation is entirely regimental, ...[while] the numbers of trained men.....is inadequate for war purposes.' He complained that *WEs 1898* did not establish signallers at force HQ, the Director of Signals' staff officer, or the cavalry divisional signals officer. Formation HQs needed mounted signallers as marching men delayed mounted staffs. Brigades should have a signals officer and dedicated signallers. Infantry and cavalry units needed more signallers, RHA and RFA units had none, while RGA signallers required extra training. The SAFF had only managed to communicate by robbing units to equip HQs.

Macdonald outlined in the report a proposal by his BM, a Tirah veteran, who had seen similar communications problems there, to establish formation telephone-detachments that would provide line down to battalions.

Logistics and transport were examined carefully. The ASC conducted much of this internally and established a new corps magazine to stimulate thought. Boards of enquiry held after significant defeats also provide tactical data. Whether Buller's force conducted a comprehensive reporting exercise is unclear, there are references to artillery and medical reports, but the only survivor is logistical. There were many unofficial works analysing the war including works by Callwell, May and Pilcher. But perhaps the most significant was *The Times History*. Written to stimulate reform, it had privileged...
access to official material and serving officers wrote the technical chapters in its Volume VI.83

Conclusions

Smokeless ammunition and extra firepower, generated principally by magazine rifles had altered battlefield conditions greatly. Infantry went into the early South African battles deployed as tightly as 1-2 paces between men. By 1902 they extended up to 30. Fieldcraft became essential against enemy fire and this individual skill combined with dispersion meant that subordinate initiative was vital. Extra firepower became essential to counter enhanced enemy fire. Artillery support had to be coordinated with the Infantry movement, with pieces firing to the last safe moment. Preliminary shelling were shown as pointless, at least on the scale possible in South Africa. Destruction depends on the absolute weight of attack and there were not enough pieces to generate the firepower needed. It should be noted that, though Boer defences were impressive, they were not on the scale of those constructed in Manchuria or Flanders, so there was little need to destroy them. Neutralisation sufficed. It is probably for this reason that the RA remained satisfied with shrapnel as its prime field gun ammunition nature.

Outflanking was stressed from the war's start, but due to Boer mobility and long-range weapons, this failed in many early battles as the British were insufficiently mobile. South Africa's guerrilla phase reinforced the importance of mobility. Night operations were used extensively.

There was a searching analysis of the war, which, as later chapters argue, deeply influenced ideas on tactics and on weapons. Generally mobility was seen as the dominant tactical factor, but it would be wrong to argue that firepower and protection were consequently neglected. As Chapters 4 and 6 show, the Army enhanced its

firepower and protection extensively. A veteran summarised the war’s effects: ‘Paul Kruger was the best friend the British Army ever had.’

Maj Gen Ellison ‘Army Administration’ AQ III (1921), p 18.
Chapter 4. Firepower

Introduction

South Africa was the first major war in which almost all combatants carried small-bore flat-trajectory magazine rifles firing smokeless ammunition. It also saw the first extensive deployment of effective machine guns, some QF artillery, HE shells and the first modern British use of howitzers firing Indirect. These far-reaching technical changes increased firepower significantly. This caused profound alterations in the other tactical factors of manoeuvre and protection. Consequently firepower was analysed exhaustively. This chapter examines the lessons and their implementation.

Chapter 3 has examined the state of weapons technology in 1899. Neither side had fully appreciated how much firepower had increased; both were forced to alter their tactics from the start of fighting. Artillery was undergoing the most radical technical change and is therefore analysed in the greatest depth here. Furthermore it was the arm with greatest potential firepower, though Boer rifles caused most British casualties.

The RA in 1899

The RA in 1899 had both strengths and weaknesses. Its officers were recruited from the more able, its organization developed initiative and its unit training was thorough, though sometimes unrealistic.¹ That it was not regimentally-based developed professionalism. It had its own institute and journal, both encouraged study. Infantry and cavalry did not enjoy these advantages.² The RA had developed a field artillery ‘doctrine’ based on rapid advances and short-range Direct Fire.

¹ Maj Gens Callwell and Headlam The History of the [RA] I (Woolwich nd), pp 238-242.
² Brig Bidwell Gunners at War (1970), Chapter 3, Glossary.
Though generally suited to Colonial warfare, it was primarily derived from German experience from 1866-1870 and later trials. Scales argues that the RA's tactics were primarily derived from colonial warfare, but it is more correct to say that both had influenced pre-1899 artillery tactics.³

Britain lagged behind France and Germany in its proportion of artillery to infantry. The Army had not fought a well-armed enemy since 1856 and the other arms were ignorant of artillery's power.⁴ Some gunners regarded their arm as technical and therefore a purely artillery matter. The exact reasons for this are unclear but gunners underwent a more intense education than Infantry or Cavalry and historically had been organisationally separated from them. German gunners were equally guilty of this failing.⁵ The RA gave great independence to BCs, while field artillery units were improvised. This unconsciously strengthened batteries. A unit deploying in 1899 was: 'collected - the [CO] from Lucknow, the adjutant from Rawalpindi, and the batteries from Secunderabad, Ahmednagar, and Deesa.' Consequently batteries were unused to cooperating together or with other arms. Tactical performance suffered. In colonial warfare primitive enemies and stretched logistics meant that little artillery was usually needed or could deploy, so this fault was under-appreciated.⁶ Tirah had demonstrated both the dangers of improvised gunner units and the need for effective artillery support, but there was insufficient time for remedial action before 1899.⁷ Furthermore a single artillery unit for a 2-brigade infantry division was clumsy, despite brigade-divisions being the accepted

³ Callwell & Headlam RA I pp 255-6, pp i-ii; Prince Hohenlohe-Ingelfingen trans Maj Walford Letters on Artillery (Woolwich 1887) was very influential. It was based on 1870's lessons; Maj Scales Artillery in Small Wars (Ann Arbor 1976), p 2.
⁴ Table 15; Maj Gen Headlam History of the [RA] II (Woolwich 1937), pp vii, i; Chapter 2.
⁵ They had been under the Ordnance, not the CinC, while gunners were educated at the long-established RMA. Maj Williams-Wynn 'The Brigade System in the Royal Field Artillery' PRAI XXXII (1905-6), pp 17-8; Callwell & Headlam RA pp 25; LS Amery THWSA VI (1909), p 477. Maj Head 'Knowledge of the Use of Artillery' JRUSI XLVIII (1904), p 1172; ED Brose The Kaiser's Army (Oxford 2001), pp 98-9, Hohenlohe-Ingelfingen Letters pp 71-74.
⁶ Headlam RA III (Woolwich 1940), p 484; Col Callwell Small Wars (1906), Chapter 24.
⁷ Callwell & Headlam RA I, p 254; Wolseley felt that artillery units' effectiveness was weakened as many were split between barracks, WO 279/4 pp viii, 7; ARSG 1899 (1900), p 8.
tactical unit. The abolition of RFA and RHA signallers in 1899 had further
damaged interarm cooperation. A major field artillery concentration only occurred in
August 1899 when 17 batteries assembled on Salisbury Plain. But this involved drill
rather than tactics and was not an all-arms exercise. Senior gunners were unused to
handling artillery in an all-arms setting. This being so, non-RA commanders were
likely to be worse. Consequently integrating artillery into all-arms tactics would be
difficult.

The RA’s weapons were roughly comparable to other European states for as yet
only France had developed a true QF gun. British field artillery had been entirely
gun-armed until 1896, when, common shell having been withdrawn from field guns,
5" Howitzers were introduced to fire HE. Howitzers were, however, poorly
understood even by gunners, insufficient numerically and fired too small a shell to
destroy substantial defences.

In the 1st Boer War little British artillery deployed, its weapons were feeble,
while its training and tactics were primitive. By 1899 the RA had made great strides,
it had a tactical doctrine and had improved its gunnery. Extravagant expectations
were placed on artillery and HE. Many felt that they would offset Boer
marksmanship, while some argued that the Boer acquisition of artillery would impair
their mobility. This did not happen.

Tactical Characteristics: 1899-1902

Chapter 3 has analysed how new technology enhanced artillery’s importance.
South Africa’s open terrain and the consequent long engagement ranges further

8 FAD 1896, p 7; Glossary.
9 Maj Head ‘Knowledge of the Use of Field Artillery’ JRUSI XLVIII (1904), pp 1174-5.
10 RPs 7101-23-188 Col Chamberlain/Lansdowne 28/8/00, voicing Roberts’ views; Artillery Training
III War (1928) defines artillery’s aim as cooperation, thus effectiveness would be problematic.
11 Callwell & Headlam RA I pp 252-3. Ibid p 192. FAD 1896 had no tactical guidance on howitzers.
Boer heavy artillery was remarkably mobile.
increased this. But the country's size, the resulting logistic problems, combined with poor routes, partly counterbalanced its greater effectiveness.

The Boers were generally better marksmen than the British, and paid great attention to entrenchment and concealment, aided by smokeless powder. Boer artillery tactics emphasised dispersal, use of cover, extreme-range fire and preservation of their pieces ahead of tactical effectiveness. British officers assessed these tactics as realistic in view of their numerical inferiority, but they were eccentric by European standards. Boer artillery ammunition was unreliable, while poor training meant that their fire often failed. An RA committee cautioned:

[1]hey look upon the Boer War as having afforded much experience and many valuable lessons but some of the conditions were exceptional. The war afforded no experience of how large numbers of well-served guns firing accurate time shrapnel are to be dealt with. This … will inevitably occur in a European war.13

Professor Travers has criticised British reluctance to learn from the war. Here their reasons are articulated.

The Boers deployed siege guns in field operations, contrary to conventional orthodoxy. Poor ammunition, inadequate training and their gunpowder propellant made them largely ineffective, but they were demoralising and had to be countered. This demanded long-range fire so RN, later heavy RGA, guns deployed for this task. This was unusual for an Army which traditionally had used lighter weapons in the field. Heavier weapons were also better suited to destroy defences. The British had trialled attacking Boer-style defences with artillery and small arms. British artillery grew in calibre during the war to tackle both tasks and by mid-1900 the Army was convinced that:

South Africa shows conclusively that in future wars a proportion of heavier

13 Headlam RA II(1937),p 112. At Ladysmith British casualties from artillery were small, despite fire converging, RCWSA Evidence I p80. Boer fuze were unreliable. Spion Kop was the only battle in which Boer artillery had a substantial effect. But this was due to terrain and the British plan rather than Boer tactics, Amery THWSA VI pp 467-8,479; WO 33/192,p 3.
guns than our present field gun, as well as howitzers, will be required.\textsuperscript{14} The war revealed that British field guns were inferior to Boer pieces in range and rapidity of fire.\textsuperscript{15}

The RA was constrained as, except in Natal, combat was at the end of long, low-capacity logistic chains, reliant forward of railhead on animals. This prevented prolonged shelling, even though heavy ammunition consumption by contemporary standards sometimes occurred.\textsuperscript{16} The Boers' long, narrow firing lines and concealed trenches were poor targets for shrapnel. Nor could the weight of HE needed to destroy defences be generated as there were few HE-capable pieces. Generally, however, the neutralising effects of shrapnel proved adequate against Boer defences. Lanchester blamed the limited effectiveness of British artillery on Boer dispersion and very open terrain; his first point is valid, but the latter is wrong. Open terrain favours artillery.\textsuperscript{17}

The main small arms lessons stressed snapshooting and independent fire. Dispersed enemies using fieldcraft made both essential. At long ranges artillery was more effective than rifle fire. The British criticised the fact that the Lee-Metford was not cliploading. They felt that cavalry needed rifles, while machine guns should be tripod not carriage-mounted. The latter were very visible and hence very vulnerable.

**Implementing the Artillery Lessons**

**Introduction**

The following sections examine how artillery was enhanced. The changes were

\begin{itemize}
\item \textsuperscript{14} Maj Gen Hughes *Open Fire* (1983), pp 56-7. As late as 1917 the British had a lesser proportion of heavy artillery than the Continentals; Brig Bidwell and D Graham *Fire-Power* (1982), p 96. The Indian Army, however, used heavy artillery in the field, Amery *THWSA* VI p 475; Table 38; L/MIL/7/1558-66 India/London 17/5/00; REJ XXX (1900), pp 194-5.
\item \textsuperscript{15} PRO/30/40/3 Maj Forster/Everett 27/7/00; WR 3; PRO 30/40/16 'Untitled Memorandum Weapons.'
\item \textsuperscript{16} Amery *THWSA* VI pp 492-3, the war's total artillery ammunition expenditure, some 2800 tons, was nearly equalled by one corps in 2 days in 1917, Lt Gen McNaughton *The Development of Artillery in the Great War* (nd) p 18.
\item \textsuperscript{17} FW Lanchester *Aircraft in War* (1916), pp 86-7. The question is covered in the Glossary. Chapter 6 examines Lanchester's deductions on fieldcraft.
\end{itemize}
made in several ways, by altering organisations to match them with other arms, by increasing numbers, by altering the mix of guns and howitzers and by tactical changes. Training also improved. A later section covers the development of new equipments.

**Increasing Artillery**

British artillery was substantially increased from 1900. This reflects not just the lessons from South Africa but the fact that European warfare was now seen as more likely. Wolseley had long argued that Britain had too little artillery and the Army Board, prompted by Brackenbury, stated in December 1899 that the number of available pieces was: 'dangerously low.'\(^{18}\) Grierson calculated that, in Roberts' advance to Pretoria, British norms demanded 26 batteries but there were only 17.\(^{19}\) But as the Boers had little artillery, this was less significant in relative terms. However, as the absolute weight of gunfire is a key dimension when destroying or neutralising defences, the deficiency was potentially important.\(^{20}\) Repington felt that greater enemy firepower demanded more artillery support. Maj Bethell breezily summarised a key lesson: '[t]o storm an ordinary position, bring up plenty of artillery; to storm a strong position, bring up all the guns you can.' Col Vincent saw insufficient British artillery as a critical weakness. He also condemned its inadequate range and firepower.\(^{21}\)

The Army decided to increase artillery to European norms of 5-6 guns per 1000 men in mid-1900. The Infantry Division's artillery doubled to two artillery units in 1902. Now there was one artillery unit per brigade. This would be likely to improve


\(^{19}\) WO 108/184 p 94.

\(^{20}\) Bidwell & Graham *Firepower* p 289. This may explain Lanchester's comment above on open terrain, he possibly meant areas. Amery *THWSA VI* p 485 notes the ineffectiveness of British HE at destroying Boer trenches. Though there were technical problems with Lyddite, there were also too few pieces to achieve this.

\(^{21}\) 'Suggestions from the Front. Lessons of the War' *19C XLVIII* (1900), p 710; 'Duncan Medal Essay' *PRAI XXIX* (1902-3), p 141; 'Lessons from the War' *USM XXIV* (1901), pp 28,34; Table 15; Glossary.

99
inter-arm cooperation as the organisations matched. Secondly corps artillery was strengthened with twelve 4.7” or 5” heavy guns, increasing both the range and weight of fire. Between 1900-1904/5 field artillery increased substantially. Haldane cut batteries later, but the British ratio of pieces to men was as great as any other major power in 1914.22

**Infantry/Artillery Cooperation**

Improving infantry/artillery cooperation reflected the need to counter increased defensive firepower qualitatively as well as quantitatively. Buller stressed that the maximum weight of covering fire synchronised with infantry movement was vital in attacks. Major Caunter criticised:

> promiscuous shelling of the enemy ..., whilst the infantry remained out of the fire until the defenders were considered to have been sufficiently shaken, proved worse than useless... We learnt ...that ... artillery preparation and the infantry attack should be very nearly simultaneous.23

But there was an important caveat; there were no elaborate defences that had to be destroyed before assaults were delivered, while there was sufficient artillery to neutralise the Boer positions at Pieter’s and Bergendal. Both these battlefields were of limited extent which meant that the British deficiency in absolute numbers of pieces was not critical. Lt Col Murray commented bluntly: ‘infantry cannot carry a position in the face of the modern rifle unless assisted up to the last moment by artillery fire.’ The lesson, demonstrated in Tirah, had been insufficiently stressed before 1899.24 Some gunners criticised their own ann: '[i]n this campaign we... have been at our worst in supporting infantry in attack.’ Gunner Powell noted: '[w]ant of combination between infantry and artillery conspicuous. Field Artillery offering assaulting columns no support.’ That a private saw the problem suggests its scale.

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22 L/MIL/7/10139 ‘WO letter 5/7/00;’ Table 20.
23 BULPs 2065 M/SS4/18 ‘Draft Nov 1900’ p 2; Caunter Free State, p 33.
24 RCWSA Evidence II p 328; IDB 1896’s S 113 includes artillery, S 114 machine guns. But it does not mention intense fire till the last safe moment synchronised with movement. S 124 para 10 and S 53 are vague on infantry covering fire, while p 125’s reference to ‘masking’ implies that fire till the last moment was seen as impossible for technical reasons. In 1900 risks were taken. Glossary.
Furthermore it occurred during a critical attack. Callwell stressed synchronising shellfire and infantry movement. There were many reasons for poor inter-arm cooperation in South Africa. These included formation commanders’ ignorance of artillery, insufficient inter-arm training, the lack of RFA signallers and the SAFF’s organisational disarray. 25 Nor had the prewar manuals emphasised inter-arm cooperation and close support for as long as safely possible.

Despite the above problems, Buller’s Force, which fought a series of battles generally involving frontal assaults on strong positions, forged a system which gave close, effective infantry support. Field guns, heavy artillery, mountain guns, howitzers and small arms supported the attack at Pieter’s. This was the first time that the RA had used such a range of weapons to tackle an entrenched position. The parabolic trajectories of howitzers were particularly effective for searching into trenches and cover. 26 Fire was kept up for as long as possible, Buller saw RN guns firing their last rounds: ‘three feet in front of the leading men,’ while 2 West Yorks asked for fire till the last moment and suffered several casualties in consequence. The weight and concentration of fire were far greater than at Colenso. 27

Improving artillery/infantry cooperation took time and the exact originator of this change is hard to establish, if indeed there was one man. Warren, GOC 5 Division, had advocated heavy gunfire to cover frontal assaults, while Buller’s final CRA on the Tugela, Col Parsons, was very important. Parsons re-established artillery communications and sited his artillery where its fire would be fully effective.

Ranging and target identification occurred before the attack, and Parsons

25 Maj Callwell The Tactics of To-day (Edinburgh 1900), p 111; Ed D Martin Duelling With Long Toms (Ilford 1988), pp 26-27 dated 24/2/00. It is a reprinted diary; Maj Callwell ‘Artillery Notes From The Veld (sic)’ PRAI XXVIII (1901-2), p 283.
27 RCWSA Evidence II Q15475; RH Davis ‘The Relief of Ladysmith’ SM XXVIII (1900), p 48; Capt Dawnay ‘Artillery and Infantry in the Final Stages of the Attack’ JR A XXXV (1908-9), p 51; written at Camberley, it contains DS comment. THWSA VI Part II p 481 stresses effective infantry/artillery cooperation in the later Natal battles; Table 36.
devised a system of reference points to control and thus concentrate fire. He insisted that batteries observed the advancing infantry continuously, thus enabling the following tactic to be used:

[a]s soon as it becomes dangerous to continue firing at the line about to be rushed, the guns should slightly increase their range...so as to bring their projectiles to bear on the ground immediately to the rear... Nothing can be worse than for the artillery to cease firing ...when the infantry have....to charge. Consequently the infantry assaulted while the enemy were still suffering from the shelling. Lengthening the range interdicted either reinforcement or retreat. A Boer described the results:

[w]e saw the ridge ... going up in smoke and flame. Of our Pretoria men ... not one came back... The British had blasted a gap through which the victorious soldiery came pouring.

Scales argues that Bergendal was the key battle for infantry/artillery cooperation, but he does not demonstrate any significant tactical development from Pieter's.

After 1902 officers stressed that: 'infantry advancing is dependent for ... support on [artillery] fire.' FAT 1902 highlighted infantry support, explaining the combination of shrapnel-firing guns neutralising and howitzers searching into trenches. It contained new instructions:

[i]n order to cooperate with the infantry ... the artillery commander must be thoroughly acquainted with the general's plan of attack. He must accompany the latter in his reconnaissance ... and must receive precise instructions as to the role which the artillery is to carry out.

These would enhance infantry/artillery cooperation greatly. IDB 1896 had been

28 WW Williams The Life of Sir Charles Warren (Oxford 1941),p 251. Williams quoted from Warren's contemporary papers; Maj Callwell 'A Heavy Battery at the Relief of Ladysmith' PRAI XXVII (1900-1),p 142, SAD II (1901),pp 44-5. The batteries enfiladed the Boers.

29 SAD II (1901),p 43; Maj Hamilton-Gordon 'Fourteen days Howitzer work on Service' PRAI XXVII (1900-1),p 358; Maj Callwell The Tactics of To-day (1900),p 114.

30 D Reitz Commando (1929),pp 87-8. This is secondary but A Conan Doyle The Great Boer War (1900),pp 291-2 supports it; Doyle's book was sent to Boer prisoners who felt that he had underestimated Boer casualties from artillery at Pieter's, 'Boer Critics on "The Great Boer War"' CHM XI (1901), p 297.

31 Scales Artillery, pp 232-3. The main target at Bergendal was the tip of a salient angle. This accident of ground meant that artillery was more effective than at Pieter's, Lyttelton makes the point, WO 279/9 p 129; SAD II pp 102-3.

32 Eg Maj Crowe 'Duncan Medal Essay' PRAI XXVII (1900-1),p 286.
vague on measures to ensure cooperation, contrastingly FAT 1902 stated:
‘employment of artillery ... depends entirely on the [overall commander’s] general plan.’³³ Tactical integration of infantry and artillery had increased. FAT also emphasised concentrated fire during the assault more than FAD did. FAT saw some friendly casualties as tactically preferable to ceasing fire prematurely, which would allow enemy infantry to fire freely on the attackers. This was a major innovation. Training directives and manuals accentuated artillery and other arms cooperation down to 1914.³⁴ Fire support was not just a lesson for artillery; an Infantry officer commented:

We have at last begun to recognise that fire and movement are ... closely connected with each other... In order to move forward, co-operating, or covering fire from artillery and infantry is absolutely necessary.³⁵

But infantry/artillery cooperation remained difficult until the introduction of RT.

Concentration of Fire

Artillery concentration is another qualitative means of increasing firepower. Though the number of pieces may not increase, fire is massed on tactically-key targets and is thus more valuable than an equal weight scattered over less important targets. Prewar tactics had collocated artillery in great lines of batteries to generate the necessary concentration. South Africa’s first conventional phase confirmed this need, as Col Davidson commented:

The greatest tactical requirement of the Artillery is that the CRA may have the means of concentrating the fire of as many guns as possible, on the key to the enemy position at the psychological moment.³⁶

But physically massing batteries firing Direct was tactically undesirable. It made concealment harder; there was less chance of enfilading the target, while CB from hidden enemy pieces was likely to be very effective on the exposed weapons.

³⁶ Gen Hamley The Operations of War (Edinburgh 1900),p 435; RCWSA Evidence II p 367.
Callwell criticised:

the fetish of massing guns because the Germans adopted this method .... But in the present...everything points to the dispersion of artillery to the utmost extent possible, and to no bigger unit than the battery being.... at one particular spot.

Here Callwell reveals 1870’s persisting tactical influence, while Roberts foresaw that:

50 or 60 guns concealed... over 2 or 3 miles of front would be able to destroy 100 equally good guns massed together.’

This suggests how tactical changes can negate numerical superiority; it also confirms Lanchester’s comments on fieldcraft’s powerful effects. The solution was to disperse batteries, thus making them easier to hide and complicating enemy CB, while concentrating their fire on targets. Furthermore such fire would, as contemporaries observed, be more effective as it was converging. This in turn meant that long-range weapons were more useful. Dispersed gunlines obliquely encouraged Indirect Fire.

FAD 1896 had emphasised physically massing artillery to attain concentration of fire:

batteries must be sufficiently concentrated to be worked by one commander. If the guns be dispersed, their effect will be successive and not simultaneous.

FAT 1902 was less prescriptive, seeing that there were many cases where dispersal was practical, though it still saw physical concentration as probably still necessary. The Committee drafting FAT 1902 had wished to emphasise co-locating pieces more strongly, but Roberts insisted that, if cavalry and infantry were extended, artillery must also be dispersed. Roberts insisted that officers with initiative: ‘should be able to concentrate the fire of their guns as well if batteries and sections are separated as if

37 Tactics, p 109; Glossary; RPs 7101-23-124-3 F646 21/11/02; Chapter 6.
38 Maj Crowe ‘Duncan Medal Essay’ PRAI XXVII (1900-1),p 284, he stressed C3; Glossary.
39 Glossary. The longer the weapon range the more fire could be concentrated. Intervisibilty issues encouraged Indirect Fire as Direct Fire is rarely possible over 3000 metres in NW Europe.
40 FAD 1896 p 4; FAT 1902 pp 5,6 while pp 3-4 suggests less physical concentration; the senior Gunner of an army’s duties contain less stress on personal command of massed artillery than FAD 1896 p 3 does.

104
they are all huddled close together.\textsuperscript{41} \textit{FAT 1902 (Amended 1902)} outlined the technicalities of concentrating the fire of dispersed batteries. This and instructions on using directors were the main changes from \textit{FAT 1902}.\textsuperscript{42} That \textit{FAT} was replaced in its year of publication suggests that these changes were both urgent and important.

By 1903 General Marshall, Roberts’ ex-CRA, recommended that:

\begin{quote}
[p]rovided, however, control of fire can be kept, every latitude should be allowed a commander to disperse … in accordance with the tactical situation and the ground.\textsuperscript{43}
\end{quote}

Roberts appreciated that concentrating fire from dispersed batteries meant that:

\begin{quote}
‘[s]ignalling is essential. It was a mistake giving it up in the Artillery and should be reintroduced as soon as possible.’\textsuperscript{44} The RFA reinstated signallers in 1903, Maj Geddes described their training, the communications network, the resulting ability to concentrate fire and to communicate with infantry and superior HQs. Wood at the 1903 Manoeuvres concentrated the fire of 76 pieces on key targets using RA signals.\textsuperscript{45}
\end{quote}

Dr Marble concludes that the RA became disillusioned with concentration after 1902. It is argued that his assessment is incorrect. Firstly he overemphasises the guerrilla phase, which saw artillery widely, but correctly dispersed. Secondly Kitchener’s abolition of the GOCRA South Africa’s post was justified. Marshall was required in Britain, while there was no likelihood of massed artillery being used in action. Thirdly the organisational changes, described later, saw formation and RA unit powers increase after 1902.\textsuperscript{46}

\textsuperscript{41}RPs 7101-23-122-3 Roberts/Ian Hamilton 4/4/02.
\textsuperscript{42} \textit{FAT 1902 Amended} pp 93-4, 99-102. This is the only instance of an important manual being replaced in the same year that I am aware of. Roberts’ intervention may have caused this; Glossary.
\textsuperscript{43} Capt Wilson ‘Dispersed Artillery’ \textit{USM XXVI} (1902), pp 296-8; \textit{RCWSA Evidence II} p 365.
\textsuperscript{44} RPs 7101-23-124-3 ‘Minute on Tactical Training RHA&RFA’ 21/11/02.
\textsuperscript{45} ‘Communication between Artillery units in action’ \textit{PRAI XXX} (1903-4); WO 279/516 ‘Preliminary Trg II Corps … 1903’ p 14. But it is easier to move notional than real shells!
\textsuperscript{46} Dr Marble \textit{The Infantry cannot do with a gun less} (KCL 1998), pp 15-16; WO 27/504 ‘Artillery Report Salisbury Plain’ p 1.
Adopting concentration took time to bed-in because traditions of battery independence and other arms' beliefs that artillery was so technical that gunners alone could comprehend it had to change first. It is not argued that field artillery immediately adopted a monolithic structure, but the C³ necessary for more centralised fire control began to emerge. Also Buller's introduction of single gun tactics at Aldershot was quickly countermanded.\textsuperscript{47} If Dr Marble's contention is correct this would probably not have happened. He is undoubtedly correct to identify weaknesses in concentration, C³ and tactics. Even compared to 1916 these were primitive. But the trend was towards centralised C³, unit and later formation-directed training and concentrated fire, which Parsons had stressed in 1901 on Salisbury Plain. Here it is the trend which is more important than the temporary weaknesses. But manoeuvre, which the British stressed increasingly after 1902, demands some artillery decentralisation.\textsuperscript{48}

\section*{Artillery Organisation}

Concentrating fire, discussed above, demanded that artillery was reorganised. Tirah had taught that haphazardly assembled batteries were less effective than cohesive units. This problem recurred in 1899-1900 and Headlam, a senior RA staff officer, was convinced that:

> The Lieutenant-Colonel commanding a Brigade-Division must be given the administrative powers of a [CO] of Cavalry or Infantry...[T]he very looseness of the tie which binds the batteries to him only encourages the rupture of that tie and the dispersion of the batteries.\textsuperscript{49}

Headlam shows here how organisations affect tactics. Permanent artillery units encouraged concentration. Brigade-divisions were formalised in 1900. This was not

\textsuperscript{47} BULPs 2065/M/SS4 /18-Item 2 pp 3-4.
\textsuperscript{49} HedPs 'Folder Centralization ... RHA and RFA,' p 5.
immediately successful as some COs tended to allow their BCs considerable licence while remaining aloof from their training. But units whose COs became involved did better tactically at practice camp. A similar change was seen in coast artillery which saw the responsibility for training switch from the School of Gunnery to the tactical commanders.

Marshall commented after South Africa that: 'it has been quite common for a general to be ignorant of the elementary principles of artillery.' This suggests how defective the training of senior infantry and cavalrymen had been. Col Davidson, French’s senior horse-gunner, lamented that there was no established cavalry CRA. It was necessary therefore to tackle the problems of other-arm ignorance of artillery and to establish artillery commanders in formations. The latter would educate their GOCs on artillery. On 1 January 1903 artillery units were incorporated in infantry divisions under the GOC’s command. This would improve inter-arm cooperation and would also force divisional commanders to understand their artillery. Permanent divisional CRAs were not instituted till 1907. But senior officers pressed for their establishment beforehand and temporary appointments were made for manoeuvres. Probably finance caused the delay as, until the formation of the large infantry division with its stronger artillery, it was uneconomic to establish them. But, as Pieter’s demonstrated, CRAs substantially improved artillery’s effectiveness and inter-arm coordination.

Cover and Concealment

Smokeless ammunition’s tactical effects for Infantry have been outlined already; its implications for artillery were as important, for as Lanchester argued, concealment and cover are force-multipliers. Gen Marshall commented: ‘[t]he value
of cover and the power of concealed guns, rendered practicable by smokeless powder, has come out strongly [in South Africa].’ Maj Ducrot remarked:

the vital necessity of concealment is one of the lessons of the war; and the “deliberate method” of coming into action ... should be practiced more than ever.54

\[FAD \, 1896\] had viewed cover as the last priority in selecting gunlines; \[FAT \, 1902\] urged:

\[t\]oo much importance cannot be assigned to the concealment of guns, not only ... in action, but when advancing into action. By skilful use of ... ground and natural features..., the presence of ... artillery may often be concealed ... until fire is opened; and even after that if the positions ... have been well chosen, especially if it be practical to employ indirect laying...In this way it is possible to compensate for 'inferiority of ... number.'55

Before the introduction of Cordite, the ‘Deliberate Method’ occupying gun positions had not been worth the extra time required as the first round fired betrayed the pieces’ positions. Despite smokeless ammunition having been introduced as the principal propellant well before South Africa, the RA had not adjusted their tactics to emphasise concealed movement. Now this changed.56 The quotation also suggests the greater importance of Indirect Fire from 1900. It contradicts General Bailey’s judgement that the RA had: ‘less intention of firing indirectly than it had before the Boer War.’57 It also suggests why artillery duels were less likely, though \[FAT \, 1902\] did not delete them entirely.58 The defending artillery could evade guns shooting Direct either by reserving fire till enemy infantry assaulted or by firing Indirect. Parsons when IGRA India insisted on cover and concealment in training.59 This suggests a shift towards appreciating greater enemy firepower and the need for more advanced tactics.

54 \[RCWSA \, Evidence \, II \, Q \, 18596; ‘Guns in South Africa’ \[PRAI \, XXVIII \, (1901-2),p \, 203; Glossary.\]
55 \[PRAI \, XXVII \, (1901-2),pp \, 279-80; \[FAD \, 1896 \, p \, 12; \[FAT \, 1902, \, p \, 6.\]
56 \[PRAI \, XXVII \, (1901-2), pp \, 276-7, \, p \, 280. \[FAD \, 1896 pp \, 14-5 downplays the Deliberate Method. \[FAT \, 1902 p \, 12 stresses covered advances; \[Headlam RA II \, p \, 48; Glossary.\]
57 \[Bailey Artillery, \, p \, 223.\]
58 \[FAT \, 1902 p \, 12; it \, was \, not \, so \, described \, but \, may \, be \, inferred. \, But \, FAT \, noted \, that \, the \, inferior defending artillery could avoid duels; \[Ibid pp \, 17-8. \, Callwell disparaged duels, \, Tactics \, p \, 107.\]
59 \[L/MIL/7/10839 ‘IAR \, 1903-04‘ \, p \, 3.\]
Howitzers

Howitzers are important due to their links with Indirect Fire, which dominated artillery tactics from 1914. That the RA emphasised howitzers more from 1900 suggests that gunners now understood that they would have to shell trenches, structures and engage defiladed targets more often. This suggests greater appreciation of changing battlefield conditions.\textsuperscript{60} Two distinguished authorities, Generals Bailey and Scales, both ex-artillerymen, have misappreciated the influence of South Africa on howitzers and Indirect Fire. General Scales criticises the RA’s handling of howitzers in 1899-1902, implying gunner conservatism as the cause. To understand his case and to provide context for this section, it is necessary to examine howitzer tactics in the Sudan, the first operational use of the 5” Howitzer.

Scales criticises flat-trajectory howitzer fire at Omdurman, but breaching walls was technically best done so.\textsuperscript{61} Emslie, the BC there, cautioned that his howitzers were used for: ‘quite exceptional’ tasks, which would not: ‘normally fall to … [them].’ Amongst these he included wall-breaching.\textsuperscript{62} Emslie did not use Indirect Fire, but there was no CB threat at Omdurman, while signalling from observers to the gunline would have slowed firing. Finding a gun position in flat country that provided the necessary defilade for Indirect Fire and which was close to the Nile would have been hard.\textsuperscript{63} Emslie was aware of howitzers’ ability to search into cover, continuing:

[i]f carried out, as it very likely may be from hidden positions, it will be most difficult to deal with, and must inevitably cause modification in the tactics both of infantry and artillery… It will therefore probably form part of [howitzer] tactics to fire as far as possible from behind … cover.

Scales considers that Emslie demonstrates RA conservatism. In fact Emslie clearly

\textsuperscript{60} ‘RFA’ The History and Present Position of the Field Howitzer. Present Position II’ USM XXV (1902),p 273. However howitzers had a substantial shrapnel ammunition scale.
\textsuperscript{61}Scales Artillery p 198; Glossary; the last occasion in 1944 that the RA breached fortress walls, gun-howitzers fired Direct at point blank. The [RA] Commemoration Book (1950),p 113.
\textsuperscript{62}‘The Possible Effect on Tactics of Recent Improvements in Modern Weapons’ AMS (1899),p 6.
\textsuperscript{63}Ibid, his howitzers were landed from barges and fired from near the Nile.
recognised Indirect Fire’s implications, not just for Artillery, and that his Omdurman tactics were unsuited to modern warfare.64

Scales claims that Emslie caused Maj Hickman’s pamphlet to advocate Direct rather than Indirect Fire for howitzer batteries in South Africa.65 The pamphlet only mentions Emslie briefly and makes no claims for his Omdurman tactics except simplicity. Contrastingly it praises Hamilton-Gordon, who had developed Indirect Fire techniques. Scales does not produce evidence for his claim, further stating that Hickman’s pamphlet was for: ‘all howitzer batteries on service.’66 His claim is surprising. The PRAI version states: ‘[t]hese papers were written for the use of Lt Col Waldron’s Howitzer Brigade-Division.’67 Waldron’s was not the only howitzer unit in South Africa. Hickman recommended that Waldron’s batteries used Direct Fire because of:

the very small amount of training [of Waldron’s unit] and ... the possibility of the batteries [undertaking] tasks ... not... hitherto considered as coming within the role of howitzers.68

Indirect Fire, as Scales acknowledges, required lengthy training, so, given that the decision to arm Waldron’s unit with howitzers was taken in mid-December 1899, it is hard to see how else it could have been operational in early 1900.69 Scales also criticises Hickman for not recommending an FOO with the attacking infantry. The pamphlet states: ‘someone belonging to the Battery should advance with the infantry ... and be responsible for giving the signal [to cease fire].’ This suggests an officer

64 The RA trialled wall-breaching in Egypt beforehand; it is unclear whether Emslie attended; Headlam RA II p 244; Glossary; Emslie ‘Effects’ pp 5, 7, 6-9.
65 Scales Artillery pp 202-3; this thesis uses the version, The 5” BL Howitzer Technical Considerations and Fire Tactics reproduced in PRAIs XXVII (1900-01). There was clearly a stand-alone pamphlet possibly used by Scales which may explain the discrepancy.
66 Scales Artillery p 202. Hickman’s work was copied to Hamilton-Gordon, ‘14 Days Howitzer Work’ PRAI XXVII (1900-1), p 362. This would seem to be a sensible staffwork, enabling howitzer BCs already deployed to understand the new batteries’ tactics.
67 The 5” BL Howitzer. Technical Considerations and Fire Tactics in the Field’ PRAI XXVII (1900-1).
68 Ibid pp 23-4. Hickman’s views on Direct v Indirect Fire were balanced but, due to insufficient training and weak Boer CB, he recommended Direct Fire for the newly armed batteries.
with an FOO’s responsibilities and communications. Also Scales’ argument is partly based on incorrectly assuming that Hamilton-Gordon’s battery was in Waldron’s unit and would therefore be constrained by Hickman’s pamphlet.

Scales attributes the fact that Roberts abandoned all his howitzer batteries on the advance to Pretoria to howitzers’ failures at Magersfontein and Paardeberg. But Roberts retained 6” and 9.45” heavy howitzers. Technically they were not in batteries, being RGA, but they represented substantial howitzer firepower. Major MacMunn, the source of Scales’ comment, was serving with a unit and was therefore poorly placed to know Roberts’ reasons. A more plausible explanation was not prejudice, but mobility, Roberts’ force had to cover large distances but the 5” was relatively immobile, its ammunition was heavy, though its shells were relatively ineffective, and there was limited transport. Battering Pretoria’s forts, a likely task, would need heavier howitzers than the 5”. Scales also cites Hamilton-Gordon on Roberts’ anti-howitzer prejudice, but more or less simultaneously Roberts requested more 6” Howitzers. Also Hamilton-Gordon was serving as a BC in Natal and was therefore poorly placed to understand Roberts’ motives. Grierson, a gunner on Roberts’ staff, criticised the immobility and short-range of 5” Howitzers and their inferiority to 6” Howitzers. These were substantial, specific reasons rather than generic criticisms of all howitzers. Later Grierson recommended arming divisions with howitzers.

Scales attributes the post-war disdain for howitzers to their failures at

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70 Scales Artillery p 203; Hickman Technical Considerations p 29.
71 Scales Artillery p 204; Capt Kenyon “The Boer War 1899-1900 Part I” PRAI XXVII (1900-1),pp 77, 79, Hamilton-Gordon’s 61 Bty was in Lt Col Barker’s Brigade-Division, deployed in 1899.
72 Scales Artillery pp 246-7 citing Maj MacMunn ‘Concerning the Field Howitzer’ PRAI XXIX (1902-3),pp 314-5. MacMunn did not produce evidence for his statement and somewhat contradicts himself by reporting other arms’ confidence in howitzers. ‘Lessons of the War-IV Artillery’ The Times 4/1/01 blamed Methuen’s ignorance of artillery for failure at Magersfontein.
73 RPs 7101-23-124-3 F37 4/8/02 Roberts later had 5” howitzers withdrawn from South Africa due to their weight and short-range, but there was no tactical requirement to destroy major defences then; HGP’s MS 117; RCWSA Evidence I p 82.
74 WOI08/184 p 92; Ibid p 102.
Magersfontein and Paardeberg, but does not provide contemporary evidence of such views. Both battles were unsuited to howitzers; one being a silent night attack, albeit with a prior bombardment, the other involved uncoordinated, hasty attacks. Here Kitchener's initial attack must be separated from the subsequent siege. Only one howitzer battery was initially present at both actions and the weight of fire needed to destroy defences could not be generated. 75 Stretched logistics prevented heavy bombardments at Paardeberg. Gunners, however, attributed Cronje's surrender to the 6" Howitzers' fire. 76

There were very real reasons why howitzers were not fully effective in South Africa. They were frequently misemployed as field guns to engage unsuitable targets, but the SAFF was short of artillery. Hickman had anticipated this by recommending Direct Fire for Waldron's pieces. Howitzer units and batteries were often divided; this made Indirect Fire harder as there were insufficient signallers and specialists to direct it. 77 Despite the problems which Scales mentions, the RA began the war with 3 field howitzer batteries and ended with 12. Though there was a shortage of guns, this increase does not suggest general hostility to howitzers. 78 A paper available to General Ardagh recommended that the ratio of field guns to howitzers should be 2:1. The 1899 ratio was 5.5:1. Furthermore India wished to raise its proportion of howitzers in 1901 demonstrating that Scales has overstated hostility to howitzers. 79

Scales claims that there was much criticism of howitzers at the RCWSA but he only cites Hannay-Rainsford and does not provide any details. A commissioner

75 Having seen both battlefields, it is clear that the areas were too large for one howitzer battery to be effective. This can be checked against The Official History's maps.
76 Scales Artillery p 245, LS Amery THWSA III (1905), pp 431,475-6; he suggests that the 6" howitzer bombardment on 26/02/00 was decisive p 482. Infantry attributed surrender to their night attack.
77 Maj Gen Stubbs 'Some Operations about Slinger's Fontein' USM XXIII (1901),p 502. From the RA distribution in Appendices to Headlam RA III, it seems that no howitzer unit had all its batteries together. This meant that there would be no CO to explain their special abilities authoritatively, while splitting batteries damaged their Indirect Fire ability.
78 Maj MacMunn 'Concerning the Field Howitzer' PRAI XXIX (1902-3), p 314.
79 PRO 30/40/16 'untitled memorandum on weapons;' It is unclear for whom it was written; Table 20; WO 32/6771 'India Military Despatch 44 21/3/01,' 36 of the 126 new pieces were to be howitzers
contradicted him: '[w]e have had a good deal of evidence in favour of howitzers as against guns of lower trajectory.' Nor is Rainsford-Hannay listed as a witness and Scales’ page citation does not apparently exist. That a civilian commissioner recognised curved trajectories’ tactical value suggests that opinion was shifting towards howitzers. Checking the RCWSA’s index shows that no individual criticised howitzers directly. Several witnesses praised them, notably Hunter, Stopford who stressed their value against shrapnel-proof trenches, and Hilyard. Warren criticised 5” Howitzers’ short-range but noted their effect on trenches. All had served in Natal, suggesting that Buller’s force, which included Hamilton-Gordon’s well-trained battery, valued howitzers more than Roberts’ force. But Roberts commended Hamilton-Gordon, even though the latter had served in Natal.

Roberts recommended developing a new field howitzer. Clearly he had no prejudice against howitzers in general. Col Davidson praised 5” and 6” Howitzers, but diagnosed that further training was needed for greater efficiency. That a senior horse-gunner commended them, suggests a cultural shift. The RHA’ tactical ethos was based on simple, dashing Direct Fire, sharply at variance with Indirect Fire’s complexity. Marshall acknowledged 5” Howitzers’ good work in Natal, when well handled, praised Hamilton-Gordon and recommended developing a new field howitzer. As late as 1906 Lyttelton, then CGS, praised Hamilton-Gordon’s battery. Gunners criticised the 5” Howitzer’s short-range, light shell and heavy weight. They saw the 6” Howitzer’s range was inadequate; it was cumbrous, requiring a platform, and fired heavy shells. But these were specific, not generic criticisms of all

80 Scales Artillery p 246; having checked against QAL Apr 1904 pp 3110 & 1966, Scales has transposed his name; RCWSA Evidence II Q 18551.
82 This it is emphasised depends on the index’s accuracy; RCWSA Evidence II Q 14655; Admiral Lambton Q 19134; Qs 16693-4; Ibid p 235.
83 SAD 1.(1901),p 23.
84 RCWSA Evidence II, Q 15850:Q18628; Q 18508;p 364; WO 279/9 p 129. Lyttelton had commanded formations in Natal.
howitzers. Many Boers considered the 5" Howitzer as the best British artillery weapon, while British veterans viewed the Krupp howitzer as theirs. Significantly one of those agreeing was Lt Col May, an ardent horse-gunner. May also advocated howitzers and Indirect Fire, though he criticised the 5" Howitzer's short-range. Several RFA officers praised them. This suggests that not all RFA and RHA officers were prejudiced against howitzers, while the RGA had long advocated siege-howitzers rather than siege-guns.

Scales does not cite criticisms of howitzers in the military press after 1902. Had anti-howitzer views been rampant even in the RA only, one would expect such views to have been common. Indeed the reverse appears the case. Capt Wilson remarked: 'the tenor of all recent changes seems to be a plea for the more general use of howitzers.' He deduced that the greater use of cover would favour them and recommended more howitzers than heavy guns with field forces. As early as 1901 Lt Col Rodwell deduced that howitzers would become more important. Repington praised howitzers and noted their effectiveness against trenches. That an infantryman and senior staff officer appreciated this suggests that thinking non-gunners were starting to recognise howitzers' increased importance. Hamilton-Gordon's postwar career again suggests lack of prejudice. He was appointed to the committee on the new artillery equipments, developed Indirect Fire techniques and briefed the 1908 GS Conference on howitzers. That the Army developed a new howitzer, based on South African experience, shows that, despite sharp criticisms of 5" Howitzers, there

86 JRUSI XLVI (1902), p 1358; WO 108/266 pp 136, 154, 156.
88 'Is Field Artillery Obsolete?' USM XXVII (1903), p 495.
89 'Essays on Artillery III. Cover and Concealment' USM XXV (1902), p 379.
90 Lt Col Rodwell Reflections on the Boer War (Meerut 1901), p 126.
91 'Suggestions from the Front' 19C XLVIII (1900), p 708; WO 33/192; WO 279/18.
was now recognition of howitzers’ value.\textsuperscript{92}

The non-artillerist may feel that howitzers have been over-examined. But in view of their close connection with Indirect Fire, the latter’s importance between 1914-18 and errors in the historiography, they demand careful analysis.

**Indirect Fire**

General Bailey argues that Indirect Fire was one of the most significant tactical developments of the 20\textsuperscript{th} Century. This judgement is valid, but he also states that South Africa had little influence on the RA’s adoption of it. Therefore any evidence of field artillery’s greater use of Indirect Fire after 1900 is significant.\textsuperscript{93} It was closely connected to howitzers; their parabolic trajectories were well suited for it, unlike guns’ flatter trajectories. Hitherto most field gunners had been averse to Indirect Fire. Now attitudes started to change. MacMunn outlined Indirect Fire’s tactical benefits in his winning Duncan Medal essay. An RFA officer, stressing the importance of reverse slopes, commented: ‘I strongly endorse your correspondent who says we should pay more attention to indirect fire (sic).’ Callwell underlined: ‘[t]he value of indirect laying for all classes of artillery is now very generally recognised.’\textsuperscript{94} May stressed its tactical advantages, though noting that it was slow; this caused difficulties when engaging moving targets. He also analysed locating enemy artillery firing Indirect.\textsuperscript{95} May was a leading RHA theoretician; his commendation of a slow, scientific process, at variance with the dashing tactics typical of horse artillery, suggests changing attitudes. Furthermore he was a Camberley DS and well-placed to influence the future elite. Du Cane felt that Indirect Fire was slow and indecisive, but argued that circumstances might demand

\textsuperscript{93} The First World War and the Birth of the Modern Style of Warfare (Camberley 1996): fn 60 above.
\textsuperscript{94} *ARSG* 1899 (1900), p 8; ‘Duncan Medal’ *PRAI* XXVII (1901-2), p 275; Lt Col Harrison ‘RA In South Africa’ Ibid, pp 604-5; ‘The Training, Organisation … of the [RGA]…’ Ibid p 125.
\textsuperscript{95} Retrospect pp 122-4,133. That enemy artillery was likely to fire Indirect suggests that it was valuable. In turn this would have compelled British use of Indirect Fire.
its use. His criticisms were largely based on the fact that the instruments then used for Indirect Fire were primitive.\textsuperscript{96} Lt Col James also noted Indirect Fire's ability, combined with longer ranges, to allow dispersed, hidden pieces to concentrate fire.\textsuperscript{97} Not all were convinced; Maj Bethell felt that Indirect Fire was unpopular in South Africa due to its slowness. This was probably due to poor training, divided howitzer units and inexpert signallers.\textsuperscript{98}

Indirect Fire had other advantages. No longer was it necessary for each gunlayer to identify his target. This was a great advantage as ranges increased, while CB was hard against pieces firing Indirect.\textsuperscript{99} The implications for the artillery duel have been considered above. \textit{FAT 1902} had significantly more on Indirect Fire than \textit{FAD 1896} and trials proceeded from 1901 to develop it.\textsuperscript{100}

**Heavy Artillery**

Traditionally the RA had emphasised light weapons in the field. Why this was so is beyond the scope of this thesis but it was probably due to the difficulties of shipping heavy weapons and their teams overseas. South Africa demonstrated that heavy guns were needed to attack positions, conduct CB and provide long-range fire. The calibre of artillery in South Africa increased substantially during the war. The mobility of both Boer and their own heavy weapons impressed the British. For the first time MT moved heavy artillery into action. Several officers speculated on the future of MT towing pieces, while a committee examined heavy artillery. The Pretoria Committee's heavy artillery sub-committee had recommended heavy weapons for use in the field. Roberts, with long service in India where it had been regularly employed, was sure that: "[n]eglect to supply ... heavy artillery, sufficiently

\textsuperscript{96} Glossary, 'Cover and Cooperations' \textit{PRAIs XXX} (1903-4), pp 361-2.

\textsuperscript{97} \textit{Modern Strategy} (1904), p 169. James' emphasis on Indirect Fire was not in his 1903 edition.

\textsuperscript{98} 'Duncan Medal Essay' \textit{PRAI XXIX} (1902-3), p 145.

\textsuperscript{99} As ranges lengthened target indication became harder, \textit{ARSG 1900} p 17, \textit{ARSG 1901} p 15.

\textsuperscript{100} \textit{FAT 1902} pp 77-80, 97-101; \textit{FAD 1896} pp 93-5. \textit{FAT} pp 97-101 appears to incorporate some of Hamilton-Gordon's work, Headlam RA II pp 45-6; Lt Col Hamilton-Gordon 'Observation of fire from a flank' \textit{PRAI XXIX} (1902-3) describes trials. That one of \textit{FAT 1902 Amended 1902} 's main changes inserted Directors, used for Indirect Fire, suggests that there was more than before 1899.
mobile to accompany the troops in the field' was a major fault. 101

Long-range Fire

Improved propellants, open terrain and Boer marksmanship encouraged long-range fire in South Africa. This strengthened artillery relative to the other arms and of Indirect compared to Direct Fire. Artillery ranges in South Africa were excessive and long-range fire there rarely inflicted many casualties. However FAT 1902 foresaw that engagement ranges would grow. Fire at practice camps steadily lengthened. Roberts saw the new German QFs firing at 4800 yards. Tactically longer-ranges meant that artillery was becoming more powerful, forcing enemies to deploy earlier, widening the choice of gun positions and hitting deeper into enemy lines. 102 It also increased the ability to concentrate fire. Longer-ranges forced the RA to improve its optics and also demanded more efficient coordination with the other arms and better C3.

The Mix of Weapons

Wartime demands for close support, Indirect Fire, engagement of structures and defiladed targets, and long-range fire meant that no single weapon could fulfil all these tasks. Gunners therefore deduced that a range of weapons was needed. This suggests greater understanding that combat was becoming more complex. It partly contradicts scholars who have criticised field gunners for their obsession with Direct Fire and shrapnel. 103 May advocated an RHA and an RFA QF field gun, a field howitzer, a heavy gun and a pom pom. Marshall agreed, but excluded pom poms. 104

The British introduced 2 QF field guns, one for cavalry, the other for infantry

101 'Duncan Medal Essay' PRA/ XXVII (1900-1), p 283; Maj Callwell 'A Heavy Battery at the Relief of Ladysmith'; Ibid p 138; Tables 37&8; May Retrospect p 143; Maj Bethell 'A Motor Field Battery' PRA/ XXVII (1900-1); WO 108/249; WO 108/266; RCWSA Evidence I p 430. Ibid Q 10564
102 Head 'Desirability' p 1175 on wasteful long range fire; such fire became more efficient during the First World War and perhaps more critically between 1939-45 when RT and C3 had developed, Bidwell Gunners p 97. Longer ranges strengthened Indirect Fire as in Western Europe intervisibilty is rare over 4000 metres, DOAE Engagement Ranges Study; Amery THWSA VI p 478; Tables 22&23; RPs 7101-23-122-2 F 126 Roberts/Lansdowne 16/8/01; Table 22.
104 RCWSA Report p 93.
support, a field howitzer and a heavy gun. Field guns would support other arms; howitzers would attack material and engage defiladed enemies, while heavy guns would shell distant targets.

The New Weapons

QF Artillery

The Boer War occurred at a significant stage in artillery development. QF artillery was emerging and its status in South Africa is more complex than has been suggested. Boer field guns were technically superior to British ones, outranging them, a significant disadvantage in open terrain. They used fixed ammunition, consequently firing faster than British pieces.\(^{105}\) British experts during the war assessed that some of these guns were QFs. Postwar analysis appeared to confirm this.\(^{106}\) In fact they were wrong; the French 75mm was the first true QF field gun.

Controversy exists as to whether the RA used QF field guns. Some of the weapons, which Professor Spiers claims as QF, were in practice not when used in the field. RN guns on improvised carriages could not be fired at QF rates due to excessive recoil forces, while ammunition availability constrained platform-mounted pieces. But the RA manned QFs on armoured trains and pom poms.\(^{107}\) The Elswick Battery was described as QF; its weapons were ex-naval guns firing fixed ammunition. Whatever the exact position, Roberts concluded that:

South Africa has shown... that [our] Artillery material [was] considerably behind other European states. Our field gun ... was wanting in range and rapidity of fire.\(^{108}\)

\(^{105}\) Capt Wilson 'Essays on Artillery II. Long-Range Fire' USM XXV (1902), pp 267-8.

\(^{106}\) Capt Wilson 'The War. The Future Of Our Artillery' USM XXI (1900), p 572; WO 33/235, p 389 describes the Boer 75mm Creusot and the 120mm Krupp Howitzer as QF; this was a postwar technical report on captured weapons; Lt Col Bethell Modern Artillery in the Field (1911).


\(^{108}\) RPs 7101-23-122-7 F663 12/7/04; Lt Jones RNR 'The Elswick Battery in South Africa' JRUSI XLV (1901), pp 993-4; RCWSA Report p 90.
The RCWSA did not agree, but the British were well aware of European progress.\(^{109}\)

Professor Beckett argues that European developments, rather than South African experience, caused Britain to introduce QF weapons.\(^{110}\) His argument is based on assuming that the British did not face QFs in South Africa. Technically he is probably correct, although pom poms were QF, but it is argued here that what contemporaries believed at the time is more significant than a retrospective assessment of enemy weapons.\(^{111}\) Furthermore any professional observing British inferiority in South Africa and being aware of European developments would have concluded that Britain needed QF weapons urgently. Rearmament was urgent in view of a threatening international situation. Consequently Britain ordered several batteries of German QF field guns in 1901. Roberts established a committee to examine QFs in 1901. It benefited from the Pretoria Committee's and Brackenbury's efforts.\(^{112}\)

**The QF Field Artillery Programme**

Brackenbury began examining the introduction of QF field guns in early 1900.\(^{113}\) Though his precise motive remains unclear, Brackenbury was keen to incorporate operational experience in the new weapons and devised the questionnaire sent to South African units on weapon performance there. The Committee on Horse and Field Artillery produced specifications, largely based on South Africa, against which manufacturers were asked to develop solutions.\(^{114}\) These indirectly emphasised Direct Fire by limiting the pieces' elevation and by requiring fixed

\(^{109}\) CW Dilke 'The Report of the War Commission' *JRUSI* XLVIII (1904), p. 225 criticised the RCWSA for not emphasising QFs; Capt LR Kenyon 'QF Field Equipments on the Continent' *PRAI* XXVI (1899); WR 3 examines Boer technology.
\(^{110}\) The Victorians at War (2003), p. 237.
\(^{111}\) Whether the pom pom was a gun is debateable, but it was QF and suggested the trend of future artillery technology; Glossary.
\(^{112}\) WO 33/192; AFPs 50314, 'MGO's Minute 24/12/04.' Roberts was warned of the intention to develop QF field artillery and invited to collect information on 5/3/00. This may have triggered the Pretoria Committee's establishment. WO 33/235 for technical intelligence on Boer QFs.
\(^{113}\) AFPs 50314 'MGO's Minute' 24/12/04.
\(^{114}\) WO 33/192 'Headlam RA II, p 73; Chapter 9.
ammunition. For the RHA the prime characteristic was mobility, for the RFA firepower was. The latter's shell weighed 18.5 lbs and was substantially heavier than its Continental equivalents. Both guns had shields and considerably longer ranges were specified.¹¹⁵ Dr Marble has criticised the RFA's choice, but the 18 Pounder's characteristics were similar to its continental equivalents.¹¹⁶ Though the RA has been criticised for not switching to Indirect Fire earlier, French and German weapons were not inherently more suitable. Both fired fixed ammunition and the 75mm, with its lesser elevation and higher muzzle velocity, was technically less capable of Indirect Fire than the 18 Pounder.

The RA specified that shrapnel was to be the only ammunition nature for the new field guns. This presupposed warfare en rase campagne in which opponents would have little time to dig deeply. Consequently field guns would not need to shell material often, while the RFA also had HE-firing howitzers. But Dr Marble's assertion that shrapnel was unable to neutralise trenches is wrong. It was, indeed may even remain more efficient at suppression than groundburst HE.¹¹⁷ Furthermore shrapnel was the prime French and German field gun ammunition nature. Dr Marble's criticisms of the RA are misplaced. RA policy conformed to European norms and, unlike the French, British infantry divisions included howitzers which were technically more effective at firing HE than the French 75mm's.¹¹⁸

There was, however, controversy over the RFA's weapon. Many gunners had been impressed by the mobility and firepower of heavy artillery in South Africa.¹¹⁹ They argued that, though mobility was important, the 18 Pounder had sacrificed

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¹¹⁵ WO 33/192; 6000 yards shrapnel; Glossary.
¹¹⁶ Marble 'RA' pp 91-2. Table 25.
¹¹⁸ Marble Gun p 12; Glossary, however the RA failed to tackle HE fuzeing's problems.
¹¹⁹ Capt Powell 'How a Field Gun of Greater Power might be used equal to the 5 BL Howitzer' PRAI XXVII (1901-2),p 63.
firepower for excessive speed. Roberts nearly altered its specifications in favour of a slower weapon firing heavier shells.120

The resulting QF programme involved manufacturing 966 guns, 2898 wagons and some 1,000,000 rounds. The Treasury wanted to prolong the process to smooth expenditure, Arnold Foster was unhappy that the 18 Pounder differed significantly from its European equivalents but the Army was adamant that the programme went ahead. 121 The AG argued that the weapons were based on more recent combat experience and consequently should not imitate the French or Germans. Unusually the Treasury was defeated, this, at a time of retrenchment, shows that soldiers and statesmen realised firepower's importance. The total cost, £3,436,000, was a major item in the equipment budget.122

New Heavy Artillery

The Army specified that its new heavy gun would fire as large a shell as possible about 10,000 yards and weigh some 4 tons. By virtue of being a gun it was consequently optimised for Direct Fire, and, though it fired HE, it also had a sizable scale of shrapnel. Its tactics were largely based on South Africa. The RA's emphasis on heavy guns after 1902 and the development of what was to become the 60 Pounder were unfortunate in retrospect. The RGA had long seen heavy howitzers as more suitable for attacking structures and howitzers were better able to deliver HE. 1914-18 demonstrated howitzers' greater tactical importance. But the RA did not ignore heavy howitzers completely. 123 Brackenbury began developing an 8.5"
howitzer but this failed due to mobility problems. Development of a new field howitzer started, while the 6" Howitzer had its range extended to 7000 yards. There were financial limits on what could be done when the Army’s field guns needed replacement. However criticisms of complete failure to develop heavy howitzers after 1900 are off-target.

Summary

The development of a range of weapons, which for the first time was driven by user specifications, suggests a greater desire to match technology and tactics, as well as a more doctrinal approach. That a substantial part of the Army’s budget was spent on QF field artillery shows the importance the Army attached to firepower. Weapons embody tactical assumptions and the prime deduction is that the new guns, using Direct Fire and firing shrapnel were best suited to supporting manoeuvre. But howitzers were not neglected and their enhanced position suggests a new realisation that tactical conditions were now more complex.

FAT 1902 and Training

The new manual, FAT 1902, incorporated some of the tactical lessons which South Africa had taught. These included more emphasis on Indirect Fire, concealment, use of ground and dispersed positions. The work was transitional, not all lessons were included, eg its guidance on howitzers was sketchy. This was understandable. The RA was developing its own QF weapons and time was needed to assimilate both South Africa’s lessons and experience from the recently bought German QFs. But there was one absolutely new element, the inculcation of flexibility. FAT 1902’s Preface emphasised:

While the details of drill …must be strictly adhered to, officers must understand that a book of this description … cannot be expected to legislate for the varying contingencies of active service. To meet these officers must depend

upon … initiative, self confidence and resource… The attainment and development of such powers is the object of military training.\textsuperscript{126}

Greater emphasis on training complemented \textit{FAT 1902}. Artillery training areas were much extended with the addition of Salisbury Plain in 1901. This allowed far more freedom to manoeuvre and thus greater tactical realism. Parsons, Buller’s ex-CRA, the first commandant of the Salisbury Plain range emphasised:

The importance of reconnaissance and scouting; the amount of latitude allowed to [BCs] in their choice of position…; the desirability of taking a broad view of the drill book and using their own common sense in situations not legislated for in the drill book; the value of concealment both in approaching and occupying a position; the value of an eye for ground; the importance of training and quickening the general intelligence of all ranks.\textsuperscript{127}

This contrasted with the prewar stress on regularity and drill. Parsons continued teaching these points in India.\textsuperscript{128} Greater realism prevailed in training:

The great importance of cover is not yet properly appreciated. It was constantly pointed out to battery and section commanders… and towards the end of the practice great improvements in the way cover was made use of were manifested. It is hard for officers to disabuse their minds of the idea that perfect line and dressing are of the first consideration, seeing how much for years past this has been impressed on them.

This also suggests that, even in the RA, whose organisation fostered initiative, drill had deadened initiative. Reducing competitive firing allowed more tactical shooting. For the first time COs trained the batteries which they would command in war. Another advance was the concentration of batteries for training, which occurred first in Ireland in 1903. This meant that more facilities were available, officers got more practice in observing fire and unit training was enhanced. Parsons introduced similar changes in India.\textsuperscript{129}

Training facilities were improved. An artillery range was acquired in Wales and Glen Imaal, bought in 1899, proved, after its extension in 1904, to provide very

\textsuperscript{126} \textit{FAT 1902} p iii.
\textsuperscript{127} L/MIL/7/10839 ‘IAR 1901-2’ para 9.
\textsuperscript{128} ARSG 1901 (1902),p 13; L/MIL/7/10839 ‘IARs 1902-3 and 1903-4.’
\textsuperscript{129} L/MIL/7/10839 ‘Annual Report RA India 1901-2’ para 9. Lt Col Du Cane’s article ‘Cover’ was written following Roberts’ criticisms of the RA’s poor use of cover on the 1903 Manoeuvres: Headlam RA II, pp 48-9.

123
realistic terrain. The RA introduced more realistic targetry including indistinct Boer-style trenches. Engagement ranges in training lengthened. This and the new, more realistic targetry made indicating targets to individual gunlayers harder, obliquely encouraging Indirect Fire.¹³⁰

Training is the practical extension of doctrine, and the changes in training outlined above were probably as significant in improving artillery’s effectiveness as FAT 1902 or the new weapons. Realism, initiative, interarm cooperation and the strengthening of COs’ and later CRAs’ responsibilities for training had powerful effects across the RFA.

**Indirect Fire Training**

RHA and RFA gun batteries were using more Indirect Fire in 1901 than they had in 1899. The distinction that these batteries were gun-armed is important; howitzer batteries, as was suggested earlier, were more likely to have used Indirect Fire. In 1901 the Okehampton Commandant was critical:

> The drill in indirect laying showed a slight improvement on last year, but in many cases it evidently does not form part of the regular routine of the training of the battery...More attention should be given to the details of indirect laying and firing from behind cover.

This may have been directed at howitzer batteries only, though the document did not specify that this was the case, while only 3 howitzer batteries fired at Okehampton in 1901. But: ‘many cases’ implies more than just three batteries firing.¹³¹ However the 1900 Report is clear that field guns had fired Indirect and that RHA batteries would have done so if they had had the correct instruments. Also in 1900 the Glen Imaal report emphasised:

> Much more attention should be paid to [Indirect Fire], and a higher standard should in future be attained in it.¹³²

¹³⁰ L/MIL/7/10839 ‘IAR 1901-2’ p 3 noted longer ranges and harder targets at practice camps. Table 21: Glossary.
¹³¹ ARSG 1899 (1900),p 8; ARSG 1901(1902),p 6.
¹³² ARSG 1900 (1901),pp 8-9; Ibid p 17.
The 1899 Report had not mentioned Indirect Fire. Furthermore all the pieces firing at Glen Imaal in 1900 were guns. Had there been a switch to howitzers in 1900, this alone might have accounted for the introduction of Indirect Fire. In 1901 Parsons, assisted by Hamilton-Gordon, directed the Salisbury Plain camp. Parsons stressed the need to improve the: ‘[p]rocedure for firing from behind cover.’ In 1901 Okehampton also saw considerable use of Indirect Fire; the Commandant recommended that Indirect Fire stores were issued to gun batteries. Glen Imaal also reported in 1901 that Indirect Fire practices were more successful than in 1900.\footnote{\citet{ARSIG1901} p 17; \ibid p 8; \ibid p 19.}

In India field batteries fired Indirect in 1902-3 and 1903-4. Parsons, the Indian IGRA, encouraged this:

> Considerable strides were made at Home last year [1902] owing to the use of experimental instruments for the direction of fire at unseen targets... I am glad to see that the same spirit has spread to India... The increased use of Indirect Fire may have a tendency to make batteries slow. I see from the Reports... that this is the case... Every step should be done quickly and then the end will be quickly attained.

Indirect Fire further increased in Indian practices in 1904-5, though Parsons was still dissatisfied with the results.\footnote{\citet{L/MIL/7/10839} 'IAR' 1903-04' pp 6-7; 'IAR' 1902-03 pp 1-2, 4-5; \ibid 'IAR' 1904-5' pp 3-5.}

General Bailey is wrong to assert that there was less Indirect Fire after South Africa than beforehand. It is not possible to prove that South Africa was the cause as 1899 practice camp reports mention it. But despite this, Parsons’ stress on it in 1901 suggests that it was used more in training because of South Africa. That Parsons had Hamilton-Gordon as one of his staff supports this conclusion. The issue of directors, essential to Indirect Fire and the reissue of \textit{FAT 1902}, both in 1902, support this conclusion.

**Infantry Firepower**

Unlike artillery, major technological change had already occurred with the deployment of magazine rifles Consequently the Infantry firepower lessons were less...
significant than the artillery's. Small arms technology was not as dynamic and, though technical changes occurred after 1902, the most significant developments involved tactics and training. The largest quantitative increases were the Cavalry's adoption of rifles and the doubling of unit machine guns.

**Machine Guns**

Brig Gen Baker-Carr stated that the Army deprecated machine guns before 1914, while Lt Col Hutchinson claimed that after 1902 they: 'regained [their] former unpopularity.' Contemporary evidence is far more positive, despite the fact that some machine guns used in South Africa were unreliable or carriage-mounted. The latter made the weapons very vulnerable. Also the Boers were poor targets due to their fieldcraft and reluctance to assault.

Despite these adverse factors, veterans were very positive about them. Hilyard emphasised that the: '303 Maxim has done good service, and will do better now we have the tripod.' Lt Col Thorneycroft brought his own machine guns to South Africa and submitted a detailed report, commended by Buller, while a cavalry CO cleared a stoppage personally. This suggests that not all cavalrymen were technophobes.

Senior officers were generally positive. Brig Gen Burn-Murdoch saw machine guns as: 'useful at long ranges,' significant in view of South African terrain, while Brig Gen Gordon noted: 'the effect is... great,' recommending one per squadron. Both were cavalrymen. Buller remarked that all COs: 'like these guns... On the whole [machine guns] were very useful,' General Cooper concluded: 'i]t is hard to exaggerate the value of machine guns.' Coke noted their suppressive effects, while FW Kitchener emphasised:

135 From Chauffeur to Brigadier (1930), p 71; Machine Guns (1938), p 73.
136 WO 108/267; Ibid sers 7 p 20 and 2 p 19 respectively; General Cooper noted that hilly Natal reduced machine gun lethality. Also RCWSA Evidence II Q 14343. Methuen noted that South Africa, like Tirah, was unsuitable for machine guns. Not all guns were carriage-mounted, see WO 108/307 p 16, the Army Board had recommended tripods on 31/8/99.
137 WO 108/267.
138 Ibid sers 1.17; Table 12.
if understood tactically, the machine gun dominates the whole question of attack in the future ... [T]he lost opportunities, owing to neglect of [their] proper tactical use... was the most important lesson of [1899-1902].  

Many criticised unwieldy carriage-mounted weapons. Many Guards officers serving under Methuen in more open terrain than Natal consequently distrusted them. Most officers saw their role as defensive with the significant exception of those serving under Buller who felt that machine guns could cover attacks. Machine guns appear to have been used most effectively at Pieter’s. A CO stated: ‘a battery of Maxims (4) completely silenced a Boer trench and Maxim,’ while Lt Col Campbell noted:

At the start of the war, I with others, thought that a Maxim was useless in the attack, but...in this country, Maxims, if properly handled can be brought into the firing line and assist an advance by overhead fire.

Campbell had not studied IDB 1896, which outlined their use in attack. Tirah had demonstrated this practically.

Future senior officers were positive; Allenby reported machine guns as: ‘very effective...I should like to have one per squadron.’ Byng commented: ‘the effects...have been excellent,’ De Lisle concurred. All were to be cavalry generals, again suggesting that the arm was not technology-averse. The general mounted arm consensus was that machine guns should be tripod-mounted and pack-borne. Though pack-carriage was more laborious than vehicle-transport, cross-country mobility was better, and the guns could be manhandled into action, making them smaller targets. Some cavalrymen preferred galloping-carriages for speed, but noted that rough terrain impeded them.

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139 WO 108/267 Nos 1 p 19, 23 p23, 8 p 20, 23 p22,32 p 23
140 Kenny-Kelly noted that his division was attacking and machine guns were hard to deploy in consequence; WO 108/267 p 27.
142 WO 108/267’s questions are general, significantly 5 replies mention Pieter’s; sers 14,15,22,30,31.
143 This is more than for any other battle.
144 WO 108/267 No 37 p 62.
146 WO 108/267 pp 4,10,11.
The Report also sought views on the future of machine guns. Most replies advocated 2 per unit but FW Kitchener urged:

machine guns should accompany every company....[T]o fight any body of infantry... unsupported by machine guns ...is a crime......I consider eight the minimum and 10 the best number for 600 infantry.¹⁴⁶

Mounted arms were more positive about machine guns than infantry. Carbine-armed cavalry naturally found them more valuable for long-range fire than rifle-armed infantry. Also MI and cavalry tended to more widely deployed in action, making their support more valuable.

Brackenbury instituted the Special Committee on Machine Guns to clarify their tactical roles and to resolve conflicting views from South Africa. The Committee had access to the South African report. The President had experience with machine guns in South Africa. All members had served there and the secretary had also fought in Tirah. The Committee was asked to answer what their tactical roles were? What arms should have them attached and how many? The Committee foresaw 10 offensive tasks, the most significant being to cover attacks. Their concentrated fire meant they were easier to control than riflemen, while their fire should be flanking, minimising hostile fire and maximising enfilade. Veterans were ‘unanimously’ favourable on their defensive value. The Committee noted their ability to sweep avenues of advance, to free men for counter attacks and to enfilade obstacles.¹⁴⁷ They were useful for advanced and rearguards, for outposts, reconnaissance and convoy protection. The Committee recommended that cavalry regiments should be scaled with one and MI and infantry battalions with two guns. Mobility was the prime characteristic for cavalry and MI weapons, which should be carriage-borne, with a tripod also carried.¹⁴⁸ The last feature suggests the increased importance of

¹⁴⁷ WO 33/137 pp 7-8. Glossary; all apply today.
¹⁴⁸ They also recommended MI companies in cavalry brigades should have pom poms. Thus cavalry units needed less firepower. Later cavalry units were armed with 2 machine guns.
dismounted action. Later cavalry machine guns were pack-borne, suggesting cross-country mobility was the priority. The Committee recommended that unit machine gun officers: 'should be allowed great liberty of action,' clearly endorsing initiative. The Committee recommended that these officers should consequently be mounted.\textsuperscript{149} They concluded that bad tactical training had resulted in failure to use the weapons to best effect in 1899-1902. Often they had been over-exposed to Boer fire.

The Army doubled its numbers of machine guns to two per Infantry and Cavalry unit. This scale was greater than any other European army until after Manchuria.\textsuperscript{150} Weapons were tripod, not carriage-mounted, and were thus able to move more tactically. More emphasis was given to training and there were several machine gun publications.\textsuperscript{151} That the Army established the Committee suggests both the interest in machine guns and a determination to increase firepower.

Pom poms were used extensively in South Africa. A separate committee examined them but they were quickly withdrawn from field formations. They were a transitional weapon, useful before the deployment of QF artillery, but then markedly inferior.\textsuperscript{152}

Rifles

A report recording over 600 replies from most SAFF units analysed rifles. The questions are technical, though some replies give general insights; eg De Lisle's comment:

The greatest lesson [of] this war is the power of the modern rifle....., I think it [the Lee-Metford] much inferior to the Mauser ... As a quick loader, it cannot be compared...as a long-range weapon, it is much inferior.

Most favoured cliploading to increase rapidity of fire. Major Fry commented:

Where small parties are covering ground, ....rapid fire at long ranges makes it almost impossible ...to gauge the strength of the force opposed, and ...valuable

\textsuperscript{149} WO 33/137 pp 10-11; this would speed up reconnaissance.
\textsuperscript{150} WO 108/307 23/2/00.
\textsuperscript{151} *Musketry Report Hythe 1901* (1902), p 32, Chapter 8.
\textsuperscript{152} WO 108/265; WO 33/137; Glossary.
time is gained. How often have our estimates of the Boer forces been very much exaggerated by this.\footnote{WO 108/272 Q I(b) p 24; Ibid No 329 p 72.}

Many appreciated that volume of fire was as important as accuracy. An Infantry CO observed:

I am now strongly persuaded that no ammunition fired with any sort of aim...up to ...possibly 1500 yards is "wasted". Even if it has no more result than to make the enemy keep his head down, the expenditure is justified.\footnote{WO 108/272, No 401 p 119. Also Col Carr \textit{RCWSA Evidence} II p 394.}

Volume of fire rather than extreme accuracy was a feature of the BEF’s musketry in 1914. This was based on South African lessons and extensive trials.

Cavalry viewed carbines as too short-ranged; more perceptive cavalrymen foresaw that:

In future... cavalry benefiting by recent experience will use their firearm more effectively then hitherto, for instance having seen how a few well posted... Boers, acting as a rearguard have delayed the advance of mounted troops pursuing, it will be... necessary to provide a more efficient weapon than a carbine.

This suggests a switch away from shock action. Four Cavalry brigadiers felt that a longer-range weapon was needed. Gordon commented:

It is essential for cavalry to carry a really good firearm, and one which, when dismounted action proves necessary, can compete fairly with the enemy’s infantry.\footnote{WO 108/272 No 80 p 147; Ibid No 24 p 173.}

Haig felt that:

\[t\]he possession of a rapid and accurate shooting weapon has rendered cavalry more independent... The ideal cavalry is one which can fight on foot and attack on horseback.\footnote{\textit{RCWSA Evidence} II p 402.}

No similar stress on improving cavalry firepower has been detected before South Africa. This suggests that cavalry tactics had changed substantially. Chapter 5 examines the far-reaching deductions that were made about rifle-armed Cavalry’s future importance.

\footnote{\textit{RCWSA Evidence} II p 402.}
The SMLE was the product of South Africa. Its barrel was shorter so that mounted troops could carry it easily and it was lighter by 1 lb. A journal summarised its characteristics which were:

adapted to the greater individual activity demanded in the face of modern fire action, and to the snapshooting from behind cover at short ranges to which the [CinC] is constantly...laying stress.

It was cliploading and thus capable of a higher rate of fire than the Lee-Metford. Trials showed that it was slightly more accurate than the long Lee-Enfield. Theoretically a short barrel reduces muzzle velocity resulting in less accuracy and less ability in bayonet-fighting. Practically it was as accurate as the Long Lee-Enfield, while its handiness was an advantage in close combat. It was optimised for rapid fire, being largely wood-covered. This protected the firer against barrel-heat, while its bolt was designed for rapid fire. A 1914 veteran recalled the results:

I fired 130 rounds... If I haven’t killed and wounded 80 of them, I ought to be reduced to a third-class shot... rabbit shooting ain’t in it.

Training and Tactics

Generating greater firepower from small arms had to be achieved primarily by training and tactics as the technology was relatively mature. However the Army examined SLRs after 1901. Roberts criticised bad short-range shooting and poor combat marksmanship. He blamed low-quality recruits, lack of initiative and poor training for these faults:

[n]or is it to be expected that that he will become a master of his weapons, if he is not accustomed to use his own common-sense and to take an interest in his own training as a skilled fighting man.

Kitchener commented: ‘[o]ur men were not as quick and accurate... in shooting rapidly, but they had not been trained for this.’ Here Kitchener was stressing

157 WO 32/9075 ‘Memorandum Superintendent Enfield 22/2/05.’
158 BA LXVIII (1902),p 54.
159 AFPs 50315 ‘Maj Marker Memorandum.’
160 WO 279/9 p 118; DF Allsop & MA Toomey Small Arms (1999),p 139; Maj Pridham Superiority of Fire (1945), pp 17,65, citing a 1914 veteran, possibly: ‘remembered with advantages!’

131
snapping shooting, whose importance had been emphasised by the need to engage foes using fieldcraft. Gwynne summarised senior officers' views:

\[\text{n}o \text{ expenditure of time or money is too great when made in the direction of obtaining efficient shots. The ideal of musketry training is not high enough (sic).}\]

Gwynne's correspondents felt that more field firing would be necessary, while a more individual fire-discipline would replace volleys.\(^{162}\)

\(MRs\ 1898\) had emphasised that: 'volley firing is the description of collective fire generally employed, while independent is the exception,' noting that volley-firing: 'keeps the men well in hand and is \textit{an aid to discipline (sic).}\(^{163}\) As in Tirah, veterans criticised the use of volleys. Capt Cairnes argued that they were only possible at long ranges and recommended controlled, individual fire.\(^{164}\) Capt Campbell rebutted the idea that collective fire meant volleys. This, he noted, was first questioned after Tirah.\(^{165}\) Grierson reported that volleys were no longer practical: 'the sooner this is recognised and the men taught to fire individually with care and intelligence the better.' Lt Col Pilcher urged more field-practices.\(^{166}\) As Chapter 7 argues, rejecting volleys delegated initiative to soldiers.

In 1901 Hythe reduced weapons drill, the most mechanical part of its syllabus.

In contrast a:

corresponding increase has been made in ... skirmishing ..., tactical employment of fire and object lessons in fire...From the commencement of [1901] a good deal of weight has been given to skirmishing.\(^{167}\)

Hythe now emphasised the: 'quick aim and the use of cover.' Field practices were treated as small tactical schemes.\(^{168}\) The Indian authorities recommended that:

'\textit{military training must be combined with practices at objects and at ranges likely to}

\[^{162}\]WO 32/9082; \textit{RCWSA Report} p 46; Ibid pp 46-7; \textit{The Army on Itself} (1904), p 159; Chapter 7.
\[^{163}\]\textit{MRs} 1898 p 83.
\[^{165}\]'The Limitations of Infantry Fire Control and Discipline' \textit{JUSII} XXX (1901), p 120.
\[^{166}\]Lt Col Pilcher \textit{Some Lessons From the Boer War} (1903), p34; 35-6.
\[^{167}\]\textit{Musketry Report} 1901 (1902), p5.
\[^{168}\]Ibid pp 21-2.
be met in the field.' They emphasised snapshooting, initiative, enfilade fire by picked
shots and imaginative training involving musketry and tactics rather than memorising
pages of regulations.\footnote{169}

MRs 1903 contained little on volleys and omitted MRs 1898's mechanical fire-
discipline section. Instead it stressed snapshooting and firing from cover. It continued
Hythe's integration of low-level tactics and shooting, described above. It emphasised
field firing, initiative, delegation of command, concealment and significantly that:
'Mutual Action and Support (sic) are of the first importance.'\footnote{170} This stress on
covering fire and greater tactical integration suggests that increased defensive
firepower had to be countered by more firepower and more sophisticated
tactics.

The 1898 and 1903 trained soldiers' musketry courses contrast starkly. In 1898
there were 6 volley-practices, in 1903 none. In 1903 more practices were fired lying
which gave greater protection than when standing or kneeling. Chapter 6 examines
the consequences for fieldcraft. In 1903 both rifle and machine gun practices stressed
firing from cover, unlike in 1898. This suggests far greater realism and fieldcraft.
Practice ranges were shorter in 1903. This is partly explained by the deletion of
volleys, involving long-range fire, and the inclusion of snapshooting, a short-range
skill, in MRs 1903. The Indian authorities introduced similar changes in musketry,
though there Tirah may have been influential.\footnote{171} Also MRs 1903 recommended more
realistic, smaller targetry than the 4'x8' screens used previously.

Conclusions

The examination of firepower after South Africa suggests that artillery's
importance had increased, close artillery/infantry cooperation was vital and that

\footnote{169} L/MIL/7/2462 Musketry 1901-2. India also introduced extended formations; Ibid pp5,9.
\footnote{170} MRs 1903 p47.
\footnote{171} Tables 17&18; MRs 1903(Provisional),p 91. Increased use of the prone position suggests an
important change in fieldcraft; IDB 1896 had prohibited this close to the enemy, Chapter 6; MRs 1903
pp 112 -1 to 10; MRs 1898 p 94; L/MIL/7/2462 'Musketry Circular,' pp 3-4; Table 19.
movement had to be synchronised with fire. Consequently artillery could no longer be a matter for gunners only. This had implications for professional development, for artillery organisation and C³. British forces had suffered from technically superior Boer pieces; Britain was aware of French QF developments and felt menaced. Thus rearmament with QFs was pressing. Chapter 9 analyses how QFs were developed through purposeful user-specification. The Army began to appreciate howitzers more. South Africa had taught that Indirect Fire was valuable for engaging defiladed targets. Concealment of pieces had become more important and there was greater stress on initiative by gunners

South Africa showed that Infantry needed more firepower and more machine guns. Infantry focused on shorter-range fire and snapshooting as volleys were found to be impossible. Chapter 7 examines the implications for initiative and Chapter 5 analyses the implications of the Cavalry’s rearmament with rifles. Some firepower lessons, particularly on C³, cooperation between infantry and artillery, extra firepower and marksmanship had already been seen in Tirah. It is thus possible to trace a rough connection between the lessons of the two campaigns.
Chapter 5 Mobility and Manoeuvre

Wot makes the soldier’s ‘eart to penk, wot makes ‘im to perspire?
It isn’t standin’ up to charge nor lyin’ down to fire,
But it’s everlastin’ waitin’ on an everlastin’ road,
For the commissariat camel an’ ‘is commissariat load.

Introduction

As Kipling suggests, mobility is far more than dashing cavalry charges. Logistics, organisation and staffwork are equally important in achieving it. This chapter examines the theoretical basis of mobility, analyses British mobility in 1897 and in South Africa, the ensuing lessons and their implementation. It argues that more stress was put on mobility and thus on manoeuvre and the operational level of warfare from 1900. This had implications, examined in Chapters 7 and 9, for the development of initiative, doctrine and C³.

Mobility, Manoeuvre and the Arms

Mobility and Manoeuvre

This section probes deeper into the theory of mobility and manoeuvre, continuing Chapter 1’s examination of manoeuvre and attrition. It blends theory with factors specifically relevant during the thesis’ period.

The first point is that mobility, unlike fire, has no military utility of its own. Troops cannot fire when moving or their firepower is impaired. In motion they are more vulnerable to enemy observation and fire. Movement causes stores to be consumed at a faster rate, while their replenishment is complicated. Movement tires troops and animals, and, particularly if combined with food shortages, it increases the casualty rate. In consequence movement must be undertaken to gain an advantage or to diminish that of the enemy.

Mobility during this period was a more complex factor than firepower which was an instrument applied directly on battlefields of limited depth. Mobility does not
necessarily involve combat as forces move faster when not fighting. Consequently mobility has a greater association with strategy and operations than it does with tactics, but it affects all three levels. Strategic mobility was essential for an empire extending from Esquimalt to Stanley. This partly accounts for the Army’s high proportion of Infantry, the most readily transportable arm, compared to Cavalry or Artillery, and its lighter artillery pieces. Colonial warfare demanded mobility but this was largely logistical. Churchill attributed the Mahdi’s defeat to the railway. Logistics were critical to victory in most other Colonial campaigns. Consequently the speed and tempo demanded by operational level mobility in conventional wars was less important. This naturally caused cavalry, a logistically demanding arm, to be at a discount.

The effects of mobility are non-linear, both geographically and mathematically. Attrition tends to be conducted between relatively static forces and is generally positional in nature. Contrastingly mobile warfare is dynamic and, instead of set-piece, positional actions, meeting engagements are more common on more complex, deeper battlefields. Firepower generally is only capable of achieving effects proportionate to its inputs; indeed there is an upper limit at which it inflicts excessive collateral damage and overstrains the firing side’s logistics. Dynamic mobility contrastingly is capable of disproportionate results. Unlike firepower where the absolute weight of attack is critical, mobility’s key dimension is its relationship with the enemy’s ability to react.

3 BA LV (21/9/95), p 341; Chapter 4, Table 15. Horses suffered from long voyages, both arms were equally reliant on horses, while few extra-European wars demanded massed cavalry or artillery.
5 Maj Gen Maurice *Maps 18-26 BROHSA* (nd), Maps 22&22a suggest mobility’s complexity. These show Boers and British interspersed in depth; Brig Gen Edmonds *MOFB 1918 I* (1935), p 533 for 1916-17’s damage to German mobility in March 1918; Table 10; R Beaumont *War, Chaos and History* (Westport 1994), pp xiv, 3-6,8-10. Beaumont illustrates complexity by using dynamic situations such as fluids and meteorology. This suggests the greater complexity of mobility. DESERT STORM and COMPASS suggest mobility’s disproportionate effects.
Consequently organisations and C³ affect it considerably. This is another reason why mobility is complex. An ill-structured force with poor C³ may physically be as fast as its enemy but will find collective, timely movement hard.⁶ Speed, a dimension of mobility, is connected closely to tempo and surprise. Chapter 7 argues that delegating initiative is necessary to achieve both effects. Mobility may not necessarily favour larger forces, which, Bloch argued, would collapse under their own logistic weight.⁷ Here mobility differs from firepower where numbers are more important.⁸

Mobility is primarily the factor associated with offence. To attack involves movement and, when moving, fire is less effective. Moreover movement involves more exposure, even when utmost use is made of fieldcraft. Covering fire protecting movement became more vital as defensive firepower increased. Tirah and South Africa both demonstrated this. Mobility allows ground to be exploited dynamically and increases the efficiency of weapons by concentrating strength against weakness.⁹ Fire may also be necessary to kick-start movement. Reitz commented: ‘[t]he British ... blasted a gap through which the victorious soldiery came pouring.’ Current doctrine links the two factors inextricably.¹⁰ Mobile forces must have sufficient firepower not only to provide covering fire during movement but also to threaten or to inflict mortal damage on the enemy once they have reached their objective.¹¹ This has logistic

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⁸ FW Lanchester *Aircraft in War* (1916), Chapter 5. Numerical superiority is tempered by concealment, skill and weaponry but when these factors are roughly equal, it is decisive.
¹⁰ D Reitz *Commando* (1929), pp 87-8, though secondary evidence, he was a Pieter’s veteran and material in Chapters 3&4 confirms his point; *DMO* (1996), pp 4-21-22.
¹¹ This makes the point that mobility is not decisive by itself. But as it disrupts the enemy’s C³ and demoralises, the amount of casualties inflicted may be less than those required by attrition, eg the contrast between Verdun and SICHELSCHNITT. JS Corum *The Roots of Blitzkrieg* (Lawrence 1992), p 3 suggests over 700,000 casualties at Verdun more or less equally divided. German casualties in SICHELSCHNITT were 156,556, Maj Ellis *The War in France and Flanders* (1953), p 353.
implications.

Mobility in 1897

Superficially mobility is determined by speed but there are other dimensions: the ability to cross rough terrain, the capability to move in the teeth of enemy fire and finally endurance.

In 1897 tactical and often operational-level mobility was based on marching and animals, primarily horses. Horses have good cross-country ability and move faster than infantry in good going, but are prone to disease. They are harder to conceal than men, making tactical use of ground harder. In dismounted action, 25% of troopers must remain as horseholders and the led horses are vulnerable. There were thus sound reasons for commanders to keep cavalry mounted, maximising mobility, surprise and tempo.

Mobility changes with ground. In very rugged terrain Infantry have the greatest mobility. Mounted troops were less impeded than wheeled artillery, but pack-borne pieces could: ‘climb up the side of a sign-board an’ trust to the stick of the paint.’

Mobility is also relative to threat. Artillery was more vulnerable when moving under Direct Fire by virtue of its slower pace than mounted troops, its inability to fire when moving and its large target-size. But artillery, particularly when shooting Indirect, can switch its fire almost unconstrained by enemy action. The shells are the weapons. Furthermore, as its pieces are usually not under close-range Direct Fire when shooting so, artillery retains more freedom to move than the other combat arms. Mounted troops were large targets, though smaller than artillery, and were barely capable of firing

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13 Amery THWSA III p 395; Glossary; R Kipling Verse Definitive Edition (1977), p 403. A more conventional assessment is that mules can climb anywhere that men can without using their arms. Brig Bidwell Gunners at War (1979), p 84.
while moving. But shock demanded speed which also produced surprise and tempo. Sometimes a cavalry charge was cheaper in casualties and more decisive than a slower infantry advance. Infantry can move under heavy fire by using ground and their fire is less constrained by movement. Under heavy fire Infantry may be more mobile; out of contact mounted troops were, while shells are constrained only by range, the availability of ammunition and trajectory. Thus mobility depended on many factors other than crude speed.

A key component of mobility is endurance. This, based on logistics, the available transport-lift and, in the period, animalmastership, is critical for the sustained mobility that manoeuvre over distance demands. In 1899 logistics relied on animals tactically and sometimes at the operational level, and rail and water both operationally and strategically.

Here it is worth emphasising that attrition and manoeuvre impose somewhat different demands on logistics. The logistic scale of the former war is undoubtedly challenging, but manoeuvre, illustrated by the Allied breakout from Normandy, poses harder replenishment problems. Sustaining momentum demands that supplies are pushed forward against dynamic resistance over rapidly increasing distances while the defence’s supply lines are shortening. Also the attacker is advancing over partly unknown terrain in which the enemy has probably demolished many installations. Furthermore there is less scope to alter the objectives of manoeuvre for logistic reasons. On the Somme it would have been possible to reduce the attack frontage to conserve ammunition. In the German attack on Russia in 1941, reaching Tula, a prodigious advance, meant failure. In an animal-reliant army, forage was vital but

14 The Boer demolition of key bridges partly caused the British halt at Bloemfontein, Maj Gen Maurice BROHWSA II (1907), pp 242-3,258.

15 J Erickson The Road to Stalingrad (1975), Chapter 7. Manoeuvre which fails and which has passed its culminating point is very vulnerable both tactically and logistically as 1941-2 showed.
also bulky and inefficient, constituting a far greater logistic burden than ammunition. Also during rapid movement animals need more food but supplying it is harder, as is their veterinary care. In short manoeuvre poses greater logistic problems than positional, attritional war does. However it would be wrong to conclude that logistics are easy during attrition.16

Manoeuvre

To achieve victory mobility is not enough; movement has to be purposeful, ie it implements the commander’s plan. In short mobility has become manoeuvre. Successful manoeuvre depends on a commander’s concept, designed to outwit the enemy, and, for its implementation staffwork to coordinate details. Both have to be effectively transmitted, reinforcing the above arguments on mobility’s relationship to C3.17 Manoeuvre maximises surprise. The same is true of firepower, but there is an important technical difference. Generally firepower inflicts most casualties within 60-90 seconds of rounds hitting.18 Afterwards targets have taken cover and attritional engagement begins. In the period of this thesis, manoeuvre extended much deeper than fire and was capable of inflicting surprise in depth. The commander’s aim targeting enemy vulnerability and dynamic surprise combined into manoeuvre may overwhelm weak C3 systems which are unable to react in time. In this respect manoeuvre is superior to firepower in winning and maintaining the initiative.19 Seizing a tempo-advantage is inherent in manoeuvre. Though the immediate casualties may be greater than in more deliberate combat, overall victory is far cheaper than in prolonged

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16 IM Brown British Logistics on the Western Front (Westport 1998) contrasted to M van Creveld Supplying War (1977), Chapter 5; Glossary. Col Nicholson Behind the Lines (1939), pp 213-7 for logistics’ affect on mobility in October 1918. 17 Chapter 9; Brig Bidwell Modern Warfare (1973), pp 91-2; defective C3 decided several manoeuvre battles. 18 JG Crowther & R Whiddington Science at War (1947), p 118. 19 ADPJp5-3. The contrast between Anzio, where manoeuvre was just the landing and Operation COMPASS where it was sustained in depth is suggestive. The later overwhelmed Italian C3.
attrition. Contemporaries argued similarly for shock.\textsuperscript{20}

**Mobility Before 1899**

**Cavalry**

The Stanhope Memorandum, which saw continental campaigning as the Army’s last priority, combined with a low threat to Britain, ultimately damaged the Cavalry. The mobility that colonial warfare demanded was logistical and cross-country rather than the speed and tempo of major warfare. Massed cavalry were unsuited to many colonial wars. They were hard to move strategically, while terrain often precluded shock action as in Tirah. Between 1815 and 1899 the British Army only deployed a cavalry division twice. Its performance in the Crimea was varied and Raglan proved reluctant to use it boldly. Wolseley obtained better results in 1882, but the enemy were feeble and the cavalry pursuit was over a short distance.\textsuperscript{21} Hence, with adequate mobility, greater firepower and lower logistical demands, MI was often preferred to cavalry in colonial warfare. Many British-based and for that matter British cavalry units in India vegetated before 1899.

Cavalry was the key manoeuvre arm in major warfare but British Cavalry was weak compared to that of the major continental powers and distrusted by many generals.\textsuperscript{22} Its officers were recruited from generally low-calibre candidates, described by a contemporary as: ‘dunces.’\textsuperscript{23} Dr Badsey identifies a cavalry revival in the 1890s, though his 1886 start-date is apparently based on a typographical error.\textsuperscript{24} More open-order shock-tactics were instituted, while the Squadron System was introduced in

\textsuperscript{20} DMO (1989), p 43. Lt Col Maude *Cavalry: its past and future* (1903), pp x-xi argued that Paardeberg’s siege probably cost more disease-casualties than an attack would have done.

\textsuperscript{21} Anglesey *A History of British Cavalry* II and III (1975 & 1982), respectively pp 49-50, 75, 82-4 and pp 272, 303-5, cavalry divisions were used in India; WS Churchill *My Early Life* (1930), pp 71-3 157-8.

\textsuperscript{22} Table 40; Lt Col Gough ‘The Strategical Employment of Cavalry’ *JRUSI* XLIX (1905), p 1131. It is tempting to trace this back to Wellington’s irascible comments, I Fletcher *Galloping at Everything* (Staplehurst 1999), pp xv-xvii.

\textsuperscript{23} Lord Thring ‘Place the War Office in Commission’ *IJC* XLVIII (1900), p 700.

\textsuperscript{24} SD Badsey *Fire and the Sword* (Cambridge 1981), p 107 fn 4.
1892. Wood emphasised cavalry training and shooting when commanding at Aldershot. There were cavalry manoeuvres in 1890, 1894 and 1895, with cavalry concentrations in 1897 and before the 1898 Manoeuvres. But this training was flawed. The 1897 concentration of 38 days included 32 parades, one divisional, 14 brigade and 3 regimental drills, 1 brigade march-past, 3 days of inspections, one horse and 5 church-parades. It incorporated only one outpost practice and 2 reconnaissance days. This was insufficient for effective training in detached duties. Over-accentuating shock and drill discouraged initiative. In 1898 during both the preliminary cavalry concentration and in the later all arms manoeuvres little dismounted training occurred, suggesting the tactical predominance of shock. Protection and reconnaissance were poorly performed on the 1898 Manoeuvres. Afterwards Wolseley criticised the state of training of the cavalry brigades: their brigadiers lacked enterprise, while superior commanders gave them too little scope. The former suggests that cavalrymen lacked confidence in their own arm. Wolseley and Roberts criticised cavalry reconnaissance in 1898 and 1899. These faults and the logistic weaknesses, analysed later, suggest that the Army would find sustained manoeuvre hard.

Over-control by senior commanders suggests institutional distrust of the cavalry and failure to understand its operational level capabilities. The usual British proportion of cavalry was one brigade per army-corps, while the Cavalry Division HQ was not seen as usually deploying. This meant that cavalry brigades would be under corps command or further decentralised rather than being concentrated for significant

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25 BHG III (1897), p 5; Maj Morrison 'Cavalry in the Manoeuvres of 1898' JRUSI XLIII (1899), pp 632-3.
26 WO 297/4 pp 18, 21, 47, 50, 29-30 implies that there was no formation reconnaissance and limited protective training between 1/7-27/8/98, while RHA were only present between 16-27/8/98. MI were used as artillery escorts, suggesting their firepower was used ineffectively. Morrison 'Manoeuvres,' pp 637-9; WO 297/4 p vii.
27 FM Wood From Midshipman to Field Marshal II (1906), pp 214-5. Though secondary evidence, this simply records facts; WO 279/3; WO 279/9 p 32.
28 Buller also was critical, WO 297/4, Appendix II pp 25-6; Times 28/8/99.
29 'Military Notes' JRUSI XLII (1898) pp 1208-1213.
missions under the CinC.\textsuperscript{30} \textit{CDB 1898}'s section on the Cavalry Division saw its tasks as tactical, largely involving action on the battlefield rather than detached on key missions.\textsuperscript{31} Both suggest that bold manoeuvre was not anticipated.

Hythe judged that cavalry undervalued musketry in 1899. They still carried carbines and there is no evidence of sustained cavalry pressure for rearmament with rifles before 1899. Even in 1902 after South Africa's firepower lessons, Army HQ India criticised British cavalry's shooting. \textit{CDB 1898} did not examine marksmanship and had only limited coverage of horse artillery and machine guns.\textsuperscript{32} Experts assessed that insufficient cavalry/RHA training had hurt interarm cooperation. This suggests that the Cavalry had misappreciated the growth of firepower and underestimated the need for covering fire. This impaired the arm's manoeuvrability.\textsuperscript{33}

\textit{CDB 1898} overemphasized massed shock action, thereby devaluing detached duties. It ordained that:

\begin{quote}
[d]iscipline and perfect order are the most important characteristics, leaders must consequently seek in training of their troops to develop these qualities to the utmost.\textsuperscript{34}
\end{quote}

It also stressed that:

\begin{quote}
[t]he charge is the culminating point of cavalry instruction. Rapidity and vehemence at the point of attack must be united with perfect order and cohesion.\textsuperscript{35}
\end{quote}

Though it did not formally devalue reconnaissance and protection, these followed its

\begin{itemize}
\item \textit{WEs} 1898 p 128; Table 29; Glossary; \textit{CDB 1898} does not mention Independent Cavalry. It would be hard for GHQ to command 2 brigades directly without an intermediate divisional HQ.
\item \textit{CDB 1898} pp 357-363. Though the Cavalry Division was seen as having: 'a more or less independent rôle' Ibid p 357 but with the possible exception of its instructions on pursuit and retreat, \textit{CDB} did not emphasise this, contrastingly \textit{CT 1904} stressed Independent Cavalry. Glossary.
\item \textit{Musketry Report 1899} (1900),p 9; L/MIL/7/2462 'AHQ Circular Musketry 1901-2' p 2. That firepower was devalued is suggested by the fact that troopers only carried 30 rounds each, \textit{WEs} 1898 p 6. An MI private had 100. A sustained campaign for rifles would have left traces in the military journals; \textit{CDB 1898} pp 378-81. It merely drew officers' attention to \textit{FAD}.
\item Col Paget 'The Tactical Employment of Horse Artillery with Cavalry'.\textit{JRA} XXXV (1908-9),p 69; \textit{CDB 1898} p 378.
\item \textit{CDB 1898} p 199, the drill standards on p 200 stressed control.
\item Ibid p 237. The section which the quotation starts is entitled: 'Drill of the Attack.'
\end{itemize}
lengthy Part III on drill, the basis of shock, implying their lesser importance. *CDB* 1898 saw reconnaissance as important in the context of triggering cavalry against cavalry action, but did not stress its importance for extended all-arms manoeuvre. Baden-Powell considered that reconnaissance was underemphasised, while drill and shock were overvalued before 1899. These defects impaired the Army’s ability to manoeuvre.

Many units had poorly implemented the Squadron System, particularly its emphasis on delegated training. Centralisation favoured close-order shock, damaging initiative and the performance of detached duties. Decentralised cavalry combat required speedy decision-making, initiative and judgement but conditions before 1899 did not foster these qualities. The older cavalryman:

> who for years had never had a voice in the feeding or management of his horses, whose men had been paid by a regimental Paymaster, drilled by an Adjutant or [RSM], and who had not the power to take a horse of his own troop out of the stables without permission from his [CO] was not likely to embrace with zeal a newly found freedom which he was not trained to use.

The quotation links horsemastership and initiative. That horsemastership was weak suggests the Cavalry’s vegetation. Officers had little involvement with it and *CDB* 1898 had no instructions on it. This suggests that cavalry was focussed on tactical shock as operational manoeuvre demands meticulous animal-care over long distances.

Cavalry saw less operational service than Infantry; officer entry-standards were lower than those of other arms and cavalry officers were seen as less professional. In turn cavalrymen felt discriminated against. Rimington summarised the state of the

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36 Ibid p 283; *Aids to Scouting for NCOs and Men* (Aldershot nd), pp ix, 11; Glossary.
37 *RCWSA Evidence* I Q 10441. The 4th Hussars were overcentralised in 1913, HOWPs 8/4/1 letter 16/12/13; *CDB* 1898 pp 301-2 gives instructions which demand initiative but does not emphasise inculcating it.
39 *RCWSA Evidence* II p 662; Col de Lisle *The Training of the Remount* (Bombay 1909), pp 4-5.
40 *EDR* CLXXV (1897), p 530.
pre-1899 Cavalry in Britain:

A regiment was judged by the number of officers who hunted and raced and went into society, as good or bad, or rather smart or the reverse. The fact was that in those days, as long as your horses were fat and you could march past and were fairly clean, any question of fighting efficiency never occurred.

Detached duties had been neglected since Waterloo, while shock had been overstressed as it was suited to: ‘weaker intelligences.’ This provides evidence that contemporaries linked detached duties and initiative.\(^{41}\)

**MI, Marching and Logistics**

MI, which contemporaries saw as a uniquely British arm, were improvised from picked infantrymen, who had, in theory, prior training. They used horses for movement but did not fight mounted. Their instruction was short, continuation-training was limited and thus expertise was lost, while their riding, let alone horsemastership, were initially poor in 1899. Raising MI on mobilization meant that the resulting units lacked cohesion while their parent battalions lost their best men at the start of campaigning. Tactically MI was suited to colonial warfare; their extra firepower and dismounted skills outweighed inferior riding. That many colonial wars were small-scale, meant that weak unit-cohesion was less damaging. But MI were also intended to fight in conventional warfare to bolster carbine-armed cavalry’s firepower.

British commentators felt that this role and the fact that they were regulars constituted their distinctive feature. But their very existence suggests that there were defects within the Cavalry.\(^{42}\)

Infantry, seen as very much the master arm in 1899, depended on marching for their tactical and sometimes their operational mobility. They had marched poorly on


\(^{42}\) Col Grierson Scarlet into Khaki (reprinted 1988), p 42; Glossary; RCWSA Evidence II Q13941; LS Amery THWSA III (1905),p 391; *The Times* 11/1/01 ‘Lessons of the War V-MI.’
major manoeuvres in Britain before 1899 and there was concern that this would recur
in South Africa, given the influx of reservists. The ASC provided a coherent logistic
structure but it, the AVD and the remount organisation were understrength and
unready for major warfare.\(^{43}\) The AVD was not attracting good-quality entrants.
Furthermore veterinary hospitals had been deleted from \textit{WEs} \textit{1898}. These structural
defects suggest that the Cavalry had either little influence or was incompetent. These
logistic weaknesses further imply that the Army did not anticipate sustained, large-
scale manoeuvre. \(^{44}\)

**Manoeuvre Doctrine before 1899 and the American Civil War**

The Army’s manuals before 1899 had no stress on mobility and manoeuvre set at
the operational level. There had of course been campaigns in which British forces had
manoeuvred over distances; one can see the Blenheim or Vittoria campaigns being
mounted at the operational level and being based on a commander’s concept involving
creativity, risk taking and surprise. Roberts had marched from Kabul to Kandahar and
Wolseley had initiated a bold pursuit after Tel el Kebir but neither had left any trace in
either contemporary manuals or manoeuvres. Nor significantly were there any
instructions on the use of Independent Cavalry. This concept, though well established
in continental doctrine, was not apparently one Britain intended to adopt. This
omission would have inhibited any British attempt to resort to manoeuvre.

Dr Badsey has examined the American Civil War’s influence on the fire versus
shock debate. However, it had a strong second influence. Henderson’s \textit{Stonewall
Jackson} was the most significant book by a British officer around 1900. It was written
to instruct on command, morale and surprise, ignored by Hamley, and, one may add,
factors central to manoeuvre warfare. Henderson in his preface emphasised the need to

\(^{43}\) Col Furse \textit{The Art of Marching} (1901), p 115; \textit{QRs} \textit{1899} pp 186-7; \textit{RCWSA Evidence I} pp 138,142-3; \textit{RPrs} (1903), pp 1-2. \textit{RCWSA Evidence I} Col Duck, head AVC p 133; ‘Duck Report 11/5/99,’ \textit{RCWSA Appendices} (1903), p 100; Smith \textit{RAVC} pp 203,16,38.
study strategy and its ‘principles.’ This focus suggests doctrine as Chapter 9 argues, while Jackson’s highly mobile operations also implied the need for doctrine which would steer subordinates amidst complexity.45 The book’s most significant part examined the Valley Campaign of 1863. In this Jackson combined speed, surprise and risk-taking to attack enemy weaknesses. Jackson’s operational level manoeuvre defeated superior numbers and dislocated Federal strategy. For a small army realisation that superior mobility could defeat greater numbers was important.46 The book impressed Wolseley, who introduced its second edition:

[the 2 volumes] have taught me much; they have made me think still more; and I hope that they may do the same for many others in the British Army.47

Roberts had presented copies of *Stonewall Jackson* to Rawlinson and Hamilton for their voyage to South Africa. Later Roberts claimed:

I had given a considerable amount of thought to the probability of [war] in South Africa… While still thinking over this problem, I read *Stonewall Jackson*, and was much struck with the extraordinary effect which strategy… had upon the campaign in Virginia, and also with the result of Jackson’s swift and unexpected movements.48

Henderson served as Roberts’ senior intelligence officer during the Paardeberg operation which similarly combined deception, surprise and rapid manoeuvre to defeat Cronje. *Stonewall Jackson* impressed H Gough, Ismay, Montgomery-Massingberd and Monash amongst others. The Valley Campaign was a frequent examination subject. It features in a near-contemporary manual and there are many references to both it and Jackson’s phrase: ‘mystify and mislead’ in contemporary works. Rimington modelled his brigade’s training on Jackson’s methods. Henderson’s influence remained

44 If LADs were deleted from tank units’ establishment, it would suggest defects in the RAC.
45 Badsey *Fire* pp 1.18,20-26; Lt Col Henderson *Stonewall Jackson and the American Civil War* (1898), pp ix-xi; J Luvaas *The Education of an Army* (1965), pp 225-6; DMO p 49.

147
substantial down to 1914 through his works and his effect on Camberley graduates. 49

Mobility and Manoeuvre in South Africa

South Africa conformed to Rommel’s comment on North Africa: ‘the tactician’s paradise, the logistician’s purgatory.’ The Boers, exceptionally by European standards, were nearly all mounted, consequently they:

had, anywhere … away from the lines of rail, far greater mobility in every respect than their opponents…In their independence of all stores, in the mobility of their least mobile troops, … they surpass any force known to history.

The Boers began the war with the advantages of surprise, numbers and mobility. They also had a time-window before British reinforcements arrived to exploit these advantages to the full. Contemporary commentators criticised their failure to use this period decisively. 50

British Cavalry had one initial success and created the opportunity for another. At Elandslaagte they outflanked and then charged the withdrawing Boers. At Talana Colonel Moller’s force got behind the Boers where it was ideally placed to kill their horses, to attack their rear in combination with the infantry or charge their withdrawal. But Moller dithered and was captured. 51

Poor British mobility in South Africa caused most early attempts at outflanking

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49IFW Beckett Johnnie Gough VC (1989),p 131; Gen Ismay Memoirs (1960),p 16; FM Montgomery-Massingberd The Autobiography of a Gunner (Woolwich 1946),p 5. Stonewall Jackson inspired him to try for Camberley; G Serle John Monash (Carlton 1983),p 191; JH Anderson Notes on the Life of Stonewall Jackson (1904),p 5; Maj Gen Haig Cavalry Studies (1907),p 319; BORs (1908) II p 86; Lt Col Edwards Notes on the Training, Equipment, and Organisation of Cavalry for War (1910),p 79; AFM I (1985),pp 301-11. FM Robertson From Private to Field Marshal (1921),pp 82-3. Though written later, perspective would have been needed for such a judgement, while the views of an ex-student of Henderson and a later Commandant of Camberley are valuable; WO 279/516 ‘3 Cav Bde Mans 3-15/8/03’ p 1; ROBPs 1/2/10 ‘Notes on Strategy by Col Henderson. Compiled for … students at the Staff College’ (6th edition 1912). It almost certainly would have been distributed to Quetta; that it had reached 6 editions suggests wide distribution; WO 27/405 ‘Strategy.’

50 Maj Norris The South African War (1900),pp 46-7; Capt Mahan USN The Story of the War in South Africa (1900), pp 8-9,58.

51MURPs ‘Talana folder;’ LS Amery THWSA II (1902),pp 170-3,230; Lt Col Gore The Green Horse in Ladysmith (1901),pp 6-9,10-11. Moller’s regiment was nicknamed Kruger’s Own afterwards!
to end in frontal attacks eg Buller’s outflanking move at Colenso and Methuen’s initial actions at Belmont and Graspan. Both commanders were short of mounted troops, while Buller’s were hastily organised. Buller largely blamed his artillery losses at Colenso on his inability to resupply his troops with water. This logistic failure was essentially a mobility defect. Buller understood that immobility meant infantry assaulting entrenchments frontally: ‘the very thing that ought not to be done,’ but he did not make the required enhancements to mobility. Even when his mounted troops increased, Buller did not organize them into a division. This meant that they were thus less able to execute operational level tasks. This suggests that Buller distrusted mounted forces. Buller had criticised cavalry reconnaissance in 1898. Cavalrymen later criticised his timid handling of their arm in Natal. That Buller’s mounted troops were organized into separate brigades increased the span of command and complicated staffwork for his HQ, which, as Table 29 suggests, was already under considerable pressure because of its improvised nature. Furthermore it was coordinating operations on two other axes, dealing with strategic issues and tactically commanding in Natal.

Buller’s approach contrasted with Roberts’ assessment that: ‘the only means of bringing this war to a speedy conclusion... is for our force to be more mobile than the Boers.’ Roberts raised more mounted troops and organised them and his cavalry into a division capable of independent action. But this over-large, uncohesive formation complicated C. Roberts probably erred by over-expanding his MI and colonial

52 RCWSA Evidence II Qs 15281-4; Dundonald went to South Africa privately; he was hastily sent to Natal as a brigadier, Army Life pp 93,98-100, also Haig RCWSA Evidence II p 402.
54 WS Churchill London to Ladysmith (1900),p 251. Buller initially had 2 regular cavalry, 3 irregular units and 4 sub-units, only one regular, SAD II (1901),p 100; Glossary.
55 A Wessels Lord Roberts and the War in South Africa (Stroud 2000),p 53.
56 SAD I (1901),p 2; Maj Gen Maurice BROHWSA I (1906), p 485. It consisted of 3 cavalry brigades, 8 regular MI units, many of whom were novice riders, 7 colonial MI units and 7 RHA batteries. Whether all the MI were under French’s direct command is unclear, but at Poplar Grove he commanded 3 cavalry and 2 MI brigades, SAD I p 19; Chapter 9.
forces rather than horsing his Cavalry adequately.\textsuperscript{57} This possibly suggests that Roberts distrusted the Cavalry. Roberts also enhanced mobility by reorganising his transport. It has been claimed that this was due to his ignorance of the British transport system, but this is superficial. Roberts had served as CinC Ireland between 1893 and 1899 and was therefore aware of the British logistic system. Also he had specialist ASC advice. He felt the Regimental System required more resources than were available in early 1900. Indeed Roberts was forced to reduce his ambulances drastically due to vehicle shortages in February 1900.\textsuperscript{58} But Roberts’ new centralised system was unsustainable. Transport was reorganised several times afterwards, each time reverting towards the original system.\textsuperscript{59} Roberts, however, was able to abandon the railway and thereby surprise Cronje. Here logistic changes had devastating operational level results.

In Natal transport remained on the old system, and, though distances were far less than in the Cape and Orange Free State, Buller’s force was sluggish:

\begin{quote}
[t]he vast amount of baggage this army takes with it … hampers its movements and utterly precludes all possibility of surprising the enemy… [R]oads are crowded, drifts are blocked, marching troops are delayed, and all rapidity of movement is out of the question. Meanwhile the enemy completes the fortification of his positions and the cost of capturing them rises.\textsuperscript{60}
\end{quote}

Churchill makes an important point that mobility is only valuable in that it translates into some military advantage. Buller and Warren were reluctant to use their cavalry boldly during the Spion Kop operation. Cavalrymen were certain that Buller: ‘will not use his cavalry,’ castigating his failure to pursue after Pieter’s.\textsuperscript{61}

\textsuperscript{57}This deprived the Cavalry of remounts, Haig RCWSA Evidence II Q 19375; Dr Badsey emphasises the point, \textit{Fire} p 139.
\textsuperscript{58}\textit{SAD} I (1901), p 5; \textit{RRCCTWSA} (1901), p 21.
\textsuperscript{59}Maurice BROWHS I pp 348-9; RPs 7101-23-110-1 Roberts/Lansdowne 7/1/00, \textit{SAD} I p 5, there were shortages of both vehicles and animals. Roberts had senior ASC officers on his staff. LS Amery \textit{THWSA} VI (1909), pp 364-410 contains a long monograph on transport.
\textsuperscript{60}Churchill \textit{Ladysmith} p 253.
\textsuperscript{61}Ibid pp 282-3,292; Dundonald \textit{Army} pp 136,127-8; Maj Gen White-Spunner \textit{Horse Guards} (2006),p 421 citing HCM Box 7 AB 2351; Churchill \textit{Ladysmith} pp 469-70. \textit{SAD} II (1901),p 40 Roberts hinted that pursuit was possible after Pieter’s.
Contrastingly Roberts employed his cavalry on what can be seen as an operational level mission to relieve Kimberley. This was based on logistic changes, described above, concentration of mounted troops under a proven leader, French, and intelligence, deception and security measures orchestrated by Henderson. The chargers were unfit, their rations scanty and water scarce, a lethal combination, but despite these drawbacks, French relieved Kimberley. The key action was at Klip Drift, where, after reconnaissance, his division charged, covered by heavy shelling. The charge was not directed at a Boer force, instead French steered it at a gap in their position. Speed, extension, there was some 5 yards between files, and dust, kicked up by both the shells and the horses carried them through a position which would have probably stopped slower-moving infantry. Commentators, including Amery and Childers, neither supporters of traditional shock, were impressed:

The part played by the cavalry [at Klip Drift] ... is one which will grow in importance in the wars of the future, and in tracing the development of this new function of the mounted arm the military historian will take his starting point in the great charge that relieved Kimberley.

Their praise suggests that advocacy of mobility was not just the preserve of reactionary cavalrymen. After the relief of Kimberley and a day wasted pursuing the Boer artillery, French was switched against Cronje. Roberts' selection of a geographic location as French's objective was probably incorrect; Cronje's force was the proper one. This suggests command and staff failures. Despite high horse mortality, French intercepted Cronje, who, instead of evading, entrenched and was eventually captured. The effort, however, largely destroyed the cavalry's chargers and later

63 Capt Boyle 'The Cavalry Rush to Kimberley and in Pursuit of Cronje' 19C XLVII (1900),p 906.
64 Amery THWSA III, pp 393-5. One officer was killed, 20 all ranks wounded, SAD I p 10; Leonhard Maneuver p 64 suggests defeating the enemy without fighting is the acme of manoeuvre.
65 Amery THWSA III p 395; E Childers War and the Arme Blanche (1910), pp 96-106.
66 Rhodes pressured for an early relief. THWSA III, p 368. But Cronje's failure was much greater and Roberts' choice of objective could hardly have been based on Cronje's adopted course. Later there were other criticisms of Roberts for adopting geographic rather than military objectives. Henderson went sick during Paardeberg; his absence has been blamed for Roberts' preference.
manoeuvres consequently failed. Weak horses, Roberts’ staff’s failure to synchronise formations, and a sluggish performance by French let the Boers escape at Poplar Grove.\textsuperscript{67}

Despite command and staff failures by senior commanders and their HQs, many cavalry commanders and units performed poorly in South Africa. Roberts stellenbosched 6 cavalry brigadiers and 11 of 17 cavalry COs. This was a far higher proportion than in the Infantry, suggesting serious cavalry defects.\textsuperscript{68}

As combat continued, both sides’ mobility increased. The Boers ditched their wagons, partly the cause of Cronje’s encirclement, while the British raised more mounted troops, lightened horses’ loads, discarded cold steel and, as the Boers no longer had artillery, withdrew pieces from many columns. This removed the risk of the Boers capturing British artillery, which would have been fatal to their blockhouses, and increased British mobility. Surplus gunners converted to high-class MI. Many future senior commanders led columns in these highly mobile operations. Gough admitted to learning more about reconnaissance from some Natal farmers than from his previous 10 years cavalry service. This shows how poor prewar training had been.\textsuperscript{69}

Despite these improvements, British mobility remained below that of the Boers’. The British relied on resupply and were constrained by wagons. Many were either poor horse-masters or untrained recruits. Another problem was that Kitchener’s centralised control system proved, with the existing communications, unable to coordinate dispersed, mobile operations.\textsuperscript{70}

\textsuperscript{67} Robertson \textit{Private} pp 114-5. Robertson was at Roberts’ HQ, though he wrote years later.
\textsuperscript{68} WO 32/7904; RPs 7101-23-122-2 Roberts/Curzon 19/9/01. He sacked 3 Infantry COs.
\textsuperscript{69} \textit{Soldiering On} (1954), pp 66-7, though written years later, Gough’s candour suggests veracity; Byng, Haig, and Allenby all commanded columns in South Africa and later armies in 1914-18. \textit{SAD} II (1901). p 57 praised Gough’s scouting so he learnt fast.
\textsuperscript{70} E Childers \textit{THWSA} V (1907), pp 89-90; Gen Hamilton \textit{The Commander} (1957), pp 99-104.
A perennial problem was how representative of modern warfare were South African conditions? The Boers had no cavalry but later adopted charging tactics successfully. These were not based on physical shock but on mounted fire or galloping to fire positions, then dismounting and shooting from cover. The British also adopted galloping tactics, which were far from exclusive to cavalry. They had to pin and defeat the Boers, who could not afford to become committed to decisive action if they were to survive. Galloping horses are a hard target and, with declining numbers, the Boers could not generate enough fire to stop them. A veteran recalled how 8 troopers had rushed a small group: 'at this stage in the war the Boers would very seldom hold onto a position if they saw us galloping straight for them.' Probably the latter part of the war saw more shock tactics, albeit of a novel nature, than the first phase. This further complicated the fire versus shock debate.

Changes in Mounted Tactical Roles

The tactical demarcation between Cavalry and MI changed in South Africa. Hitherto reconnaissance and shock were strictly Cavalry tasks, while dismounted action was practically reserved for MI. Cavalry saw the tactical need for rearming with rifles and fighting dismounted, while some MI officers argued that their men could do more than simply move mounted. MI columns, many of which had no cavalry, had to scout and sometimes charge. But these innovations did not affect MI tactics or roles after 1902. Contrastingly South Africa permanently altered cavalry tactics and weaponry, with more emphasis on dismounted action, reconnaissance and fire. Increased firepower and dispersion in South Africa suggested that reconnaissance, offensive manoeuvre and dismounted action were now more necessary than traditional shock-action. Offensive manoeuvre involved rapid

movement to pre-empt the enemy and seize tactically important points which cavalry, now rifle-armed, could hold until relieved. This combined offensive manoeuvre and firepower to defeat static defensive firepower. The defenders faced either encirclement or being forced to break-out. For a small army, backed by a strong economy, superior mobility rather than increasing numbers had attractions. But some opponents of traditional shock, including Roberts, saw a residual role for it. Here it may be noted that the First World War saw considerable shock action including Mounted Rifles, troops without either the cavalry's shock-ethos or steel weapons, successfully charging semi-permanent defences on horseback. The Australians later demanded and were issued swords in 1918.74

Shock tactics altered in South Africa. In theory their greatest effectiveness is produced by the collision of a heavy, cohesive unit moving as fast as possible. Consequently cavalry needed to be literally boot-to-boot. In South Africa charges tended to be at wider intervals. One notes the 5 yard interval at Klip Drift and the extended order at Elandslaagte. Partly the reason for this was that the British were not charging enemies in close-order, indeed at Klip Drift they were charging space not troops. Greater firepower also encouraged open-order charges. Consequently cavalrymen started to recommend smaller men and smaller horses for their arm. Heavy men on heavy horses were ideal for traditional close-order shock, but such horses were poor in protracted manoeuvre as they were less robust and needed more rations.75

Whether poor reconnaissance in South Africa was due to smokeless ammunition and long-range weapons, combined with the open terrain or whether it was due to cavalry failures combined with inadequate training is not a question which can be

74 CT 1904 p vi; Capt Falls Military Operations Egypt and Palestine II (1930), pp 638, 644-5.
75 Gore Green Horse p 31; W Gilbey Small Horses in Warfare (1900), p 1.
settled definitively here. Ground-based reconnaissance needs to be more extensive in manoeuvre and is particularly important in view of the need to target weakness. The general view was that British reconnaissance had been poor; many blamed the Cavalry. Gwynne had questioned 10 commanders on cavalry scouting, which he saw as their most important task: 9 felt it had been bad. Lt Col Morrison, a South African veteran and cavalryman, criticised cavalry reconnaissance. In contrast Grierson, serving at Roberts’ HQ felt that cavalry had provided sufficient information.\(^{76}\) Despite this one notes reconnaissance failures, perhaps most critically during the first De Wet Hunt which had failed largely due to: ‘extraordinarily bad scouting and field intelligence.’\(^{77}\)

**The Lessons**

**Mobility and Manoeuvre’s Importance**

Cavalry tactics were changing with more emphasis on reconnaissance and manoeuvre rather than on tactical shock. But the latter change went deeper than just tactics or the Cavalry. Manoeuvre, surprise and tempo had Army-wide implications. Manoeuvre demanded initiative, ‘internal’ discipline, doctrine and staffwork. It also demanded that infantry marched well, that logistics were strengthened and that all parts of the Army were ready for sustained movement.

The South African War, Britain’s ensuing diplomatic isolation and the revelation that the Army had performed poorly increased the perceived threat of major warfare. Given the wide array of contingencies analysed briefly in Chapter 1 and the advantages of manoeuvre over attrition when fighting superior numbers, unsurprisingly the British were to emphasise the former. In January 1900 the RUSI reprinted Gen Chesney’s lecture ‘English Genius and Army Organisation… by special

\(^{76}\) The Army on Itself\((1904)\) p 60; WO 108/184 p 87; ‘Second Prize Essay’ JRUSI XLV (1901), pp 816, 801.

\(^{77}\) B Williams THWSA IV (1906), p 432.
request.' Why this was done is not recorded but it was almost certainly due to Chesney's emphasis on mobility. Chesney argued that the antidote to Continental numbers was a small, high-quality mobile army, capable of outmanoeuvring masses. Better-quality recruits would be more likely to display the initiative necessary in such combat. Many later commentators acknowledged Chesney directly. Others, like Conan-Doyle or Cairnes, were probably influenced indirectly. The former recommended that 30,000 MI form the backbone of the Army, precisely the same figure as Chesney suggested for his mobile force.

The RCWSA gave mobility exceptional attention. Its Report highlighted 5 topics. Three involved mobility: horsemastership, horsemanship and marching. The others were shooting and entrenchment. It had a separate section on mounted forces. There was no artillery section, even though QF artillery was emerging. This suggests the priority attached to mobility. The Report noted that the SAFF initially deployed with more mounted troops than establishments allowed, but even they had proved insufficient. It argued that more mobile troops were needed to outmanoeuvre greater defensive firepower and larger enemy forces. The RCWSA saw increased mobility as necessary for European warfare. Roberts emphasised: '[i]n all future wars we shall require a much larger number of mounted men than we have ever had hitherto.' He had heavily criticised cavalry performance in South Africa, yet recommended strengthening the arm. Haig unsurprisingly agreed:

Cavalry will have a larger sphere of action in future wars; in fact, as now armed, [with magazine rifles] it is a new element in tactics.... Besides being used before, during, and after a battle...we must expect to see it employed strategically on a much larger scale than formerly, when it was without an effective firearm.

Haig's 'strategic' would now equate to the current operational level, while his point

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78 JRUSI XLIV (1900), pp 61-3, given in 1874. Research at the RUSI has failed to establish why it was reprinted.
79 The Great Boer War (1900),p 530: Chesney 'Genius' p 62 suggested 30,000 mounted men.
80 RCWSA Report pp 49-52, 32-3, 49; WEs 1898 p 128.
on rifles enhancing mobility is examined later. Baden-Powell, the new IGC, considered that:

[c]avalry are more essential in modern war than ... ever before, both for extended strategical moves, for wide reconnaissance, for distant raids, and for tactical flanking operations.

Gatacre, an infantryman, concluded:

[c]avalry will more than ever be necessary for the fight of the future... [f]or turning movements, prolonging attacks and positions rapidly, for rear guards and pursuits.'

Gen Wood emphasised:

Four legs will always beat two... Large conscripted armies cannot afford many [MI], but with our small voluntary Army it is the natural solution of fighting greater numbers by enabling one man to fight three, as has been shown ...in South Africa.  

Outside the RCWSA others similarly extolled the importance of mobility and hence the cavalry's greater value. In 1904-5 the Military Secretary judged that

Cavalry are, I think, in these days the most important branch of the Service, and I cannot conceive any more retrograde step than a reversion to... admitting ...Officers of inferior mental calibre.

He saw the arm priority as cavalry, artillery, engineers and finally infantry. Judging by previous criteria, the previous order had been engineers, gunners, infantry and then cavalry. Col Graves felt that if the war's first lesson was invisibility, mobility was second, citing Chesney. He blamed British immobility for many early frontal attacks.

French saw future cavalry roles as: outflanking, reconnaissance and protection, threatening enemy lines of retreat, then pursuit, finally screening and deception. Shock was only important in that it enabled the defeat the enemy cavalry, thus depriving them of their reconnaissance force. This would increase the chances of gaining

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82 AFPs 50320 'Memo by MS on Shortage of Cavalry Officers.'
83 'Lessons from the South African War Chiefly from a Cavalry Point of View' USM XXIV (1901),pp 249-50; WO 108/184 p 87; Maj Rodwell Reflections on the Boer War (Lahore 1901), pp 134-5.
surprise. Major Rodwell argued that tactical mobility was, due to the large size of European armies, acquiring strategic qualities. Grierson saw the Cavalry's future role as: 'wide adventurous turning movements against the enemy's flanks and rear,' noting that in South Africa they were reduced to acting as MI, despite being carbine-armed. His use of MI suggests that the cavalry were limited to tactical missions.\textsuperscript{84} Grierson implied that cavalry would be used at the operational level. HW Wilson suggested that the whole army corps would be mounted as Chesney had proposed.\textsuperscript{85} ‘The Future of Our Cavalry’ extolled Chesney’s recommendation that the Army should consist of picked men and be largely mounted, the author then argued that smaller, better-trained forces’ superiority would be based partly on their logistic advantages. Bloch had argued that huge forces were logistically unsustainable. Captain Cairnes argued similarly:

British troops have in the past fought and conquered.... vastly superior numbers on Continental soil: I cannot see why it should be so absurd...that, capably led, intelligently trained....they should not be able to do the same again...[W]e must bear in mind the very size of these great hosts will render them unwieldy...and all conditions of modern warfare, as we have learned in South Africa, favour a comparatively small but mobile army, well trained for war.\textsuperscript{86}

Col Henderson concluded that:

extraordinary results, strategical as well as tactical, that may be produced by mobility have been conclusively demonstrated [in South Africa]...[I]t is clear.... that a mounted force as mobile as the Boers, and equal-as were Sheridan’s troopers to any emergency of attack or defence, will be .. most effective ... on a European theatre of war.\textsuperscript{87}

This mention of strategical again suggests a shift in mounted forces’ role from the tactical. Gwynne commented:

The functions of cavalry have been proved by the recent war to be considerably enlarged. The possession of the rifle.....opens up for cavalry great fields of

\textsuperscript{84} WO 32/6782 ‘Role Cavalry’ 7/3/04 p 1.
\textsuperscript{85} ‘Supplement. The Story of the Boer War’ NR XXXV (1900),p 34.
\textsuperscript{86} ‘The Future of Our Cavalry’ BWM 169 (1901), p 715; J Bloch Has War Become Impossible (1899),pp3, 4-5; A Common-sense Army (1901),p 17.
\textsuperscript{87} Count Sternberg My Experiences of the Boer War (1901), pp xxxi-ii. Henderson introduced the book.
enterprise. Cavalry can now be used for great strategical movements round an enemy’s rear or against his flanks. Cavalry in future, besides in great strategical enterprises, must find their true (sic) use in gaining information, in screening the movements of the main body, and in protecting all...troops from surprise. That cavalry on the battlefield can not (sic) be used “to ride over masses of infantry” is no new deduction of... South Africa. That cavalry can most effectively charge I am the last to gainsay...But it is only on occasion.

A range of individuals argued for greater mobility, which they saw as having strategic or, as current doctrine would define, operational level implications.

Firepower and Manoeuvre

Professor Holden-Reid emphasises that firepower and manoeuvre are inextricably linked:

[Manoeuvre warfare] is a means by which overwhelming fire can be brought to bear... and ...defeat the enemy by paralysing the enemy by speed and fire.

Contemporaries felt that the Cavalry’s acquisition of rifles had enhanced its power of manoeuvre. The Cavalry’s ability to provide covering fire and to defend increased substantially with regiments’ rearmament with rifles and the addition of more machine guns, while cavalry formations received pom poms and had more rifle-armed MI incorporated in them. There was greater stress on artillery and machine gun support.

But French deprecated complete subordination of mobility to fire, for: ‘as a natural consequence, all great tactical combinations... will be paralysed.’ Here French suggests manoeuvre’s operational-level effects and time’s importance in combat.

The heated debate over fire versus shock tactics continued until 1910. Dr Badsey has examined it masterfully; re-examination would be sterile, but the strength of feeling displayed during it is significant. Supporters of traditional shock, those advocating a middle course, which was to be the British cavalry’s eventual preference,

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88 Gwynne Army pp 65-6.
90 WO 33/1838.
and outright advocates of fire-only tactics, all saw cavalry as vital. All were effectively arguing for superior mobility ie the feature that would compensate for numerical inferiority. Roberts as CinC spent more time analysing South Africa’s mobility lessons and cavalry weapons than he did on artillery.  

**Animalmastership**

Manoeuvring over long distances demanded careful animalmastership. It was equally important logistically, as transport forward of railhead usually relied on beasts. Animal mortality in South Africa was vast: some 326,000 horses, 51,000 mules and 195,000 oxen. This was partly explained by the fact that: ‘the standard of horsemastership in the regular forces was indifferent or bad, excepting the Artillery.’ The consequences included the failure at Poplar Grove to capture Kruger and many abortive chases in the guerrilla phase. Roberts commented:

> Cavalry or [MI] … must know how to get the utmost out of their horses by good treatment and never-failing consideration of their wants. The discouragement of individuality and the practice of training men under all circumstances…to follow precise rules is to blame.

His comment suggests initiative’s pervasive importance in fields other than the strictly tactical. Grierson noted that inadequate forage and poor-quality remounts had impaired mobility, but added a rider:

> I do not think our cavalry save their horses enough. I never saw them leading their mounts on a march, and frequently they remained long periods in the saddle at a halt when they should have instantly dismounted.

He also criticised MI horsemastership and training. Rimington commented:

> We have seen the officers and men who were ignorant of Horsemastership (sic), absolutely useless and worse than useless in war.

Even French acknowledged that practical cavalry horsemastership was poor, while

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92 Eg RPs 7101-23-111-10-F 3342, Roberts/Broadwood 13/11/00; there is relatively little in his papers on the artillery lessons of South Africa.

93 Smith RAVC, pp v-vi.


95 Brig Gen Rimington *Hints on Stable Management* (Aldershot 1905), p vi.
Brabazon was emphatic: 'something must be done to take the weight off the horse,' commenting later: 'I never saw such shameful abuse of horseflesh.'

Weaknesses in the AVD and an undermanned field remount organisation also hurt mobility. But South African distances, the vast tonnage of forage required and insufficient transport prevented adequate animal rations being provided. The vets assessed that this had caused failure at Poplar Grove. Experts began to advocate small, hardy horses able to withstand short rations and therefore to sustain manoeuvre but less suitable for shock action. Interestingly the Royals insisted on taking their Basuto ponies to France in 1914 and were impressed with their stamina and hardiness.

Training

Rimington blamed poor prewar training, an inspection system designed for display rather than war-efficiency and inadequate training areas for the Cavalry's problems in South Africa. Regiments dispersed in cities for policing, where training was hard, exacerbated the problem. Lt Col Wogan-Browne concurred, while French was convinced that:

[c]hiefly owing to the want of opportunity in peace time (viz., few men or horses to train, with but little ground on which to drill and manoeuvre in England) [cavalry officers] took the field less proficient ... in the tactical methods required by modern war.

He recommended:

Give troop, squadron, regimental and brigade commanders more opportunities for training their commands in open country where mounted and dismounted (sic) tactical exercises can be carried out in a manner resembling... actual war.

That French emphasised dismounted training suggests that cavalry tactical priorities were shifting away from close-order shock. He also advocated delegation to NCOs.

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6 RCWSA Evidence I p 86; Ibid Qs6863 &6908; WO 108/184 pp 100-1; RCWSA Evidence II p 301.
7 Sessions Remount pp 14-15; Smith RAVC, RPrs pp18-19.
9 W Gilbey Small Horses in Warfare (1900), p 1; White-Spunner Guards p 449. There were formally no heavy cavalry in the Army, but that the Royals, traditionally Heavies, preferred small horses suggests that a deep cultural change had happened.
Dr Badsey argues that the Cavalry's problems in South Africa were largely due to errors by other-arm commanders. But criticisms by cavalrymen of their own arm, acquiescence in low officer education standards and poor cavalry horsemastership suggest his judgement must be qualified. But, as the 1898 Manoeuvres demonstrated, many generals did not get the best from the arm.

**Marching**

Grierson commented: 'One thing which has been most effectively disposed of [in South Africa], and that is the British Infantry cannot march.' Kitchener and Roberts agreed. Such was the interest generated in the topic that South Africa inspired a book on marching. It quoted frequently from *Stonewall Jackson*, arguing that superior mobility was essential to a weaker force and marching was stressed down to 1914.

**Transport**

A contemporary pamphlet contains a profound statement on logistics' importance in manoeuvre:

"The great strategic movements of armies have depended always upon their means of obtaining food and warlike supplies. This modern perfecting of the efficiency of the interior transport of an army is a new strategical weapon in the hands of a general."

Roberts' reorganisation of the transport before Kimberley's relief had similar effects to those quoted above. Later the Army planned to produce similar effects by motorizing logistics. The quotation also suggests the contemporary interest in strategy and mobility.

1899-1902 was the first war which saw relatively extensive use of MT. The

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101 Rimington *Cavalry* p 82; 'What is Required to improve the Training of Our Cavalry in Peace Time?' *USM* XXIV (1901); *RCWSA Evidence* II p 301; Badsey *Fire* pp 171-2.

102 Badsey *Fire* p 171.


104 Capts Pryce & Webb *Transport Training Notes* (Allahabad 1904), Introduction; original emphasised.
Germans had used traction engines in 1870 and the British had employed them in India but without lasting consequences. The Army planned from the start to use MT logistically in South Africa and MT also towed a gun into action there. Steam engines were unsuited to South Africa. Going and weak bridges were a problem, while fuel and water were scarce. The Chief Engineer SAFF outlined MT’s technical handicaps: some engines were old and there were several makes. There were insufficient trained personnel; specialist advice was often not available while engines were hampered by moving with slower animal transport. But when conditions permitted MT proved useful. It minimized a Glanders epidemic; engines moved supplies inside the infected area. Compared to animals it was cheaper to run, could lift heavier loads and only required fuel when moving. It was faster and occupied less roadspace. Its fuel was more efficient than forage and more easily moved. By mid-1900 the WO was convinced that:

machine transport will... be substituted for animal in....war to an extent not hitherto dreamt of, and ...it will be used on the field of battle.

This suggests considerable vision; steam was technically unsuited to conditions in South Africa and had moved little tonnage there. A historical curiosity was that armoured traction engines deployed, while cars moved and powered searchlights. After the war there was considerable speculation on mechanising artillery.

Another lesson was the need to control transport. Grierson felt that poor handling of transport had impaired mobility. Mounted units’ wagons followed directly after their units’ main bodies, rather than moving behind the other fighting troops. Wagons were more likely to cause delays, so this order of march risked impeding combatant units. He noted that transport officers paid little attention to their orders. Poor

106 Brig Gen Aston Staff Duties and Other Subjects (1913) pp 60-1; L/MIL/3/2135 No 70 of 31/05/00; Maj Gen Anderson ‘Traction for Heavy Field Artillery’ PRAI XIX (1902-3).
staffwork exacerbated both problems.\textsuperscript{107} Grierson also criticised failure to requisition and billet extensively. Requisitioning reduced the need to transport supplies and consequently vehicle numbers, thus speeding movement. Billeting cut sickness in men and horses and reduced the need to carry tentage.\textsuperscript{108} Requisitions were particularly valuable for mounted troops, who were unable to carry supplies on their horses and whose wagons could not keep up with the fighting troops. Others criticised excessive baggage and over-lavish transport. An American correspondent commented: ‘we travelled like major generals.’\textsuperscript{109}

**Implementing Mobility and Manoeuvre**

The post-South African manuals reflected the new importance of manoeuvre. Here it must be noted that injunction does not automatically ensure implementation. But it does suggest the direction of thought.

The earliest official publication to reflect the above argument was the Australian *Mounted Service Manual*. The work, superintended by Hutton, a South African veteran and MI pioneer, is significant because it is a non-cavalryman’s view and gives a back-bearing on British reasoning. Hutton claimed that his work had influenced Roberts. Hutton emphasised:

> When the great area over which modern battles will extend, the vast range of artillery fire, the accuracy and deadly effect of modern firepower are taken into consideration, it will be understood that extreme mobility and the power of covering distances at a rapid pace... become imperative.

He continued later:

> Not only, however, has the tactical value of mounted troops increased... but the very favourable conditions for the defence... make the strategical value of mounted troops in the future as great, if not greater, than the tactical. A strategical attack upon the enemy’s flank and rear by a rapid and far reaching march will compel the evacuation of a position which it may be impossible to attack [frontally].

\textsuperscript{107} Churchill *Ladysmith* p 253; WO 108/184 p103; Ibid p104; Chapter 9; Glossary.

\textsuperscript{108} Maj Gen Alderson *Pink and Scarlet* (1913), p220; WO 108/184 pp 108-9. Tents are heavy and bulky.

\textsuperscript{109} RH Davis ‘Kits and Outfits’ *SM* XXXVII (1905),p 386.
Hutton stressed the strategic, or in modern parlance the operational level, noting: "[t]he value of mounted troops for strategical purposes is in direct ratio to their rapidity of movement." ¹¹⁰

*CTrg 1902* began by emphasising firepower and the defence’s growing strength.¹¹¹ However, it stressed mobility, manoeuvre against enemy weakness and surprise, which mounted troops, it saw, were particularly capable of inflicting. Modern manoeuvre doctrine similarly stresses targeting weakness and surprise. *CTrg 1902* contains an entire part on information and reconnaissance and another on marches. Both suggest that it attached greater importance to mobility than *IDB 1896* did.¹¹²

*CTrg 1902* outlined a new concept for the British: Independent Cavalry. Neither *CDB 1898* nor *IDB 1896*’s Part V had mentioned them.¹¹³ The CinC would use this formation for key tasks, suggesting that their mission would be effectively at the operational level. Given poor contemporary signals capability, Independent Cavalry commanders would need to exercise wide initiative and bear heavy responsibilities due to the likely critical nature of their mission. This in turn suggests that doctrine would be needed to guide them.

Haig’s *Cavalry Studies Strategical and Tactical* also suggests this shift of level. Two of its three dominant ideas were: ‘the strategical employment of Cavalry [and] the role of the Independent Cavalry Division (sic).’ Another example was that the 1909 staff ride on the Cavalry Division’s strategic use.¹¹⁴ This would equate to the modern operational level.

Roberts introduced *CT 1904* by stressing the shift towards a more operational

¹¹¹ *CT 1902*, fire and defence pp 14-17; offence and surprise pp 17-18.
¹¹² Ibid respectively Part III pp 69-77; Part IV pp 78-93
¹¹³ *CTrg 1902* pp 21-2. Independent Cavalry was not a new concept in Continental doctrine.
¹¹⁴ *Cavalry Studies Strategical and Tactical* (1907), pp 1,5. Haig emphasised Henderson’s influence; WO 279/30 p 1; Table 33.
level role for cavalry:

I desire most earnestly to call to the attention of all ranks of the cavalry to the augmented importance of this branch of the Service consequent upon the introduction of far-reaching guns and rifles. Cavalry must now be considered not only the eyes of an army, and the arm by which a demoralised enemy can best be destroyed, but equipped ... with the new short rifle, it will take a part in war which it has never been able ... to take in the past. 115

Roberts not only emphasised reconnaissance but saw cavalry mobility as the antidote to enhanced firepower. CT 1904 was emphatic: ‘mobility is one of the greatest factors of success in war.’ This suggests that the cavalry’s importance within the Army had increased and that this latest doctrinal work placed more emphasis on mobility as a decisive factor that CTrg 1902 had done. It continued:

Nothing in war has a greater moral effect than surprise, not only in itself, but by reason of the dread (sic) of it which engenders uncertainty and anxiety, and weighs down the minds of [enemy] leaders, making their operations hesitating and slow. By its mobility, cavalry frequently has the advantage of being able to effect a surprise.

This was a vivid description of the Boers’ effect on Buller or for that matter Roberts’ on Cronje, echoing Jackson’s phrase: ‘mystify and mislead.’ It also suggests modern manoeuvre doctrine’s emphasis on surprise creating psychological disruption. CT 1904 also stressed:

if [cavalry] make proper use of their mobility and act with skill and daring... in their hands to a great measure lies the success or failure of future campaigns. 116

This again suggests cavalry’s shift to the operational level and that the arm’s importance had increased. Neither CDB 1898 nor IDB 1896’s Part V contained a similar statement.

Others argued that the cavalry’s role was shifting from the tactical. Lt Col H Gough criticised CDB 1898’s failure to highlight the arm’s strategical importance. He argued that ‘manoeuvre’ and ‘mobility’ largely relied on timely orders. In turn these

115 CT 1904 p iii.
116 Ibid p 196; Chapter 9.
depended on cavalry reconnaissance. This again suggests the importance of time
in manoeuvre combat. Allenby also stressed cavalry’s greater strategical value.\footnote{117}

*CT 1904* highlighted the need for professionalism and: ‘a higher understanding
of war,’ by cavalrymen. This again implies that cavalry roles were shifting from the
tactical to higher levels. Neither *FAT 1902* nor *IT 1902* had similar injunctions to
infantrymen or gunners, while *AO 79*, ending the separate entry-list for cavalry
officers, stated:

> In modern warfare the duties of Cavalry officers of every rank are of so
> responsible a nature that it is essential that they should be possessed of the
> highest professional attainments and be amongst the most capable
> intellectually.\footnote{118}
>
>This also links greater professionalism to the arm’s new importance.

**Tactical Change**

The preceding section has examined the Cavalry’s shift towards the operational
level and the arm’s increased importance. This section looks at the change of emphasis
in its tactical tasks. The first signs of this came in 1900 when the Indian IGC stressed
dismounted duties and reconnaissance. This may reflect lessons from the 1897-8
Frontier campaigns as well as South Africa, as his conclusions were based on
inspections dating back to 1898.\footnote{119}

*CTrg 1902* emphasised reconnaissance and protection and saw manoeuvre as
more usual than shock. It also stressed fire and dismounted action by mobile forces.\footnote{120}

*CTrg 1902* used the generic term, mounted troops, which embraces MI and therefore
implies less use of shock. Contrastingly *IDB 1896*’s Part V referred to cavalry and MI.

\footnote{117} The Strategic Employment of Cavalry’ *JRUSI* XLIX (1905); Gough sought to analyse principles,
suggesting a more doctrinal approach, Chapter 9; Gen Bernhardi ‘Cavalry in Future Wars’ *CJ II*
(1907), p 227.

\footnote{118} *CT 1904* p 200; Chapter 9 examines French’s attempts to inculcate strategy and argues that it was
connected with developing doctrine which adopting manoeuvre demanded; WO 123/45 p 3 dated 1903.

\footnote{119} L/MIL7/15140 ‘Notes for the Guidance of Cavalry Officers in India 1900 10/04/00, ‘ Sections X
& XI.

\footnote{120} *CTrg 1902* p 14.
**CTrg 1902** accentuated interarm cooperation and contained a section on operational staffwork. Both would have enhanced the Army’s manoeuvrability.\(^{121}\) There was much in *CTrg 1902* on protective duties; these now formed a significant cavalry task which *IDB 1896*’s Part V had not stressed.\(^{122}\) Emphasising security denied the enemy information, in turn this increased the chance of decisive manoeuvre.

*CD 1898* had stressed shock. *CT 1904* assessed cavalry’s tactical roles differently:

The three *first* and *chief* duties of cavalry are: 1. Reconnaissance… 2. The service of local security. 3. To prevent the enemy’s cavalry obtaining information.\(^{123}\)

The latter tasks reflect surprise’s importance in warfare. That 2 topics involved information reflects the new importance attached to manoeuvre which emphasises reconnaissance and surprise.

*CT 1904* stressed shooting, omitted from *CD 1898*. It also emphasised the combination of rifles, machine guns and RHA covering mounted attacks more than *CD 1898* had. The GS later criticised Childers for dismissing covering fire’s value in supporting mounted action. Their emphasis suggests that it was now fully appreciated. Cavalry/RHA cooperation increased after 1902. Here it may be noted that increased fire support was seen as essential in enabling shock action in 1918. *CT 1904* emphasised shock in open-order, more flexible than the old boot-to-boot formations and less exigent of training time.\(^{124}\) Also it highlighted the use of ground more than *CD 1898* had done.\(^{125}\)

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\(^{121}\) Ibid Part II pp 59-68. Initiative was also stressed.

\(^{122}\) Ibid pp 113, 123; Chapter 6.

\(^{123}\) *CT 1904* p 197.

\(^{124}\) *CT 1904* pp 47-8, 322, 331-362; *CD 1898* p 378, its preceding pages do not emphasise covering fire. ‘GS’ ‘War and the Arme Blanche’ *JRUSI* LIV (1910), p 1062. They felt Childers downplayed covering fire as it was an argument for shock; Capt Falls *Military Operations Egypt and Palestine* II (1930), pp 644-5.

\(^{125}\) *CT 1904* pp 208,217.
Reconnaissance

CTrg 1902 stated that: '[s]uccess in war depends on timely information.' Consequently it saw reconnaissance as the Cavalry's most important role, though it noted the difficulties which the task now faced. This emphasis on reconnaissance, generally by cavalry, supports the idea that Army was shifting towards manoeuvre as this demands searching ground-based reconnaissance over extended distances. Such reconnaissance in positional, attritional fighting it is impossible. Contemporaries felt that the difficulties which reconnaissance now faced were not entirely a defensive advantage. An attacker could manoeuvre behind a screen, made impenetrable by modern firepower, thus defeating the defenders' scouts and increasing his chances of surprise.

CT 1904 emphasised reconnaissance more than CDB 1898 did. Another new feature was that the former urged developing self-reliance. All young cavalry officers were to be trained as scouts, as were many troopers. In the following years there were several major Cavalry reconnaissance exercises and much low-level scout training. In 1906 the IGC held a competition to improve horsemastership, scouting and despatch-riding. Hamilton, GOC Southern Command, also noted in 1906 that South Africa had improved cavalry reconnaissance and skirmishing substantially. Haig when IGC India set many reconnaissance exercises; Rimington ran similar schemes.

126 Notes on Soviet Ground Forces (1972), pp 3-14 to 5, Soviet norms demanded ground reconnaissance some 50 kilometres ahead of the leading fighting echelon. It should be noted this was in an age of airborne and electronic reconnaissance. Though the greater speed of defenders meant more depth of reconnaissance was needed, this suggests that deep reconnaissance is important in deep manoeuvre. 127 CTrg 1902 pp 13,18, 21-4; Ibid p 69. 128 CDB 1898 pp 283-4 saw reconnaissance as important, but was less emphatic. 129 CT 1904 p 197; CDB 1898 p 285; CT 1904 pp 220-234. 130 'Special Correspondent' 'The Second Cavalry Brigade in Sussex' CJ 1 (1906) pp 448-9 for Byng's emphasis on reconnaissance. Chapter 7 examines scouting and service pay. 131 'Reconnaissance Competition 1906' CJ II (1907), p113; 'Training of the Troops during 1906' JRUS L (1906), p 1517; WO 279/516 '3 Cavalry Bde Manoeuvres 3-15/8/03' p 1.
Training

Cavalry training, like training generally, was transformed after South Africa. Dr Badsey argues that the appointment of Baden-Powell as IGC was Roberts’ attempt to enforce tactical change, but it is plausible that he was selected for his training abilities and his encouragement of individualism. That Baden-Powell had served before 1899 in India, where training was more realistic than in Britain, reinforces this argument.

Two cavalry schools and a professional journal were established, thus giving the Cavalry a stronger institutional focus. These schools adopted new methods of training and several able officers instructed at them. 132 CT 1904, unlike CDB 1898, emphasised officers’ training responsibilities:

squadron commanders are personally responsible for the efficiency of their squadrons... The main object of cavalry training is to bring men ... to the highest possible standard of war efficiency in their war duties.133

More cavalry exercises occurred in both India and Britain than before 1899. Here it is worth emphasising that attitudes to training were changing. Both Vaughan and Gough were highly critical of Scobell’s lackadaisical attitudes to training and staffwork when he was their brigadier. French eventually dismissed Scobell as IGC despite the latter’s impeccable social connections and fine South African record, for neglecting training. Haig ran several major cavalry staff rides. In unit training Haig stressed skirmishing and dismounted reconnaissance, recommending that pickets entrench automatically.

All suggest a swing from shock towards detached duties. Exact comparisons are hard as the equivalent records for pre-1899 IGCs do not exist. But, judging from descriptions of Luck’s close-order field days in the 1890s, Luck stressed mounted drill and shock. But Luck probably had to emphasis these, given the poor standards of

132 Badsey ‘Fire’ pp195-6 notes Baden-Powell’s attention to reconnaissance encouraging low-level groups, reconnaissance and protective training, WO 32/8865 ‘letter to CinCs;’ RSM Plumb cited Chapter 7
133 CT 1904 p 19. Sections 1-10 pp 19-30 cover the training system; CDB 1898 pp 407-410 lacks general emphasis on training and the section quoted concentrates on the mechanics.
many COs and regiments before 1899.\textsuperscript{134}

Professor Spiers states that 70\% of cavalry training after 1902 involved shock, but this statistic, for which he does not provide a direct reference, is questionable.\textsuperscript{135} By 1904 cavalry in India were outshooting the Infantry. Had 70\% of their training been shock-orientated, this is unlikely to have been possible. It should also be noted that, due to stable duties, cavalry had less training time than the Infantry. It is very possible that 70\% of major manoeuvres involved shock as numbers were needed for it. But manoeuvres also incorporated much reconnaissance and protective training.\textsuperscript{136} But low-level training can teach reconnaissance, unlike shock, which demands massed troops. Low-level reconnaissance training was less likely to be recorded than major exercises involving shock.\textsuperscript{137}

\textbf{MT, Transport and Logistics}

The development of logistics from 1902 suggests that the Army was enhancing its capacity to sustain manoeuvre. Motorisation after 1902 was a long process, which was incomplete in 1914. Between 1899-1902 steam had been the prime form of MT, but by 1905 the ASC were arguing for internal combustion. It was not dependent on water, was better suited to campaigning and cheaper, while petrol was easier to handle than coal. As early as late 1901 motorcars and motor lorries were tested. Afterwards the trials staff recommended developing internal combustion propulsion. In 1902 traction engines moved the Corps Ammunition Park.\textsuperscript{138} In 1903 the MVC was formed;

\begin{itemize}
\item\textsuperscript{134} HPs 3155-40 'Inspection notebooks;' Anglesey A History of the British Cavalry III (1982), pp 150-1;
\item\textsuperscript{135} HPs 3155-40 'Season 1903-1904 Inspection Notes.' Morrison 'Manoeuvres' p 638 for Luck's exacting precision. Maj Gen Vaughan Cavalry and Sporting Memories (Bala 1954), pp 110-1, Gen Gough Soldiering On (1954), pp 91-2.
\item\textsuperscript{136} 'British Cavalry 1902-14' JSAHR LVII (1979), p 79.
\item\textsuperscript{137} Wo 279/39 'Report Army Manoeuvres 1910, pp 61-2 for the importance of reconnaissance during manoeuvres and the attention paid to it during post-exercise analysis. Wo 279/30 pp 7-9; Haig listed many points on reconnaissance, Ibid pp 10-11; Eg Sgt Vass 'A Narrow Escape' 12 RLI (1909), 'Patrol Duty in India' TE II (1908). Neither of these 2 exercises even figure in a regimental history.
\item\textsuperscript{138} ANG XLII (1901), p 1233; Maj McNalty 'The Supercession of Steam ... for Military ... Vehicles' ASCQ 1 (1905), p 76; Trials of Self-Propelled Lorries for Military Purposes ... 1901 (1902), p 7.
\end{itemize}
by October 1904 it had driven over 100,000 miles, largely supporting training.\textsuperscript{139} It was the first corps of its kind in Europe. In 1906 MT was recommended for its speed, shorter column-lengths and economy. Also in 1906 motor cars were sufficiently common in India for an officer to write a book on their use there. Haig, criticised as technologically-averse, recommended motorcyclists and WT to improve cavalry communications.\textsuperscript{140}

\textit{CTrg 1902} emphasised that transport had to be deployed correctly on marches and that tactical considerations must prevail over administrative convenience. Manoeuvre reports stressed controlling transport.\textsuperscript{141} The ASC reviewed vehicle designs to improve mobility and efficiency, using South African experience and data from the Boxer Rebellion. ASC officers were keen to rationalise supplies and improve procedures to enhance mobility.\textsuperscript{142} The ASC increased by over 1200 men after 1902, but the most significant development was the motorization of the BEF's second and third-line transport. Maj Gen Altham saw this as: 'not merely an administrative gain... but... a new departure with important strategical and even tactical consequences.' The change was carefully trialled, practised on manoeuvres and professionally debated. The BEF mobilised with the greatest proportion of MT to strength of all the armies in 1914. Furthermore the British had motorised one arm, the RFC, holding that horses were unsuited to support aircraft.\textsuperscript{143}

The third logistic innovation was that the Army systemised requisitioning and billeting. Van Creveld suggests that Germans requisitioned spontaneously in 1914, but the British deliberately planned to do so. Requisitioning had great potential: 't\textsuperscript{w}enty-

\textsuperscript{139} Capt Paynter 'The Use of the Motor Car in Warfare' \textit{JRUSI} L (1906), pp 767-8.
\textsuperscript{140} WO 279/9 'GS Conference' pp 76-7; Table 16; Maj Warren \textit{The Motor Car in India} (Bombay 1906); WO 279/30 pp 18-19, 21.
\textsuperscript{141} \textit{CTrg 1902} pp 81-3, this tackled Grierson's criticisms. Glossary; WO 279/527 p 10.
\textsuperscript{142} WO 33/216 'Co Transport Vehicles' 18/11/01; WO 32/6150; Richardson ASC pp 143,151-2.
\textsuperscript{143} Altham \textit{Principles} p 50; Table 16; eg [ASC] \textit{Training IV [MT]} (1912), \textit{Memorandum Reorganised System of Supply ... Introduction of [MT]} 1912. \textit{Supply Manual (War)} 1909 (1912 edition); Table 44.

172
five percent less transport to provide... twenty-five percent less to feed, maintain and keep efficient. 144 Fewer vehicles meant shorter columns and consequently faster movement. Fewer animals meant that less forage was needed. Wilson as Commandant of Camberley advocated requisitioning and billeting to DSD. FSRs 1909 included instructions on requisitioning, and there was a major cavalry billeting exercise in 1910. 145 Both requisitioning and billeting were particularly relevant to European conditions and were largely new skills for the British. Their systematic adoption suggests the switch towards European warfare. In summary the Army’s logistics changed extensively after 1902 to enhance mobility. 146

Animalmastership

Animalmastership, principally the Cavalry’s care of horses, was radically overhauled, particularly as it was anticipated that long-range fire would force wider movements. Loads on horses were cut and AO 3 of 1902 ‘The Care of Horses,’ based directly on South Africa, was widely issued. Later a manual stressed:

Every mounted man should regard his horse as part of himself, and should remember that his efficiency and his safety on service depend on the fitness of his horse. 147

Manuals and training emphasised animalmastership, while several long-distance riding competitions were held to promote horsemastership. The Army’s veterinary and remount organisations were overhauled with significant results in 1914. 148 Sordet’s Cavalry Corps was crippled by sorebacked horses and found completing a key mission hard. By the Marne Moltke complained that there was not a horse capable of trotting,

144 Lt Col Greenly Notes on Billeting for Cavalry (1913), pp 3-4; Creveld Supplying p 123; WO 279/9 p 69.
145 HEPWs 3/3/9 HW/DSD 30/10/07; SIULRs 1911; WO 279/529.
146 Col Beadon The [RASC] II (Cambridge 1930), Chapters 1-3.
148 CT 1904 pp ix, 19; Maj Geddes ‘Officers’ Despatch Riding Competition...’ PRAI XXIX (1902-3). Some were held in India, but such competitions have not been traced in Britain pre-1899; Amery THWSA VI pp 422-3; S Corvi ‘The Man/Horse Relationship 1914-18’ lecture to the War Studies Society King’s College.
this in an army reliant on mobility for victory. Bridges compared the armies:

Our horse-mastership was good, that of the German was inferior and the French (who ...never got off) was bad. The British cavalryman walked nearly as often as he rode, [thus] his horse... kept condition remarkably well.\textsuperscript{149}

Bridges wrote long afterwards but his conclusion is well supported.

\textbf{Marching}

British Infantry had marched well in South Africa, surprising some commentators. The emphasis was kept up in training afterwards. From 1902 most manoeuvres involved formidable marches. This was a conscious choice for an army, which had to offset numerical inferiority by superior mobility. The strongest endorsement was in Kitchener’s Infantry Tests which were centred on marching and shooting. Pte Richards described his CO’s priorities:

He did not believe in too much ceremonial drill: the ability to march and shoot straight were the two chief things he required.

Practical measures improved marching. Maj Ruck-Keene noted that there was far less falling-out on marches due to better food and the establishment of soldier-chiropodists.\textsuperscript{150}

\textbf{Conclusions}

South Africa demonstrated that both tactical mobility and operational level manoeuvre were essential in modern warfare. Colonial warfare had put a premium on combat and firepower, but as the Sudan demonstrated, its mobility was logistical, rather than the speed and sweeping manoeuvre needed for major warfare. After 1902 the British emphasised manoeuvre, tempo and pre-emption as they faced fighting greater numbers. Manoeuvre had implications for initiative, doctrine and training,

\textsuperscript{149} Brig Gen Edmonds \textit{MOFB 1914} I (1922),p 266; K Helfferich \textit{Der Weltkrieg} II (Berlin 1919),pp 17-8. Lt Gen Bridges \textit{Alarms and Excursions} (1938),p 81.
\textsuperscript{150} Maj Ruck-Keene ‘Summer Training, 1908’ \textit{OXUC 1908} p 119; Altham \textit{Principles} p 402; Pte Richards \textit{Old Soldier Sahib} (1935),p 163. This secondary source is well supported. It is included as it emphasises that these priorities were clear to privates.
which Chapters 7 and 9 analyse.\textsuperscript{151}

Before 1900 general tactics, particularly in colonial warfare, had largely emphasised frontal attack. Cavalry were at a discount due to the absence of a major threat and the arm’s tactics were focussed on tactical shock. Afterwards the British put greater emphasis on an arm which had for much of the 19th Century been seen as less useful than the others. There was a shift in cavalry’s roles towards operational level manoeuvre over extended distances. The new tactical emphasis naturally enhanced the Army’s capability for surprise and tempo. Cavalry tactics changed with more attention to manoeuvre, reconnaissance, pre-emption, protection and firepower. In 1914 the BEF deployed with the highest ratio of cavalry to infantry divisions. The ratio, 1:2, is in striking contrast both to the continental average in 1914 and to the SAFF in 1899.\textsuperscript{152}

The tactical changes to mobility were complemented by logistical enhancements, improved animalmastership, the introduction of MT and the alterations to C\textsuperscript{3} analysed in Chapter 9. The Army in 1914 was far more capable of manoeuvre than in 1899.

\textsuperscript{151} Roberts’ march from Kabul to Kandahar lasted some 24 days with the average march of some 13 miles, Dr Peaty ‘Wars in Afghanistan’ IHR 9/1/07. This was not the speed or tempo that conventional warfare demanded.

\textsuperscript{152} Brig Gen Wilson Initiative and the Power of Manoeuvre (AMS 1910),p 7; Table 9.
Chapter 6 Protection

Only a Kensington draper,
Only pretending to scout,
Only bad news for the papers,
Only another knockout.

Introduction

This Chapter analyses protection as a tactical factor, its state in the British Army in 1897, its execution in 1899-1902, the resulting lessons and their implementation. It also examines the REs. Sappers are split between the two tactical factors of protection and mobility, but are considered here for convenience. It also examines technology, due to its links with the engineers.

Protection

Protection is more elusive than either firepower or mobility and, unlike them, is generally defensive in nature as it does not threaten the enemy directly. It can be attained physically; armour saw a renaissance with the introduction of shielded QF artillery. It can be achieved by using ground, cover, camouflage and extension. These factors broadly constitute fieldcraft. Fieldcraft, ultimately a personal skill, requires individual initiative to be effective, as Kipling suggests above. It has powerful effects. Lanchester argued that fieldcraft counterbalances numerical superiority, favouring more advanced weapons. He concluded that South Africa had demonstrated both points.\(^1\) Furthermore it can be deduced that fieldcraft and more advanced weapons demand better trained soldiers capable of showing initiative if they are to be effective. The improvements, examined in Chapter 7, support this argument.

Protection also encompasses entrenchment and fortification. Both are strong though time-consuming antidotes to firepower, but, when overemphasised, both impair mobility and the ability to react. Protection also includes outposts and the defensive

\(^1\) Chapters 7&8, *Aircraft in War* (1916).p 29. Lanchester argued that fieldcraft prevented the enemy concentrating fire on advanced systems, thus aiding their survival. Fire directed at areas rather than at point targets is less lethal.
itself. But it is not solely defensive. Troops have to entrench in attack, fieldcraft is equally important then, while unwary sentries are always lethal. Protection also generates surprise by denying the enemy information. Essentially though, it is defensive in nature. The shattering effects of fire and manoeuvre may, fully exploited, enable attacking forces to gain the initiative so strongly that effective counter-action at gaping protective weakness is impossible.

In 1899, as now, defence was not emphasised as much as attack. This is a recurrent doctrinal trend. Even when a nation's strategy is defensive, the military advantages of initiation, tempo, surprise and concentration against weakness are attractive and benefit morale. Battles may have been lost through protective failures, but it is hard to demonstrate that protection alone has won any.

Protection, when implemented, is generally tactically low-level. A general may initiate sweeping manoeuvre to further his plan and his CRA will co-ordinate massed fire in support. A formation may have a protective scheme but its detailed implementation depends on subalterns, sergeants and soldiers. A clubbed manoeuvre or botched fire plan probably stem from command failures. Contrastingly defective protection is generally due to low-level failure, as Kipling suggests. The passive nature of protection explains this phenomenon. Firepower and manoeuvre due to their strongly offensive nature are less dependent on all components functioning correctly. Other elements can compensate for mistakes. In a 500-barrel fire plan that one or two batteries miss is probably unimportant. But protection, which is passive, cannot rely on other parts compensating as the enemy is able to concentrate on the point of vulnerability. A few unalert sentries nearly led to Ladysmith falling. Methuen's defeat at Tweebosch

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2 Gazala and DESERT STORM make the point. Wellington deprecated trenches in field combat for the same reason.

3 Capt Swinton The Defence of Duffer's Drift (1904), pp 25, 30.

was due to a variety of individual failures, with a major the senior responsible officer; at
Sannah's Post, an NCO. Such faults suggest defective discipline and training.⁶

Protection before 1899

Primitive, poorly-armed, ill-disciplined tribal foes were rarely able to exploit
British protective weaknesses systematically before 1899, though raids and ambushes
were a constant tribal tactic.⁷ Primitive enemy tactics and weapons meant that
entrenchment, extension and fieldcraft were therefore not essential. Enemy night attacks
were rare, thus British outposts were rarely rigorously tested. Here Tirah forms an
exception.⁸ Consequently training in fieldcraft and protection was generally poor.
Outposts were practised, but this was undemanding. IDB 1896 suggested that training:
‘should start at dusk and need not exceed from 2 to 3 hours’ work.’ This did not
replicate the problems of vigilance on operations. Nor did IDB 1896 stress concealing
outposts. British manoeuvres with their non-tactical overnight phases were also poor at
teaching outposts. Wolseley criticised the 1899 Manoeuvres for lacking pace, but feared
that all-night training would hit recruiting.⁹ IDB 1896’s orders on outposts were
mechanically sound, but poor initiative and training meant that their execution was
often poor.

Many infantrymen were untrained in using cover; doing so would, it was feared,
make them overcautious. The RCWSA heard conflicting evidence on how widespread
training in using cover was before 1899. IDB 1896 recommended using cover but
concluded that: ‘the utilization of cover in attack is subordinate to order and cohesion.’

⁵ AFM I The Fundamentals (1985),p 43; EC Kiesling Arming Against Hitler (Lawrence 1996),p 137.
⁶ Brig Gen Edmonds & Capt Wynne MOFB 1915 I (1927),p 92. At Neuve Chapelle 2 batteries failed to
support a brigade, despite this the operation was initially successful; fn below; IT 1902 supports Kipling;
RPs 7101-23-209 'On a proposal that a military officer ... should be tried by a Court-martial' pp 11-2.
⁷ Maj Callwell Small Wars (1899),p 389.
⁸ Ibid p 391 emphasises that night attacks were rare in Colonial warfare; Chapter 2.
⁹ IDB 1896 pp 221, 189-193; 'British Staff Officer' An Absent Minded War (nd),pp 98-9; Chapter 7: The
Times 28/2/01.
It overestimated officers' ability to control in the face of modern firepower.\textsuperscript{10} Nor did IDB 1896's S47 'Open Order Drill' insist that recruits were individually trained in fieldcraft. It merely suggested that they should be shown how to use cover. Weak recruit instruction hit army-wide standards. IDB 1896 did not explain how to use cover. It ordered that movement between cover was to be made upright, unless ordered otherwise, as: 'in which [position] the movements and the signals of their leader can most readily be observed.' IDB 1896 saw control as more important than cover.\textsuperscript{11}

Furthermore that S47 was entitled 'Drill' suggests that its instructions were to be rigidly applied:

- cover is only a means to an end, and that when the soldier has been launched in the attack, he must push forward at all hazards

This did not encourage fieldcraft, nor did it reflect the realities of firepower. Col Macdonald observed a battalion deploying on a hillside as if on a barrack square. There it would have been easier for it to have used cover rather than deploying in drill-order as it did.\textsuperscript{12} Even in LI units, which emphasised skirmishing, fieldcraft was poor before 1899. Crum, instructing riflemen, commented:

- when left to themselves [they] seem quite hopeless...Some didn't even know which side of a hill to take cover.\textsuperscript{13}

Crum suggests a connection between initiative and fieldcraft. Roberts later attributed poor performance of tasks demanding initiative like fieldcraft to over-control by commanders.\textsuperscript{14}

Before 1899 extension was downplayed, formations were dense, and consequently

\textsuperscript{10} Historically individuals ducking were criticised, J Keegan \textit{The Face of Battle} (1976),p 178, this recurred in 1899, J Stuart \textit{Pictures of War} (1901),p 67; Maj Gen Bengough \textit{Notes and Reflections on the Boer War} (1900), pp 26-7 claimed that infantrymen were untrained in using cover. Coke contradicted him, RCWSA \textit{Evidence} II p 444; IDB 1896 pp 280-1.

\textsuperscript{11}IDB 1896 p 62; Hutchinson and Pollock, cited in Chapter 2, support this argument.

\textsuperscript{12} Col Macdonald 'Infantry in a New Century' \textit{JRUSI XLV} (1901),p 243.

\textsuperscript{13} Chapter 2; Maj Crum \textit{Memoirs of a Rifleman Scout South Africa 1899-1902} (Helensburgh nd),p 9, they were in theory trained soldiers serving in a foreign-based unit; SLI recruits got fieldcraft training. Maj Pollock 'Training Recruits at Regimental Depots' \textit{JRUSI XLVI} (1902), pp 677-9.

\textsuperscript{14} RCWSA \textit{Report} (1903),p 46.
ground could not be used effectively. *IDB 1896* suggested an 800 yard frontage for an infantry division attacking 2 brigades up. A popular guide recommended 30 inches between men in extended-order. There was much unofficial use of normal formations. Troops so deployed spent more attention conforming to templates than to terrain. Crum criticised lethally dense formations during prewar training. Similar dense formations were used initially in Tirah. These defects stemmed from a system which overemphasised control, downplayed delegation and underestimated firepower.

*IDB 1896* covered defence in some 5 pages, recommending a rather formalised three-line deployment borrowed from the attack. This layout incorporated some depth by virtue of its 3 lines, but *IDB 1896* gave no useful instruction on using ground, reverse slopes or concealment in defence. This suggests a failure to understand either the effects of smokeless ammunition or modern weapons. It recommended a norm of five men per pace of defensive front. This would have meant a divisional frontage of about a mile; far denser than contemporary weapons required. But *IDB 1896* warned against exposing machine guns to artillery and outlined the use of ‘false fronts’.

Land restrictions meant that troops rarely entrenched on British manoeuvres. General Leach concluded:

Where ground cannot be broken, and where in peace manoeuvres, shelter trenches are represented by screens, it is clear that the instruction to the troops cannot be great.

*IDB 1896* treated digging as a drill, giving no useful tactical advice. Its recommended design, the shelter-trench, was wide, shallow and had a prominent spoil-heap in front, betraying its position. It provided poor protection. Too often digging was seen as an RE, not an all-arms skill. Units dug poorly in training, while service tools were bad-

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15 Glossary; *IDB 1896* p 143; Ibid p 147. It should not be imagined that *IDB 1896* advocated an advance shoulder to shoulder, as British formations had considerable depth. However, with 2 brigades on such a frontage, ground could not be used effectively. Hamilton deployed a battalion (-) on virtually the same distance at Elandslaagte, Chapter 3; *Crum Scout* pp 10-11; Chapter 2.

16 *IDB 1896* pp 120-126; Capt Slessor *The 2nd Battalion Derbyshire Regiment in Tirah* (1900), p 93; Chapter 2; *IDB 1896* p 149; Table 39; Glossary.
quality. Though the manuals did not stress concealing either defences or men, the Army ordered that all guns sent to South Africa were to be painted khaki. This was the Army’s field-clothing colour and in this respect the British were ahead of continental armies.

*IDB 1896’s* Part V did not cover engineers or their tasks in all-arms tactics. Manoeuvres were short and as sappers were required for logistic tasks, eg constructing camps, there was little chance of other arms learning much about their tactical use. The 1898 Manoeuvres caused Wood, the AG, to form a committee under Hilyard to remedy the problem. The Committee criticised *IDB 1896*’s omission of sappers, proposing more interarm training, guidance on RE duties and better engineer training. *IDB 1896* was amended accordingly in 1900.

Clearly entrenchment, fieldcraft and concealment were undervalued before 1899. Over-control and failure to appreciate the growth of firepower had caused these protective weaknesses. Tirah, as Chapter 2 argues, had improved protective training. But there was insufficient time to remedy the above defects before the start of the South African War.

**Protection in South Africa**

This section analyses protection in the war. Extension is important as it shows the effect of increased firepower and how the spatial nature of combat was changing. Increased emphasis on using ground suggests a similar appreciation of firepower. When combined with extension and fieldcraft, it suggests why initiative was more necessary. Entrenchment is closely connected with increased firepower which also affected outpost and defensive tactics.

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17 WO 32/6082 p 21; *IDB 1896* pp 266-8; Plate XVI; Maj Callwell *The Tactics of To-day* (1900), pp 140-1; A Conan-Doyle *The Great Boer War* (1900), p 517; Glossary.

18 *RCWSA Evidence* II p 662; WO 108/307 p 54. Germany introduced *feld grau* just before 1914 while the French introduced *bleu horizon* during the war.

Extension

Generally British troops extended reasonably fast during combat, suggesting that norms seen as late as 1898 had changed substantially.20 Henderson’s ‘Technical Training,’ Buller’s 1899 Memorandum and Roberts’ emphasis on skirmishing had probably caused this. But there were exceptions.21 One was Hart’s advance in quarter column at Colenso. Hart drilled his brigade before action and tried to ensure that they deployed in quick rather than double time when coming under fire. It would be tempting to dismiss Hart as a reactionary, but his stress on control and order was fully in accordance with modern Continental ideas and IDB 1896.22 But Burleigh reported Hart’s brigade as rather bunched before Spion Kop. This contrasted with another advance which Burleigh observed in late November 1899 with 10 paces between men and 50-150 between lines. By December 1899 a norm of 5 paces’ extension seems to have been usual for infantry in South Africa. Later troops extended up to 30 paces.23

The Use of Ground

Initially ground was often used poorly in South Africa. Prewar close-order formations meant that subordinates did not need to select ground themselves and were unused to exercising initiative in the field. Capt Cairnes commented:

The most striking lesson ... is that our men have not, as a rule, the most elementary knowledge of how to avail themselves of accidents of ground to gain cover from the fire of their enemy... [T]hey did not know how to do so. Over and over again men have been seen contentedly taking cover behind some ridiculous little stone, with a fold in the ground beside them unnoticed which would have sheltered a section.24

Maj Caunter criticised poor infantry use of cover, while Major Baden-Powell felt that using ground had: ‘not been sufficiently studied’ before 1899. Colonel Vincent

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20 PRO 30/40/16 ‘Untitled Memorandum on weapons.’
21 ‘HRK’ ‘South Africa 1899-1900’ HJIC IV (1904), pp 50,52; Chapter 2.
contrasted the Boers' 'scientific' use of cover with British failures. Maj Pollock noted:

The experiences of ... the Boer War should have impressed on all officers the immense importance of thoroughly educating themselves in the "use of ground." The very essence of sound tactical leading is a quick appreciation of every detail, artificial as well as natural...

Later he remarked:

The successes of the Boers have been due to their common-sense use of ground (sic)... [T]he average British officer has no military eye for country. Pollock blamed artificial training and over-control for this fault. His argument was similar to Henderson's criticisms of normal formations. Pollock emphasised using ground throughout his work. Both he and Henderson saw that initiative was essential for effective fieldcraft. Lt Col Alderson emphasised that studying ground was a basic military requirement. Gen French stressed using ground and cover in training, linking improved performance in both to greater soldier intelligence.

Poor use of ground led to badly-sited trenches as Swinton emphasised in Duffer's Drift. Ostensibly a work of fiction:

[i]t embodies some recollection of things actually done and undone in South Africa... Should this tale, by arousing the imagination, assist to prevent in the future even one such case of disregard of principles, it will not have been written in vain.

It emphasised concealment, selection of positions and developing an eye for ground.

One of its hero's, the hapless Backsight-Forethought, most egregious errors was siting trenches when standing up. Kitchener noted that:

instructions on the construction of intrenchments (sic)... did not sufficiently accentuate the importance of adapting the actual work to the ... the ground.

Roberts blamed many wartime failures on: "officers not understanding how to take

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26 Simple Lectures for Company Field Training (1900), pp 1,10.
27 Ibid, pp 34-40, Pollock cited 17 lessons, ground figures in 9 and is the main topic of 3.
28 Alderson 100 pp 39-41; AFPs 50321 'Training... Aldershot 1905' p 153.
advantage of ground.' Later a French officer saw a key 1899-1902 lesson as: 'Making full use of the topographical features of the country.' This suggests that other armies were also poor at using ground.

Here it is worth emphasising that the tactical use of ground relates to the weapons in use at the time. Though the above evidence suggests that ground was barely used before 1899, the real problem was perhaps a mental hangover from the era of shorter-ranged, less effective weapons. But, whatever the reason, British use of ground was poor, suggesting defective training, poor initiative and failure to deduce the effects of greater firepower.

Fieldcraft in South Africa

The defects analysed above, particularly defective initiative, meant that British fieldcraft was initially weak. Callwell made a sound point: 'The Boers have used their wits and we have not; hence the numerous petty disasters which have marred the progress of the campaign.' Roberts noted that:

In the attack the men were even more oblivious of cover than on the defence; and on scouting and outpost duty it was long before they learned the importance of invisibility.

He blamed poor training and over-control for these problems. A CO cited an example:

A young officer...demanded permission to move his company slightly as his men were commencing to suffer... He knew what to do, but feared to take such a small piece of responsibility... meanwhile his men were dropping.

This again suggests that the link between fieldcraft and initiative. A magazine reported that:

reluctance to take cover is the ineradicable vice and nothing short of the cultivation of the general intelligence of the rank and file will banish this fault.

Individual fieldcraft was poor. Henderson cited a South African veteran:

the average British infantryman usually exposes half his body... and frequently

31 'The Arms of the Service II Cavalry' SR 92 (1901), p 104.
32 Callwell Tactics p 133.
puts himself into such a position that he can neither aim accurately nor shoot quickly. This is one of the criticisms most frequently heard among the Boers.

But *MRs* 1898 ignored shooting from cover. An American attaché observed:

[British] Infantry never make rushes in their attacks but march erect and calmly forward. I have seen mounted men under a hot rifle-fire at short range halted, waiting for orders to advance, sitting erect on their horses, a perfect target. 33

The former contravened *IDB* 1896's S54 which recommended rushes, the latter was poor horsemastership. Both showed dire fieldcraft. Significantly the MA then criticised British soldiers for lacking initiative, reinforcing the link, suggested above, between the two. Colvile, concerned with the standard of fieldcraft in his brigade, ordered that his guardsmen were trained like deerstalkers. Vincent criticised British officers' personal reluctance to use cover, particularly in attack. This partly accounts for their heavy initial casualties. 34 Alderson emphasised using ground tactically, citing many examples of poor fieldcraft: ‘[t]he British soldier, if not *constantly* (sic) reminded will walk about on the skyline.’ He continued:

Another necessary “battle habit” is that of taking cover. Unless men are trained to do this at manoeuvres, when in action they do so from the instinct of self-preservation.

This quotation is apparently obscure, but Alderson implies by ‘self-preservation’ that such use of cover would be just to protect the individual, rather than for tactical effect. 35

Buller castigated ineffective reconnaissance, a product of poor fieldcraft and bad prewar training. Gough admitted to learning more about reconnaissance, fieldcraft and tactical movement from patrolling with Natal farmers than from his 10 previous years service as a cavalry officer. 36 Lt Col May diagnosed:

Where our men did more conspicuously fail and continued to fail was in

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34 *RCWSA Evidence II* pp 289, 663; Vincent ‘Lessons’ p 632.
35 *Lessons from 100 Notes made in Peace and War* (Aldershot 1908), pp 7-8, 12, 67. Chapter 1 shows that fieldcraft balances risk and effectiveness.
36 Vincent ‘Lessons’ p 632; Gen Gough *Soldiering On* (1954), pp 66-7. Though made decades later, this suggests the strength of impression. It does not reflect well on Gough, his unit, or his arm, suggesting its accuracy.
disregarding the features of the ground... It is in developing in their men the power of recognizing the opportunities for utilizing cover that the task of those who train our battalions and brigades will chiefly lie.

But improvement occurred during the war. Repington noted that facing enemy firepower: 'we extended our firing line and returned to the old and too much neglected practice of skirmishing.' By mid-1900 an Australian commented that: '[t]he Derbys, Gordons and CIVs ... crept up from ridge to ridge, making good use of every fold in the ground.' The first two units contained many Tirah veterans. The third was a Volunteer unit whose intelligent privates were more likely to show initiative and thus employ fieldcraft correctly than drill-indoctrinated regulars. Roberts concluded that campaigning had improved soldiers' initiative and fieldcraft.

**Outposts**

British outposts were often poorly sited and their sentries unalert. Alderson commented that South Africa: 'teems with ... instances of [such] neglect.' Pilcher noted the defeat at Mazillikat's Nek was caused by a unit bivouacking in a hollow rather than picketing the surrounding hills. Maj Baden-Powell recalled that: '[m]ost of the reverses we sustained... were due to neglect of some sort in providing a proper protective screen.' He insisted that troops on protective tasks must be alert and hide themselves and criticised stentorian challenges by sentries and visible movement by outposts. Gilmour was very critical of unwary sentries who caused defeat at Nooitgedacht. A veteran reported sentries marching on their beats as if at Pall Mall. Corner blamed the Yeomanry surprise at Senekal on unalert outposts. Even at Ladysmith the Boer attack on Caesar's Camp was detected late and Hamilton was

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37 'Suggestions from the Front' *JRC XLVIII* (1900), p 715.
38 F Wilkinson *Australia at the Front* (1901), pp 194; *RCWSA Report* p 45; Ibid p 66 for praise of the CIV.
39 Alderson *100* p 7; Ibid pp 48-59; Pilcher *Lessons* pp 20-1; WR 3.
40 *War in Practice* (1903), p 200; Ibid pp 219-20; ed P Mileham *Clearly My Duty* (East Linton 1996), p 114. This is a contemporary diary; 'War - Soldier' 'Outpost Sentries' *USM XXIV*(1901), p 180.
surprised at Wagon Hill. Clearly Colonial warfare had not taught vigilance.41

Alderson noted how modern weapons had made French modify the drillbook system of outposts in South Africa by pushing them further out than the 1800 yard norm. Baden-Powell felt that outposts might have to be pushed out to 2000 yards to protect against modern rifles, or 6 miles to counter artillery.42 This reflects the greater effectiveness of firepower, paralleling similar changes during Tirah. But modern weapons’ greater firepower meant that outposts could be thinned-out. Baden-Powell suggested a yardstick of 100 men per mile.43 Veterans later insisted on vigilance, no matter how tired troops were, and were adamant on executing sleeping sentries. This penalty was not rigorously enforced in South Africa. One can speculate that the greater severity displayed between 1914-18 was a reaction.44

Boer vigilance was worse than British. Reitz’s uncle paid a younger member of his picket to stand his watch while he slept in a feather-bed. The Boers unsurprisingly were raided twice outside Ladysmith losing several guns and night operations generally favoured the British.45 They had been a distinctive feature of British tactics since Tel-el Kebir. They negated enemy firepower and surprised the enemy. Though night attacks failed at Magersfontein and Stormberg, they succeeded at Belmont, Paardeberg and in numerous night raids on Boer laagers during the guerrilla phase. Contemporaries deduced that night operations were an important means of defeating firepower but that training for them needed to be good. Manuals developed this point after 1902.46

41 Story of the 34th Company (Middlesex) Imperial Yeomanry (1902), pp 74, 90-104; Maj Gen Maurice BROHWSA II (1907), pp 558-9, 565-6.
42 Chapter 2; Alderson I00 pp 13-4; Baden-Powell War p 206.
43 Baden-Powell War p 209. His section on outposts totals 30 pages.
44 SAD II (1901), p 24; Lt Col Pilcher Some Lessons From the Boer War (1903), pp 19-21, 47-8; Lt Bethell Outpost Duties as Learnt in South Africa (1903), pp 25-7.
45 D Reitz Commando (1968), p 62, this secondary evidence is well-supported by events at Ladysmith and during the latter part of the war; Maurice BROHWSA II pp 546-9.
Entrenchment

Boer trenches made a great impression with the most salient example at Paardeberg. There a young ASC officer commented:

Boer trenches are marvellous and a real lesson to us; our rotten little scooped-out affairs, a foot or so deep, in one long line, always open to enfilade, look child's play to theirs;... at least 4 feet deep, hollowed out in front with good headcover... and... are never (sic) in one straight line...[T]hese trenches are the talk of the whole army. 47

That a logistician was so impressed suggests the strength of the lesson. That British field-trenches were untraversed suggests that the effectiveness of enfilade fire had been underestimated. Long-range weapons made this more lethal. 48 Roberts and the Chief Engineer, who personally reported on the Boer trench designs at Paardeberg, were impressed. They were deep, narrow, thus well-protected against shrapnel, and were carefully concealed. Thuillier attributed the RA’s failure to deal with Boer trenches to these factors. Also smokeless ammunition enabled defenders of trenches to remain hidden while firing. This strengthened the defensive. Thuillier’s assessment reinforces Lanchester’s deductions on the powerful effects of fieldcraft. 49 That commentators ranging from Roberts to subalterns praised Boer entrenchment suggests the strength of the lesson.

In contrast British positions with their raised parapets and angular, regular construction: ‘advertised themselves as far as the eye can see,’ violating: ‘most of the rules to which the Boers owed so much of their success.’ Swinton emphasised the

47 SKDs (1902) p 33; REJ XXX (1900), p 92. Original italicised, republished JRUSI XLIV (1900), pp 582-4; Glossary.
48 REJ XXX (1900), pp 194-5; Maj Norris ‘Retrospect of the War’ REJ XXX (1900), p 119; Swinton Drift p 19. For enfilade’s dangers and traversing, Ibid pp 23,25. Traversing had been long used by the sappers, that it was not employed by infantry suggests poor training.
49 Ed A Wessels Lord Roberts and the War in South Africa (Stroud 2000), p 59; Roberts/Lansdowne 28/02/00. The work is a collection of contemporary documents; The Work of the Ninth Division (1901), p 43; Glossary; Capt Thuillier The Principles of Land Defence (1902), pp 191-4.
importance of hiding defences, particularly from artillery and concealing spoil.\textsuperscript{50}

Rundle castigated his subordinates:

I have failed to see any intelligent use made of entrenchments by Brigadiers ... [T]hey appear to think that a few stones ... or 6 in of earth hastily scraped up at haphazard is adequate protection against modern ... fire.

His division later adopted the Boer-designed Paardeberg Trench. As late as July 1900 the REs were dissatisfied with the technical standard of other arms' defences. This suggests that their initial efforts had been dire.\textsuperscript{51}

Change happened during the war. 2 West Yorkshires, serving under Buller, practised entrenchment.\textsuperscript{52} In Natal more digging tools were issued to infantry, implying that combat in Natal was more positional than in Roberts' command. But the protective differences between Buller's and Roberts' troops were less significant than those involving firepower and manoeuvre.

Based on wartime experience, sappers recommended concealing trenches, avoiding skylines and digging dummy trenches.\textsuperscript{53} Callwell also emphasised the need to entrench in attack, commenting that with veterans:

[n]o admonitions are needed, and in the case of tried troops, very little superintendence by the officers is called for. The men are impelled by the instinct of self-preservation, and use not only their muscles, but also their wits.

This shows how combat stimulated initiative. The RA entrenched or put pieces in emplacements in South Africa. Previously this was rare in field operations, though not in siege warfare. Now gunners saw that such defences saved casualties and hid movement on gunlines. Callwell recommended camouflaging guns with foliage, an innovation for the RA.\textsuperscript{54}

\textsuperscript{50} 'Impressions of the Boers' \textit{HLIC} III (1901), pp 682-3; Pilcher \textit{Lessons} p 18; Swinton \textit{Drift} pp 19,24-5; \textit{Ibid} pp 33-5 describes how the ideal position was hidden; \textit{Ibid} p19 point 9; p 25 point 18.

\textsuperscript{51} Callwell \textit{Tactics} \textit{Ibid} pp 139-142; \textit{RCWSA Evidence} II Qs 17888, 17902; WO 108/295 p 1.

\textsuperscript{52} Ed N Riall \textit{Boer War} (2000), p 32. This is a contemporary diary.

\textsuperscript{53} Col Wood 'The Work of the Engineers in Natal' in Capt Edwards \textit{PPCREs} XXVII (1901), pp 62-3.

\textsuperscript{54} Callwell \textit{Tactics} pp139, 147-8.
Defence

1899-1902 was the first recent war in which British forces had had to defend for long periods against modern weapons. British performance in defence was variable, though rarely tested by Boer assaults. At Kimberley and Mafeking they constructed defences effectively. Maj Gen Knox, a veteran of the Russo-Turkish War, fortified his sector of Ladysmith heavily and visibly. Contrastingly Ian Hamilton adopted a system of small, detached posts on the forward slope with his main force on the reverse slope of Caesar’s Camp. The forward posts were not mutually supporting and were not sited for all-round defence. They proved vulnerable during the Boer assault on 6 January 1900 to attacks from behind. Hamilton’s system of siting his main defences on the reverse slope may have been tactically correct to counter heavy firepower. But Boer artillery was ineffective at Ladysmith. Nor did White, the GOC Ladysmith, appear to have been understood Hamilton’s plan. White ordered costly immediate counter-attacks, rather than attacking at night, when casualties would have probably been less. 55 There is a tension between the generally good state of the defences in the besieged garrisons and poor field entrenchments outlined above. The answer is that the sappers generally planned and oversaw the former, whilst the latter were largely dug by infantry.

Some argued that Ladysmith should have been fortified prewar. 56 This failure suggests British over-confidence in 1899. White also miscalculated Ladysmith’s garrison, which was far stronger in relation to the perimeter than either at Kimberley or Mafeking. 57 A correct estimate would have allowed White to hold an extended area. This would have complicated the siege by forcing the Boers to hold a longer perimeter. Due to Ladysmith’s closeness to the Tugela, the eventual front line between Buller’s force and the besieging Boers, this would have deprived the Boers of defensive depth,

55 RCWSA Evidence II (1903), p 560; Ibid pp 424,431 HedPs ‘Box 1 Letter Headlam/Stapleton;’ Amery THWSA III p 179; Maurice BROHWSA II pp 558-60.
56 Glossary; ‘War Despatches’ BWM 169(1901), p 408.
57 Stuart Pictures pp 216,219; RCWSA Evidence II Q 19963, p 424; Table 41.
thus aiding Buller. It would have also have meant that more land was available for
grazing thus improving the garrison's supplies. Alternatively White could have released
his cavalry from Ladysmith, giving Buller more options. Failure to appreciate the
increased effectiveness of firepower recurred at Spion Kop where 4500 troops were
crowded into an area barely sufficient for 500.58

Another protective error was that the British failed to demolish the railway lines
from the Boer Republics to Ladysmith. This omission may well have made the siege of
Ladysmith logistically feasible. Thus a simple tactical failure dislocated British strategy.
It also shows British overconfidence and poor staffwork. White later argued that the
Boers' mobility was horse-based and therefore demolitions would have been
ineffective, but the railways were logistically vital to the Boers.59

South Africa was the first war in which the British used barbed wire extensively.
At Kimberley they wired nearly the entire perimeter and wire was widely used at
Mafeking. Later a sapper defending a minor Transvaal town laid over 60 miles of it. His
defences also included abattis, minefields, fougasses, barricades, fortified houses and
redoubts.60

South Africa showed the value of non-linear defences. Baden-Powell's defences at
Mafeking were based on a series of mutually supporting but separate posts sited for all-
round defence with overhead cover against shrapnel. Such positions required smaller
garrisons than continuous trenches. The REs developed the concept of non-linear
defences later in the war. Then it was vital to hold many positions yet manpower had to
be economised to free troops for mobile operations. Firepower, obstacles and defences
were substituted for men, while lower troop-densities meant that the reduced garrisons

58 Amery THWSA III pp 297-8; RCWSA Evidence II Qs 15136-8, Buller felt that White could have
released them; Ibid Q 21889; Maj Gen Maurice BROHWSA II (1907),pp 383,385,389,393. Both Warren
and Coke contributed to the overcrowding. Lyttelton appreciated this and attempted to outflank.
59 'The War Despatches' BWM 169 (1901),p 407; RCWSA Evidence II p 151 contains White's defence.
60 Capt Edwards PPCREs XXVI (Chatham 1901),p 73; Maj Turton 'The Defence of Christiana' REJ
XXXI (1901),p 126.
were less vulnerable to artillery and there was less need for resupply. Reducing the logistic bill and hence the need for convoy guards freed yet more troops for offensive action, while there was less risk of stores being captured. In the guerrilla phase the Boers largely survived on captured supplies.

The Engineers 1899-1902

South Africa demonstrated that the sappers were vital in modern war. The war initially demanded the construction of defences and later the erection of thousands of miles of blockhouse lines and barbed wire. During the British offensive manoeuvre demanded a range of engineer tasks ranging from the improvement of drifts to building bridges. Growing technological complexity also increased their importance. Sappers had to operate WT, traction engines, cars, balloons and searchlights, as well as surveying, photographing and minelaying. The logistic construction tasks necessary in an undeveloped country were vast. Engineers constructed miles of railway, hospitals capable of accommodating 26,000 men, 210,000 square feet of covered storage and barracks for 16,000 troops. Most sapper tasks were logistical in nature, rather than combat engineering. By mid-1900 the RE strength in South Africa exceeded 5000, excluding local forces.

The REs analysed the war's lessons carefully. CREs commented that field companies must carry more digging tools, suggesting that entrenchment would be more important in future. They stressed engineer mobility. Improving routes was essential for mobility, but marching sappers moved too slowly to start work sufficiently far ahead of the main body of troops. Furthermore that sappers marched meant that they were

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61 RCWSA Evidence II p 424; WO 108/295 p 1; Map I. The defences gave all-round defence and were later adapted to defending towns and areas, Amery THWSA VI p 336.
62 Capt Grant BROHWSA IV (1910), Appendix 2, they provided a fixed line of stops to assist the drives.
tired before beginning hard work. Maj Hunter-Weston stressed that at least one RE troop per cavalry brigade was needed. Hitherto there had been one troop for the whole Division. Digging tools and explosives must be packborne, consequently with greater cross-country mobility, while the Cavalry Division required a CRE for coordination. Hunter-Weston noted that even cavalry had entrenched. This suggests that greater firepower had increased the importance of dismounted tactics.\textsuperscript{66} General Wood, the Chief Engineer, stressed that the infantry divisional CRE’s position was unsatisfactory; he should be on the divisional staff to ensure: ‘the fullest and quickest direction of the Engineer Arm.’ This also would have also increased inter-arm cooperation. He made the same point to the RCWSA, recommending more mounted sappers, pontoons, telegraphists and signals material.

The general consensus was that South Africa had increased the REs’ importance and that sappers must therefore be more integrated into tactics. This recognises the importance of both protection and mobility, and that warfare was becoming more technical.\textsuperscript{67} It was not an entirely new lesson as Hilyard’s Committee had made similar points.

Technology 1899-1902

New equipments were generally assigned to the REs so technology is covered here. The Army Board showed no reluctance to use technology in South Africa; indeed flying machines were the only significant device declined. As they had not yet been invented, the Board’s refusal may be attributed to prudence and not innate technophobia. Langley’s aircraft, commissioned for the Spanish-American War, did not fly until 1903 with less than satisfactory results.\textsuperscript{68} The Board saw merit in armoured cars but referred them to the RE Committee. Dipping needles to detect buried Boer

\textsuperscript{66} Ibid pp 7-8, 24-5; Ibid p 72; French saw a CRE as essential in a cavalry division; Watson \textit{REs} III p 43.\textsuperscript{67} WO 108/246 pp 8-9 CE Appendix 1A.; Glossary; \textit{RCWSA Evidence} 1 Qs 2221-4; WO 32/6805 p 5.\textsuperscript{68} WO 108/307 p 117; \textit{The Times Two} 16/12/03, p 7.
guns, WT, cars, armoured traction engines, extensive use of telephones, all featured in South Africa. Baden-Powell flew photo-reconnaissance kites, while balloons were used to control artillery and locate hidden weapons. A searchlight section deployed in early 1900, and numbers increased from a few commandeered lights in 1899 to some 250 in 1902. This reflects the importance of night operations.

In South Africa distances and dispersion demanded efficient signals as in Tirah. For the first time in 1899 the RE Telegraph Division laid telephone lines to outposts. The prime issue in South Africa, however, was not technological but organisational. More signallers were needed, especially by field artillery which had abolished them in 1899. More signalling equipment was vital and more signallers had to be mounted as they could not otherwise keep up with mounted HQs. In the besieged garrisons comprehensive communication systems were established which allowed their commanders to control from central positions. White attributed the repulse of the Boer attack in January 1900 to the telephone system which enabled him to coordinate the defence. French, outside Colesberg, commanded across a 33 mile front by field-telegraph and heliograph. Telephones were used on the battlefield; French telephoned for reinforcements before Elandslaagte.

The Army laid 9361 miles of telegraph-wire along blockhouse lines and installed nearly 2000 telephones, over 50 exchanges and 18,236 miles of line. The Army hired a WT contingent from Marconi’s, supplementing this with sets seized from the Boers. Several wireless trials were conducted and the Ladysmith garrison improvised a WT set. Professor Travers has argued that the Army had an anti-technology bias before 1914; this does not appear to be the case between 1899-1902.

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Improving Protection

Defence

Defensive tactics changed after 1902, when, due to greater firepower, defensive norms were cut from 10,000 to 5000 men per mile. This contained a margin for counter-attacks. When these were not envisaged, norms could be further reduced to 3000. Thinning-out defenders made enemy shelling less lethal as the defenders were less concentrated, while ground could be better used. Thuillier, citing Callwell, estimated that these norms could be reduced even lower. This meant that the same number of troops could hold longer frontages. Consequently outflanking movements, made more necessary by increased firepower, had to be pushed even wider, further complicating manoeuvre. These post-1902 defensive norms were greater than those used in South Africa; however contemporaries felt that European armies were more likely to assault than the Boers. Hence positions had to be held more strongly. Thinning-out also meant that initiative was delegated. Many argued that thinning-out also aided offensive action; more troops could be freed for attacks, rather than being tied down holding the attacker’s own defences.

Contemporaries felt that: ‘new weapons have greatly increased the tactical strength of the defensive side.’ CTrg 1902 acknowledged:

entrenchments... are the special prerogative of the defence, and by their aid a position could be rendered practically impregnable.

However, heavily entrenched positions could be outmanoeuvred, a reason advanced for developing mobility, or attacked by night.

Smokeless ammunition meant that defensive tactics now emphasised concealing positions. CTrg 1902 saw that well-hidden defenders were able to surprise rash

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74 Thuillier Principles p195; Lt Col James Modern Strategy (Edinburgh 1903), pp 140-1; CTrg 1902 p 16. Chapter 5.
attackers. *IDB 1896* had not mentioned this point. *CTrg 1902* suggested that gaps between positions were acceptable if they were covered by fire. This was a South African lesson. Defensive artillery tactics put far greater stress on avoiding artillery duels from 1902. Also *FAT 1902* emphasised:

> In all military operations, concealment of plans and dispositions is all important... Firing from behind cover and from concealed positions should be resorted to whenever practicable and no guns or emplacements may be placed on the skyline where they are easily located. Gunpits... must be provided.

*FAD 1896* had not contained these points, while *MME 1899* had remarked that:

> ‘[a]rtificial cover for artillery will be very rarely, if ever, used [in field operations].’

The new manuals gave more space to defence than did *IDB 1896*’s Part V. But like *IDB, CTrg 1902* stressed counter-attacks.

**Entrenchment**

Montgomery-Massingberd argued in a staff college paper that South Africa had taught the Army the value of entrenchments. His DS did not criticise this and, judging by the weaknesses outlined above, his argument has force. The postwar manuals emphasised digging. Improved spades were introduced in 1900 and the number of digging-tools in battalions doubled. Trench-designs altered to become deeper, narrower and traversed against enfilade fire. The manuals advised digging during attacks. This did not mean sapping attacks, although Buller had envisaged these on the Tugela, but the immediate consolidation of captured positions to provide firm bases for further advances.

*MME 1901* emphasised concealing trenches and recommended that communication trenches were dug in the field. Hitherto they had been only used in

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75 *FAT 1902* p 15; *MME 1899* p 50; Chapter 4. Entrenchment was always important in sieges.

76 MMPs 2/4 ‘Paper on Field Entrenchments’ p 1. He probably meant by arms other than the sappers who were well aware of its value.

77 *MME (Provisional) (1903)*, p 9 totals 684; *MME (Provisional) 1901* is 404. *(Provisional) MME 1899* p 3 328; *IME Part I Field Defences (1902)*, p 15; *(Provisional) MME 1899*, pp 47-9; *ME 1* (1902), Plates XIIa & XIII; Glossary.
Surprisingly, after a war which saw massive use of barbed wire, *MME 1903* did not cover it in more depth. But *Field Defences* saw wire as the: ‘best of obstacles,’ noting its speed of construction, the difficulty of destroying it and that it did not block observation or fire. These points had not appeared in the prewar edition. They suggest South Africa’s influence.

**Fieldcraft**

As postwar norms for manning defences reduced, those for extension while moving increased. In 1899 infantrymen moving were as close as a yard apart; in 1902 they extended up to 30. Both changes demanded more low-level initiative, both facilitated fieldcraft, allowed the better use of ground and enhanced protection. *IDB 1896*’s section on extended-order drill was rigid and put little emphasis on fieldcraft. Contrasting *IT 1902* explained why fieldcraft was important:

Troops are formed as skirmishers for the following reasons:- That they may not present a favourable target... That they may escape observation when reconnoitring; and enable them to take advantage of cover.

It stressed that the: ‘paramount importance of concealment must be impressed on all ranks,’ warning that poor individual fieldcraft could betray collective movement. This partly confirms the point made at the start of the Chapter that protection is more affected by individuals than firepower or mobility. *IT 1902* saw extension between soldiers as ranging from 5-15 paces and possibly more. It stressed careful individual instruction in the use of ground both as cover for movement and as fire positions. It ordered, unlike *IDB 1896*, that soldiers were to be practically trained in crossing ground with individuals selecting their own cover. Unlike *IDB 1896* soldiers were allowed to deviate from the line of advance to use ground. *IT 1902* emphasised that commanders should not expose themselves unnecessarily and that they were to use cover.

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78 *MME (Provisional Edition) 1901*, pp 50-50A. Communication trenches were common in siegewarfare.
79 *MME 1903* has an additional illustration of barbed wire, Plate XXII.
80 *IME I Field Defences* (1902), p 80 contrasts with *MME 1899* pp 56-7 and *IME Part I* (1894), pp 68-9.
81 *IT 1902*, p 142; Ibid pp 135, 144, 147, 149.
1896 had forbidden using the prone position within 500 yards of the enemy, presumably to maintain control. *IT 1902* ordered: 'skirmishers will invariably ...lie down.'

*IT 1902*’s S154 forms the basis of the Army’s fieldcraft instruction. It recommended avoiding bunching and exposure on skylines, stressed selection of ground, firing round rather than over cover and careful individual fieldcraft training.

Even before *IT 1902* was published, training at Hythe had started to change.

During the past year [1901] certain practices have been introduced framed with a view to teaching individuals to utilise ... ground for cover ... These practices take the form of individual instruction in skirmishing... The result has been very satisfactory. Such practices have been introduced in the revised ... Musketry Regulations.

That Hythe held trials before changing *MRs* suggests a more logical method of tactical innovation. Hythe’s methods were also introduced in India. The 1901-2 Indian Musketry Circular recommended that the individual soldier received training in:

- how to get over [ground] without exposing himself, how to utilize cover, to get into a position to fire... Widely extended formations have increased the necessity for independent action on the part of the soldier and he cannot always depend on having someone at hand to tell him where to go and what to do.

It noted that using cover was now being taught but British troops’ progress was poor.

*MRs (Provisional) 1903* included using fieldcraft in rangework. They stressed cover, entrenchment, adapting formations to circumstances and that: ‘[i]nvisibility (sic) has acquired an importance second only to fire effect.’ They forbade close formations when troops were in sight of their targets. *MRs 1898* did not mention fieldcraft and gave no instructions on tactics or initiative. They had no mandatory practices involving the use of cover. Nine of *MRs 1903*’s practices included fieldcraft. The musketry schools and the musketry staff, who existed in all major commands, had real potential to improve fieldcraft army-wide by enforcing these regulations.

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82 Ibid p 141.
83 Musketry Report 1902 (1903), p 5.
85 *MRs 1898* had an attack practice, but there was no certainty that cover was used; Tables 17, 18.
The other arms gave more attention to fieldcraft in training. Parsons stressed more attention to the: ['[p]rocedure of occupying [gun] positions unseen' and to the: [u]se of ground to conceal movement.' CT 1904 emphasised dismounted skirmishing, fieldcraft and using cover. This suggests that both the Cavalry's tactics and culture were altering.86

Outposts

CTrg 1902 stressed the concealment of outposts and was far more emphatic on the need for fieldcraft by individual sentries than IDB 1896:

To see without being seen is the first maxim of outpost duty... The more an enemy is kept in ignorance of the strength and position of the outpost troops, the greater will be his uncertainty... All troops on outpost must be carefully concealed.87

CTrg 1902 saw that the best position for sentries at night was in lower ground so that enemies crossing a crestline were skylined.88 It was a South African lesson. IT 1902's treatment of outposts differed from IDB 1896:

If an enemy is so continuously watched that he can make no movement without being observed, surprise is manifestly impossible. The first duty ... of the outposts is RECONNAISSANCE (sic).89

This demanded more active conduct of outposts with emphasis on patrolling and scouting rather than IDB 1896's static posts. This also links in with the greater stress on mobile reconnaissance. The change also required more low-level initiative.

South Africa like Tirah emphasised many practical points on concealment, camouflage, including adding foliage to helmets, avoidance of skylines and vigilance.90

General Protection

CTrg 1902 devoted a chapter to protection. It covered this topic in more depth

86 ARSG 1901 (1902), pp 15,17; CT 1904 pp 54-6.
87 MRs (Provisional) 1903 p 47; Table 18; Ibid pp 24-26; CT 1904 pp 53-56, CTrg 1902 p 108.
88 CTrg 1902 pp 109,126-127. IDB 1896 p 193 placed them on the forward slope.
89 CTrg 1902 p 107.
90 IT 1902 and IDB 1896, pp 43-4 &80 respectively; Lt Tulloch 'Some Notes on Outpost Duty in South Africa' JRUSI XLVIII (1903),p 1161.
than *IDB 1896*’s Part VI. The latter, outlining protection, was curiously not included in
*IDB*’s section on ‘Combined Tactics,’ though this part was apparently intended for all
arms. ¹¹ 30% of *CTrg 1902* was on protection; attack accounted for 12% and defence
10%. ¹² The work emphasised protection’s importance in advances, withdrawals and in
positional fighting. It laid down general protective principles. It is not possible to
compare *CTrg 1902* and *IDB 1896*’s treatment of protection quantitatively as the two
works are pitched at different levels, but the former’s stress on protection suggests
South Africa’s influence.

**The Engineers and Technology**

South Africa was the first major war in which the CinC, Kitchener, was an ex-
sapper. Other engineers rose to prominence there. Like the RA, South Africa caused a
substantial increase in the REs; afterwards some 65 officers and 1970 sappers were
added. They were organised in a variety of units ranging from railway companies to
balloon sections. The REs were becoming seen as the fourth combat arm. More sappers
attended Camberley after 1902, and more, as Wood’s Committee had recommended,
were selected to command formations. ¹³ As Table 30 suggests British infantry divisions
had more sappers than French and German formations.

There was no reluctance to advance technology after 1902. Searchlight sub units
were established. Field telephones were introduced and later field WT, after
experiments beginning in 1903. The Army introduced a comprehensive signals
organisation after extensive trials. Here the British were ahead of other European
armies, with significant results in 1914. Chapters 4 and 5 cover technical developments
in firepower and transport respectively. The Service press became interested in aircraft

¹¹ *CTrg 1902* Part V pp 94-140. This can be deduced as *IDB 1896*’s instructions are not limited to
Infantry, eg p 163.

¹² *CT 1902* attack pp 19-36, defence pp 36-50.

¹³ Brig Gen Baker-Brown *History of the Corps of [REs] IV* (Chatham 1952), pp 18, 51, 54; this was not a
smooth process from 1902, the 1904 Esher reforms impaired the REs’ position for a time.
relatively early. By 1914 5% of the Army’s budget was spent on the RFC and the British had a higher ratio of aircraft to formations than either France or Germany. Similarly Britain had more MT. Britain deployed considerable scientific effort to improve aircraft. The Army used aircraft more effectively in 1914 than the Germans who relied more on cavalry reconnaissance and failed to detect the BEF in consequence.94 This was despite the fact that the BEF, the westernmost army on the Allied front was located where reconnaissance was imperative for the Germans. This system was based on extensive trials, principally on the 1912 Army Manoeuvres, to develop air-reconnaissance and its associated C3.95 A thesis devoted to tactics cannot pursue the question of technology far but in summary British weapons and military technology was not inferior to that of other armies in 1914. There were differences but these can largely be accounted for by the differing roles of the armies.96

Conclusions

The growth of firepower and the introduction of smokeless ammunition emphasised protection more, enforced greater use of ground and cover, made camouflage worthwhile and enforced extension. In turn dispersion demanded greater low-level initiative. Similarly norms for attack and defence altered. These changes involving wider extension improved protection. Many of these features were first seen in Tirah.

The Army paid greater attention to defence after 1899. Defence was still seen as subordinate to attack but CTrg 1902 summed up their relative advantages and disadvantages well. The general view was that greater firepower, entrenchment and

94 Table 46; D Edgerton England and the Aeroplane (Basingstoke 1991), p 10. He emphasises that the scale of theoretical physics and engineering was substantial. Report of the Advisory Committee for Aeronautics for the Year 1909-10 (1910) shows 7 FRSs involved in the research; Brig Gen Edmonds MOFB 1914 I (1937), pp 59-60.
95 ED Brose The Kaiser’s Army (Oxford 2001), p 203; WO 33/620; Statement on the Army Estimates 1914-15 (1914)
96 Notably in the German emphasis on medium howitzers, but the Germans faced breaking through defences. This conclusion parallels recent scholarship on the RN, see J Brooks Dreadnought Gunnery and the Battle of Jutland (Abingdon 2005), p xii.
smokeless ammunition favoured defence. The manuals stressed that defence should be active. This was not new but South Africa had shown the dangers of passive defence. Commentators generally felt that the gain in defensive power was not totally inimical to attack. Now an attacking force could economise on the troops required to hold its own defences, thus freeing more for manoeuvre. Mobile troops who had manoeuvred to seize a position could retain it more easily due to their increased firepower. The Army's defensive tactics altered as a result of South Africa; afterwards firepower rather than thousands of infantry per mile was seen as the requirement. The postwar manuals saw that continuous lines were unnecessary; gaps covered by fire were acceptable.

Far more attention was paid to fieldcraft, the use of cover and concealment, avoiding skylines and entrenching both infantry and artillery after 1899. Trench designs improved, and the scale and effectiveness of digging equipment increased. As Roberts pointed out to the RCWSA, delegating initiative improved individual performance in entrenchment, outposts and fieldcraft. South Africa saw the most extensive engineer commitment since the formation of the Corps. The engineers were becoming accepted as the fourth combat arm.

The Army exploited technology in South Africa; the most significant innovations were MT, the emergence of QF technology and the extensive use of telephony, telegraphy and the pioneering use of WT. The new emphasis on signals reflected weapons' lengthening ranges. This had also featured in Tirah.

Protection, when implemented, occurs at lower tactical levels than firepower or mobility and demands low-level initiative. Thus the emphasis on protection and its component, fieldcraft, from 1899, suggests that the culture of top-down control was changing due to the effectiveness of modern weapons.
Chapter 7 Initiative, Discipline, Education and Training

For e' might have gone and sprayed 'em with a pom pom,
Or e' might 'av slung a squadron out to see,
But 'e wasn't taking chances in them 'igh and 'ostile krantzes-
He was markin' time to earn a KCB,
(Panicky, perishin' old men),
That 'amper an 'inder and scold men,
For fear o' Stellenbosh!

Introduction

Verse rarely tackles military problems, so that Kipling wrote on defective
initiative in South Africa suggests how serious the fault was. He also diagnoses that
severity inhibits risk-taking with adverse tactical results. Clearly the British were
tactically centralised in 1899 despite the lessons learned during Tirah. This Chapter
demonstrates firstly that from 1899 the Army attached great importance to inculcating
initiative. Firepower had caused battlefields to become extended and complex. On these
coherent combat with commanders exercising close control proved impossible. Instead
fighting had developed into interrelated skirmishes which demanded individual
initiative.\(^1\) Secondly it shows that inculcating initiative required substantial changes to
training, education, discipline and administration. All altered either to enhance initiative
directly or, if not expressly so intended, the changes would have been beneficial. That
so many measures were used to inculcate initiative suggests the change's importance.

Here a definition of initiative is appropriate. There are two military meanings: the
first is the ability to dictate combat's pattern and pace. This is generally connected with
the attack, and the related factors of surprise and tempo which have always proved
formidable military advantages.\(^2\) This Chapter considers initiative's second meaning,
the ability of subordinates to act, either without orders or when these have become

\(^1\) There were confused battles previously, eg Inkerman. But commanders could control tactically in the
musket era, eg Wellington at Waterloo. By 1900 this had become impossible. Though Symons, Buller and
Methuen were not personally equal to Wellington, their failures at Modder and Colenso were primarily
systemic caused by enhanced firepower. All three went too far forward and became casualties.
inappropriate, to further the overall aim. This qualification emphasises that reckless action, however independent, is often disadvantageous. Thornycroft's abandonment of Spion Kop showed independence but did not further Buller's plan. Those exercising initiative must therefore show judgement. This has further implications, demanding the development of doctrine, principles which guide decision-making without being unduly prescriptive.

The two meanings of initiative are connected; surprise and tempo, needed if the initiative is to be won, are impossible if requests for decisions have to be laboriously passed up the chain of command and orders then transmitted downward. Manoeuvre depends on gaining the initiative and consequently demands timely decision-making. This Chapter concentrates upon the second definition, but juniors displaying initiative are more likely to increase tempo than the inert, thus aiding manoeuvre and gaining the initiative in the first sense.

**Initiative and Firepower**

One of the Army's most significant changes, which occurred during the magazine rifle era, was largely invisible, both to contemporaries then and to historians now, but nonetheless was critical. Essentially it switched from centralised to delegated tactics allowing subordinates initiative. The new weapons forced dispersion and compelled the use of ground as cover against fire. Commanders now were more vulnerable to longer-ranging, more accurate fire, while smokeless ammunition meant that no longer could a company, let alone a CinC, gauge the enemy at a glance. His own troops, dispersed, hugging the earth, were hard enough to find, let alone command. Tactical communications were weak so juniors had to be allowed initiative. Wellington had allowed little freedom to his senior commanders; in the magazine rifle era sergeants,

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soldiers even, had to exercise more initiative than the Duke’s officers.\(^5\) It was a profound alteration and far from being limited to tactics. The Army’s culture of top-down control had to alter with deep implications for discipline, education and training.

**Initiative, Society and Culture**

Military initiative has a cultural component influenced by society-wide forces as well as more narrowly military factors. In Russia, autocratic control combined with a military culture, extending back to Suvorov, of mass and shock, exacerbated by poor education, curbed initiative. British officers from the Crimea to Manchuria criticised the resulting Russian inertia.\(^6\) How far wider trends in Britain, the growth of education being but one, influenced initiative from 1897 is hard to say. There clearly was an effect but contemporaries hardly acknowledged it.

In an Army, with Infantry and Cavalry regimentally based, unit cultures were significant, variable and resilient, ranging from the Gordons’ sturdy independence, disdain for staff and Staff College and strict drill tradition, to LI’s delegation and initiative.\(^7\) A veteran LI CO commented of them:

> Such were the principles instilled into me when I joined the 43\(^{rd}\) as a boy of eighteen. Such are the principles that I have tried to carry out all my life. Such are the principles that made Napier … describe the 52\(^{nd}\) as “A Regiment never surpassed.”\(^8\)

LI’s role in dispersed combat had developed initiative, internal discipline and leadership in the late 18\(^{th}\) and early 19\(^{th}\) Centuries. Now modern weapons were making these qualities necessary for all infantry. The LI revival did not cease in 1899 and many recognised the importance of LI principles in instilling initiative. Some non-LI officers

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\(^5\) ‘Regimental Officer’ ‘Musketry and Discipline’ *USM XXIII* (1901), pp 367-8; Col Marshall *Men against Fire* (NY 1947), p 129. Marshall’s methodology has been highly criticised, but few combatants would dispute his conclusion; J Keegan *The Mask of Command* (1987), p 132 passim.

\(^6\) Col Mercer *Give Them a Volley and Charge* (1998), p 7; Chapter 8.

\(^7\) Gen Hamilton *Listening for the Drums* (1944), pp 69-71. But their culture was changing by 1899; Lt Col Maurice ‘The Use and Abuse of the Initiative’ *AR VII* (1914), p 5.

\(^8\) Lt Col Clark ‘The Maintenance of Discipline’ *OXLI III* (1894), p 212.
consciously used LI methods in training after 1902.\footnote{Chapter 2; Gen Haldane \textit{A Soldier's Saga} (Edinburgh 1948), p 270. Haldane was non-LI, and, though his comment was made decades later, it is corroborated by his \textit{Notes on Training} written pre-1914.}

Initiative was not uniform across the combat arms due to their differing tactical requirements. Infantry, less LI, had traditionally fought in close order under tight control, with, as Callwell recalled, adverse results:

a field gunner brought into close relation with any infantry battalion at the time [the late 1880s] could hardly fail to disapprove of the general principle governing its internal economy. \textellipsis{} [C]entralisation was the key-note of the system, with adjutant for focus, and senior captains \textellipsis{} seemed to have less authority \textellipsis{} than I had enjoyed ever since \textellipsis{} first joining a battery.

This is secondary evidence, yet a general's reflection after a lifetime's service has value.\footnote{Stray Recollections I (1923), p 294. Brig Bidwell \textit{Gunners at War} (1970), p 58 corroborates Callwell.} Cavalry nominally had the Squadron System which should have fostered initiative, but its implementation was patchy.\footnote{Glossary; HA Gwynne \textit{The Army on Itself} (1904), p 69. HowPs 8/4/1 Letter 16/12/13.} But cavalry, massed for shock action, were necessarily under close control, and it was precisely in tactically decentralised duties that they were to fail in 1899-1902.\footnote{WO 163/11 'IGF Report 1905' pp 178-9; Bidwell \textit{Gunners} pp 42-3; Maj Williams-Wynn 'The Brigade System in the RFA' \textit{PRAI} XXXII (1905), p 18.}

Field artillery was decentralised but this was reducing; longer-ranged weapons, the resulting ability to concentrate and the need to coordinate fire meant that batteries were becoming permanently organised into units. Qualification is necessary, however. Batteries were allowed considerable freedom, and in manoeuvre centralised control of artillery was hard. Thus it would be hard to argue that field gunners needed more or displayed less initiative after 1899. Some, however, feared that centralisation would inhibit it.\footnote{WO 163/11 'IGF Report 1905' pp 178-9; Bidwell \textit{Gunners} pp 42-3; Maj Williams-Wynn 'The Brigade System in the RFA' \textit{PRAI} XXXII (1905), p 18.} Infantry and Cavalry were to be most affected by the need for increased initiative after 1902, though the RA also inculcated it.

**Initiative, Discipline, Education and Training**

This section examines the complex interrelationship between the above factors.

Fuller noted that tactical changes altered discipline and FM Wavell explored the
relationship, viewing discipline as: "simply... "the soldierly spirit."" He continued:

the discipline... now required... is not so much unquestioning obedience as that, when two or three are gathered together, there shall be courage and enterprise. And to my mind this... derives more from the... education hut... than... the barracks square...Forty years ago our battles could still be won on the barracks square as was shown at Omdurman. But it is certain that barracks-square methods can no longer win battles as the Boer War... taught us... [T]raining... should be directed to develop... individual responsibility and initiative of the soldier... [E]ducation... rather than drilling... is the foundation of discipline.14

Wavell states that a relationship exists between dispersed tactics, initiative, education and 'internal' discipline. Wavell, a South African veteran, had served throughout the change, thus giving him perspective, and he has a reputation as a thinking soldier; his views have therefore validity.

This thesis maintains Wavell's argument that the above relationship exists. Profound change in one factor will affect the others to varying extents. Tirah and South Africa saw major tactical change ie greater firepower which forced dispersion, thus initiative had to increase. To accommodate this discipline needed to become more 'internal' as soldiers were not under close control. They had to be better educated, far more had to use maps. As is shown later, training altered to cater for greater tactical complexity.

Initiative and Discipline

Dispersed combat demands intelligence and 'internal' ie self-discipline, based upon patriotism, comradeship, and regimental pride, fostered by leadership rather than top-down control enforced by 'imposed' discipline.15 In the Frederickian era discipline was external and ruthless: '[i]f a soldier... looks about to fly, or so much as sets foot outside the line, the [NCO] standing behind him will run him through.'16 In close-order

16 Gen Hackett The Profession of Arms (1983), p 123, citing Frederick the Great.
combat geometry made such enforcement possible; furthermore soldiers had to
take few decisions, even officers in line infantry or massed cavalry required little
initiative. In Tirah's nullahs, on the veldt, in dispersed combat generally, spatial changes
made external discipline unenforceable. Nor were superiors at hand to give close
tactical direction. Admittedly the British Army was not mercenary as Frederick's
largely was, while Georgian benevolence had matured into Victorian paternalism. But
despite these society-wide influences, taut 'external' discipline had survived in many
units:

the paramount importance of the very strictest attention... to... drill and the
minutiae of interior economy...[I]t is in the closest adherence to routine, to rules
and to orders definitely laid down that we must base the foundation of true
discipline.  

In consequence: '[t]he corporal will not do anything for fear of the sergeant ... the
sergeant will not move for fear of the Captain.' Switching to 'internal' discipline,
esential for dispersed combat, demanded profound Army-wide changes. Neglecting to
implement these had dire results in 1899:

[all] initiative in the soldier was sternly repressed. Independent firing was not
encouraged, because it was argued, the private, being "stupid" and improvident,
would hurriedly fire off all his ammunition. The clip loader... was rejected for the
same reason. "Crisp" volleys (which in war hit nothing) were preferred; ...at
Nicholson's Nek-this meant losing.

Professor French notes improvements in discipline after 1893. It is true that there
were fewer reported offences, although the decline accelerated far more later during the
period this thesis cover. But despite this improvement, the method of imposing
discipline remained 'external' before 1899. This is suggested by the poor performance
of detached duties in both Tirah and South Africa, tight administrative centralisation,

18 Lt Col Hutton Five Lectures on [MI] (1891), p 6. That Hutton was an LI officer who respected his
regiment's ethos suggests how dominant control was.
19 RCWSA Evidence II p 260; 'Efficiency in the Services' QR 196 (1902), p 279.
stress on control in the manuals and the still high rate of disciplinary offences.  

**Initiative and Tactics pre-1897**

Chapter 2 has analysed British tactics in 1897, this section examines their relation to initiative. Broadly close-order and control had remained effective against inferior enemies. Consequently:

[a] slavish obedience was enjoined upon the officer, ... he was taught to regard it as almost a crime to think ... Whatever he did, his superior stood over him; divisional generals meddling with the internal management of brigades, colonels with companies and so on.... A vast manual of many hundred rules and regulations contained provisions for everything ... Initiative was a word without meaning.

Many officers had not seen combat, and in Britain, with little threat of major warfare, administration was over-emphasised at the expense of training. One unit faced completing 61 administrative reports at intervals ranging from daily to annually. Red tape:

the prodigious accumulation of “checks and counter-checks” ...[is] the distinguishing feature of the British system, with the effective result that responsibility is abolished and initiative ... destroyed.

This emphasis on obedience was accentuated, as, pre-1899, much training was drill conducted by a troika of CO, adjutant and RSM. Drill had little value in modern combat, though necessary in the Sudan, and it absorbed time that could have been used for sub-unit tactical training. This damaged company and squadron commanders’ initiative. Once indoctrinated in obedience, officers passed this on, creating a culture of control. An anonymous article described the effects:

[t]he individual training which sharpens the wits of the soldier and teaches him to exercise his judgement in the use of ground and on outpost and patrol duties, was

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21 *BA LXIV* (1900), p 71; Col Maurice *Sir Frederick Maurice* (1913), pp 94-6 citing contemporary material.
22 *Efficiency*’ *QR* pp 279-80.
24 ‘Efficiency’ *QR*, p 274.
25 Lt Col Pollock *‘The Training of the Army’* *JRUSI* XLVII (1903), p 177.
quite inadequate. Mechanical volleys had usurped the place of intelligent skirmishing. 26

Firstly this recognised training's importance in promoting initiative and that before 1899 it had been defective. Secondly it links initiative and ground explicitly, contrasting skirmishing and volleys.

The AG's department, responsible for training, was seen as hostile to tactical initiative and Buller, AG between 1890-1897, was regarded as a centraliser. 27 Whatever the prime cause, the results harmed both initiative and realistic training. There were of course exceptions. Maurice and Wolseley had emphasised initiative, while LI, the RA and IA generally allowed young officers more responsibility than line units in Britain. 28

Connaught tried to foster initiative at Aldershot while IDB 1896 endorsed it:

Local circumstances ... may render the precise execution of ... orders... impractical. Delegation of command is a necessity, and commanders must ... take every opportunity of training their subordinates in accepting responsibility... [M]odern warfare renders it imperative that all ranks should be taught to think... and ... act for themselves. 29

This, however, was heavily qualified as it also emphasised volleys and omitted fieldcraft and skirmishing, both demanding individual initiative. 30 Judging by Tirah and 1899, IDB's endorsement of initiative was largely unimplemented. Here one encounters the gap between injunction and implementation. To introduce low-level initiative required more than a few sentences in a drillbook. Col Maxse summarised the problem's cause:

the home training of the British officer before [1899] was calculated to stifle the most precious qualities an officer can posses... resourcefulness and initiative. 31

When officers' initiative was curbed, the situation was worse for soldiers.

26 'Official Despatches' EDR CXCII (1900).p 304.
27 BA LXVII (1901).p 534.
28 Lt Maurice The System of Field Manoeuvres ... (Edinburgh 1872),pp 10-11,23-5. But Parsons felt that some gunners were hidebound, L/MIL/7/10839 'IAR 1902-3' pp 4-5.
29 ANG XXXVII (1896), p 14; IDB 1896 pp 129-130.
30 Tables 17 and 18.
Immediate Analysis

Criticisms of poor initiative in Tirah were often oblique as Chapter 2 argues, but in South Africa inertia was sharply attacked from the war's start. *The National Review* urged the need for: 'self reliance and individual initiative in...officers ... and even in each ... private.' Initiative was vital in modern fighting and increasing it was the most urgently needed reform. The magazine, edited by Col Maxse's brother, had naturally good links with Service opinion. An officer described an extended-order assault:

the men could not possibly be under the immediate control of even section commanders... [they] must be trained to act independently...Volley firing would be practically impossible.

He also identified the relationship between training and initiative. Roberts' Pretoria committees emphasised initiative. A Cavalry Board criticised poor-quality personnel, suggesting that improving standards would enable more initiative to be delegated and looser formations introduced, while 7 Division recommended that:

greater efforts be made in our peace training to develop the individual intelligence of the soldier, and make him think more for himself, so that when necessary he would be more able to act on his own initiative.

This confirms that prewar training had impaired initiative. Gen Pole-Carew urged adoption of double companies, the infantry equivalent of the Squadron System and NCOs' importance in action. Strengthening sub-units organisationally enhanced low-level initiative by weakening COs' powers, while Pole-Carew's recommendations were key features of the German methods of inculcating initiative. That Roberts' committees, which sat during the war, stressed initiative suggests the importance of improving it.

Buller complained: 'our Officers lack initiative and independence of spirit.' He

32 'Greater Britain-Lessons of the War' *NR* XXXIV (January 1900), p 960.
33 Chapter 2; 'Akela' 'Ladysmith' *The Bugle* (DLI) XII (1900), p 3363.
34 WO 108/250 p 3; WO 108/254 p 12; Chapter 3.
somewhat unfairly blamed WO overregulation for the defect, as AG he had been
responsible for training policy and discipline. Capt Vaughan remarked:

[a]ll ranks must be taught to think. The greatest fault in our training is that in
peace subordinates never think for themselves. 36

Vaughan, a South African veteran, writing at Camberley in the aftermath of the war,
suggests the direction of the future elite’s thinking. Lt Col Morrison condemned lack of
initiative, recommending less rigid training, while Lt Walker stressed: ‘Infantry must
learn individually to act and think for themselves.’37 Gen Wood criticised the state of
low-level training, which he saw was becoming more important as weapons forced
dispersal:

Every report from South Africa leads to the conclusion that our rank and file are as
untrained as they are brave, and the failures in scouting, in outpost work, in taking
cover, in improving shelter, and in nearly all those duties which it is the province
of the Company Officer to teach, are ... notorious.38

Many of Wood’s criticisms involved poor initiative, while his candour, as AG he was
responsible for training, suggests the problem’s scale. The Akers-Douglas Committee
later attributed defective officer initiative to poor training.39 Roberts emphasised to
Lansdowne that the:

treatment of our soldiers in the future must be very different from what it has
been in the past, both as regards life in barracks and training for war. Men must
be left much more to their own resources, and taught to think for themselves.
The Colonials are far ahead of our men in all [MI] work. They can take care of
themselves and do not work as if they were parts of a great machine.

His reference to ‘MI work’ suggests the new importance of detached duties. The
Army’s stress on mobile operations increased the significance of increasing initiative.

Roberts also suggests the importance of administrative measures in improving initiative

36 BULPS 2065 M/SS4/18 ‘Further Papers ... Natal Army’ M3 27/11/00 p1; Vaughan ‘Cavalry Notes
South Africa’ JRUS/XLV (1901), p 454.
37 ‘Lessons to be Derived from ... South Africa’ JRUS/XLV (1901), p 822; ‘The Infantry Attack
Supported by Artillery’ JRUS/XLV (1901), p 1324. Both authors were South African veterans.
38 BalPs 13/33 ‘Wood Memorandum 4/10/00’ p 2. Wood had already started remedial action.
by encouraging higher-quality recruits to enlist. 40

After the war a wide range of individuals analysed defective initiative. Maj Ellison blamed many South African failures on over-control which had consequently caused officer inertia, commenting that:

the importance of the company commander’s role in modern war had not... been recognised... Speaking broadly, the main tactical teaching of the late war has been that the individual ..... training of every officer and man .... increases in importance in direct ratio with the improvement in weapons...even in the lowest ranks, intelligence, self-reliance, and technical knowledge have been found ... indispensable. 41

Ellison aided Henderson in preparing CT 1902 and had close links with Balck. His stress on companies followed Germany’s example. Gen Warren warned:

the... mechanical duties ... inculcated by ... Frederick were in his day necessary..., yet nowadays they go against success; still we require mechanical drill, but it is that which develops individuality... The soldier can no longer be treated as merely part of a machine.

Warren’s analysis of drill may appear confused, but that an officer, who was seen as authoritarian, urged more initiative suggests the depth of change. 42 Others were equally forceful:

The rigid discipline which discourages individual initiative, requires to be replaced by an intelligent system of tactical education, the aim of which is to teach men to cultivate ... self-action and self-control. 43

The National Review criticised poor scouting and outposts as one of the war’s main lessons, blaming these defects on the Army’s destruction of initiative. 44 ‘Regimental Officer’ recommended that:

skirmishing and attack practices... to take the place of the endless barrack-square drills. Individual action to be encouraged at all times, and the recruit taught to think and act for himself (sic). Interference... to be discouraged once a man is trained. 45

40 RPs 7101-23-110-3 F731 2/8/00; Chapter 2.
41 EPs 8704-35-33 ‘Some administrative lessons of the war II’ pp7-9.
42 ‘On Discipline’ NR XXXVIII (1901),p 629. He allegedly arrested Churchill at Spion Kop!
45 ‘Regimental Officer’ ‘Lessons of the South African War’ USM XXIII (1901),p 74.
Lt Col Walsh, an LI officer, recommended more interesting training and less drill, suggesting that delegation to companies would improve training and develop initiative. Walsh stressed scouts, sections and 4-man groups, which he felt were a good means of training the soldier: ‘to think and act for himself, and leaders to take the initiative,’ while double companies were: ‘the most important tactical fighting unit.’ The British made companies the infantry tactical unit post-South Africa. Walsh urged that:

[y]oung officers, [NCOs] and scouts should be trained ... to think and act for themselves and take the initiative as much and as often as possible.46

Lt Col Plowden, a Tirah veteran and LI officer, stressed skirmishing as it increased initiative. He defined it thus:

The men follow the lead of their officers, thinking and acting for (sic) themselves. By this is meant that they judge where to find cover, how to make the best use of it, when to leave their cover, when to fire... what to fire at... Hitherto these ... have been performed only by word of command. 47

This is another link between initiative, fieldcraft and independent fire, reflecting the fact that combat was changing towards interconnected skirmishes. Plowden had seen the need for tactical change during Tirah and he developed his analysis using South African material. If Plowden’s comments referred to his own unit, it would suggest that even some LI units were backward. He concluded:

our system stifles all initiative in officers and men, and we train both to dependence on immediate superiors, who in their turn depend on others ...[N]either officers nor men have the pluck to act independently.48

IDB 1896’s injunction on initiative had clearly not been implemented.

The Cavalry did not escape criticism despite the fact that the Squadron System, which should have promoted initiative, had existed since the early 1890s. Col Younghusband criticised the arm’s destruction of individuality; on extended battlefields: ‘we cannot promote too highly the individual intelligence of the trooper.’

46 ‘Battalion Training and Battle-Training’ USM XXIII (1901), pp 628,630-3.
47 Notes on Skirmishing (Lahore 1900), p 284.
48 Ibid pp 286,296.
Another cavalryman, Col Porter, remarked that South Africa: 'was a private soldier's war, as under the altered conditions he was compelled to act on his own initiative.' Col Graves recommended: 'individual (sic) initiative' and criticised centralising COs for suppressing it, while Lt Col Wogan-Browne remarked:

Our squadron leaders are so accustomed to act by words of command and to wait for orders, that it is difficult to make them act ... on their own initiative. It is the result of years of strict enforcement of the old regimental system, under which all orders emanated from the orderly room, and nothing could be done by the squadrons... [O]perations which gave scope for individual and independent action... were seldom if ever practised. Everything was strict methodical drill.49

This shows how generations had been indoctrinated by drill, as well as revealing how poor training had been before 1899. These criticisms of defective initiative suggest recognition of changing cavalry tactical priorities towards detached duties away from shock.

Four influential officers, Lt Cols Callwell, a future DMO, May, a Camberley DS and general, Pilcher, an MI expert and general, and Clarke, a member of the Esher Committee, urged inculcating initiative. Callwell considered that extension was tactically essential, deducing:

The more dispersed formation infantry assumes the greater ... the responsibility of subordinate leaders ...[I]t is the judicious leadership, to the soldierlike example and to the ready resources of captains of companies and their subalterns and sergeants that the regiment must look to.

This suggests commanding by leadership rather than by coercion, but he did not mention changing discipline directly. Emphasising companies recognised their new tactical importance. Callwell also saw arm-requirements differed: 'the infantryman and gunner may look to their officers; the trooper must look to himself.' Others later emphasised the need for high-quality cavalrymen, capable of initiative, suggesting the arm's growing tactical importance and the lesser tactical role of shock compared to

49 'The Horsemen of the Future' *MR* IX (1902),pp 83-4; *BA* LXVI (1901).p 20; 'Lessons from the South African War chiefly from a Cavalry point of view' *USM* XXIV (1901-02),pp 257-8 'What is Required to improve the Training of Our Cavalry in Peace Time?' *USM* XXIV (1901-02),p 265.
reconnaissance. 50

May, writing at Camberley, emphasised that we must: ‘do all in our power to make men reason and act intelligently on their own responsibility.’ Consequently training must be made more interesting and more books provided as they: ‘cultivate intelligence and I believe intelligence second only to courage as a military quality.’ 51

This is another contemporary recognition of education’s new importance and its links to initiative. May confirms Wavell’s analysis. Pilcher saw:

the necessity of developing the intelligence of the individual....under a hot fire neither battalion commanders, captains, nor section leaders will in future be able to exercise any great amount of control, and the man’s own resources in intelligence and courage will generally have to guide his actions.52

Pilcher apparently saw intelligence as synonymous for initiative. Col Clarke urged:

“Laputan methods” which waste the time and dull the intelligence of the soldier must be abandoned. If we have “stupid officers” and “infinitely stupider private soldiers”... they are the results of a system which tends to destroy the initiative and individuality that all sound methods of education must seek to promote. In place of prescribing formulae, which according to the egregious orders not long ago published at the Curragh, “are to be known by heart by all ranks who have passed their drills,” it is essential to cultivate the individual intelligence by every possible means. The days when mechanical obedience to accustomed words of command sufficed for the needs of an army have ended for ever.

Clarke stressed the importance of training at all levels as well as the need for systematic changes to increase initiative. Hitherto colonial campaigning had been a quicker means of promotion than professional study. Clarke felt that these campaigns were unrepresentative of major warfare and had damaged performance in South Africa.53

Influential civilians analysed initiative. Amery emphasised delegation, initiative, education and training, and, as NCOs were more important tactically than ever, he urged

50 The Tactics of To-day (1900), pp 57-8; 59;103; Chapter 5. Callwell suggests the change in cavalry tactics, as before 1899 shock action meant that troopers were under tight control.

51 A Retrospect on the South African War (1901), pp 41, 55.

52 Some Lessons From the Boer War (1903), p 44.

53 Training of the Army ‘The Times’ 28/2/01 p 8.
training them better. He argued that: 'the ordinary officer loses rather than gains in intelligence and initiative' while serving. Responsibility, particularly for training, was the remedy. Amery highlighted the need for intelligence, moral qualities and education as modern warfare demanded more of individuals. Gwynne, the chief Reuters correspondent in South Africa, writing rather later also stressed initiative and more extended formations. Consequently NCOs would have greater tactical importance. He summarised his influential respondents’ views as:

[m]uch has been gained in present Infantry training from the war, chiefly in the encouragement of individual action...By making the soldier feel that he is a real and necessary part...and by explaining the aim and object of his functions, his intelligence is being improved as well as, to a certain extent, his self-reliance.

Several commentators stressed the need to improve the quality of recruits to enhance initiative. Amongst them was Capt Cairnes, later Secretary of the Akers-Douglas Committee, while an anonymous article in Blackwood’s was explicit:

Every advance in military tactics has been dictated by the improvement in the weapon available...[I]t has remained for the Boer in the late war to effect a ... further tactical change by putting an independent, intelligent man behind the rifle... So we must conform ... and put intelligence behind our rifles...[T]he intelligence which we seek must not be blind or unreasoning: it must be that of the individual whom training has pointed out as fit to be intrusted (sic) with independent action when he finds himself away from a guiding voice.

The article urged that better-quality soldiers should be recruited; it then sketched one unit’s attempts to improve soldiers’ conditions. Another article stressed improving pay and conditions to attract better men, with special incentives for good SNCOs. It recommended the:

abolition of irritating small stoppages ... privacy in barracks, freedom of civil domicile to re-engaged soldiers... and a more enlightened system of training, entailing the cessation of much needless drudgery.

54 The Problem of the Army (1903), pp 192-195.
55 Ibid p199; Appendices E&F, pp 188-9; pp186,188.
57 Chapter 2; Capt Cairnes ‘Canteens’ NR XXXVIII (1901), p 437; Col Vincent ‘Lessons from the War’ USM XXIV (1901-2), pp 37-9; ‘The Elevation of Thomas Atkins’ BM CLXXII (1902), p 491.

217
Roberts had already made these points after Tirah. The quotation also suggests how an enlightened unit could improve discipline without leaving much trace.

**The RCWSA and Initiative**

As the above section shows there had been much emphasis on inculcating initiative during and after the war. The RCWSA attached similar importance to initiative. Paralleling similar conclusions made after Tirah, it noted that:

long-range arms and smokeless powder involve an immense extension of the lines of battle, diminish the power of control by [COs] and increase the degree of individual intelligence required in each individual private.

This implies the need for delegation and by ‘intelligence’ they clearly meant initiative.

Many witnesses, Roberts, Kitchener, French, Haig, Colvile, Crabbe, Ian and Bruce Hamilton, Hilyard, Hunter, Gatacre, Methuen, Paget, Plumer, Baden-Powell, Kelly-Kenny, and Wolseley stressed instilling initiative in subordinates. Buller wrote on initiative for the RCWSA. He saw financial responsibility as important for developing it. That these witnesses ranged from the older to the coming generation suggests the importance of improving initiative. Colvile, a Guardsman, criticised prewar priorities:

While a strong advocate of smartness and unbending discipline, I am inclined to think that the former quality has been given undue weight in the selection of [NCOs]. In battle a great weight of responsibility often falls on these men … it is of the utmost importance that they should be quick, intelligent, resourceful, and have an eye for country.

Later the Leinsters reinforced Colvile’s conclusions on NCOs; they considered that: ‘the South African War showed that the peace training of our [NCOs] was hopelessly inadequate;’ hitherto they had been selected for drill, not tactical leadership. Colvile’s link between intelligence and an eye for terrain is significant as is the indication that NCOs’ tactical responsibilities were increasing. Ian Hamilton also linked terrain,

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58 'Army Reform' QR 193 (1901), pp 196-7; Chapter 2.
59 Col Melville The Life of General Sir Redvers Buller I (1923), pp 264-5 citing a contemporary document which has not survived. It is possible that it was the document mentioned at fn 77 below.
60 RCWSA Evidence II p 286.
training, initiative and the new importance of NCOs:

peace training at Aldershot proved ... quite unsuited to ... South African warfare. This... was calculated to stunt rather than develop the initiative of company officers, section leaders and men. In the attack ... company commanders had little leisure to study the ground ... They were... absorbed in waiting for orders from some senior officer in the rear ... [NCOs] were ... ciphers.61

Several witnesses criticised privates’ poor education and intelligence, implying that these had damaged initiative. Roberts remarked that the private’s:

individuality had been so little cultivated that his natural acuteness was checked, and his want of resourcefulness, especially at the beginning of the campaign was marked.62

He diagnosed the remedy:

Resource and cunning in the field should be encouraged, especially at manoeuvres. Barrack-square drill and deadening routine should be reduced..., and competition introduced ...into... riding, shooting, skill at arms, detached duties as increased intelligence is essential to work in the field.

Kitchener commented that privates were:

too dependent on ... officers and lacked individuality... Before the war in all combatant branches of the Service, mechanical perfection had been cultivated at the expense of individual resourcefulness.63

Here Kitchener confirms how predominant drill had been before 1899.64 Haig felt that the: ‘main lesson ... is that modern conditions ... entail [the] higher training of the individual.’ Many older officers failed in South Africa because they lacked initiative; Kipling’s verse, cited above, had a general as its subject. Kitchener urged that officers: ‘should be induced to exercise their brains and strike out ideas for themselves, even at the risk of making mistakes,’ while depreciating: ‘dull routine which ... moulds [officers] into machines of very limited capacity.’ Readiness to accept mistakes represents a switch towards more realistic training. Chapter 9 develops this point.

French also felt that senior officers lacked initiative, while Roberts stellenbosched many

61RCWSA Evidence II p 112; ‘TT’ ‘NCOs of the Regular Army’ JLR I (1910),p 317.
64Chapter 4 shows that even the RA had been over-drilled.
senior officers for this fault, blaming COs for inert subalterns. Colvile, stellenbosched himself, diagnosed:

The greatest fault of our officers... lies in their want of initiative, ... I believe this to be entirely the fault of their superiors... [A] young man fresh from a public school ...is full of ideas; yet, if ... he venture to take any line of his own, ...it is a certainty that ... every senior officer within range will be thundering at him, and after a few such attempts he gives it up and in time he becomes one of the thunderers... It is far better that a young officer should make a few mistakes ... than ....he should become a ... puppet.

Colvile suggests how the Army’s culture curbed initiative and the importance of changing initial training to tackle this. Colvile’s frankness suggests how concerned senior officers were. Colonel Crabbe, another veteran, remarked that:

The responsibility of young officers and section leaders will ...be increased by ... greater extension.... due to ... modern small arms and smokeless powder; the more responsibility which can be devolved from the captain, first to the subalterns.... then on to the [NCOs]...the greater will be the intelligence and freedom ...[of] the company.

Crabbe recognised that companies required more initiative; this was a key feature of the German system. French insisted on allowing officers initiative and the chance to learn from their mistakes, while Baden-Powell, the new IGC, urged:

Junior officers should be given responsibility from their first entry...With officers accustomed to work on their own responsibility, and with men using their own intelligence working under them, senior officers will be able ...to give their subordinates a free hand...unhampered by the usual (and so often fatal) tugs on the check strings.

Dr Badsey has criticised Roberts’ selection of Baden-Powell as IGC, but the latter’s attitude towards initiative and training suggests another motive, the need for an IGC, sympathetic towards initiative, to inculcate it in an arm whose newly important detached duties demanded initiative. The Cavalry had not distinguished itself on them in South Africa.

65 RCWSA Evidence II, Q 19299; RCWSA Report pp 52,54.
66 Chapter 2; RCWSA Evidence II Q 17305; RPs 7101-23-188 Col Chamberlain/Lansdowne 28/8/00; BalPs 13/33 Roberts ‘Memorandum on a proposal ...’ p 4; RPs 7101-23-124-2 F478 ‘Minute Akers-Douglas Co;’ Correspondence relative to the recall of Major-General Sir HE Colvile (1901),p 3; RCWSA Evidence II pp 287, 308, Qs 17297-30; Ibid Q 20805.
67 RCWSA Evidence II p 419; Glossary; Ibid Qs 17297-30; Ibid p 424; Chapter 5; Badsey Fire p195.
Hamilton’s RCWSA Paper

Hamilton analysed tactics and discipline on extended battlefields in an annexe to the RCWSA’s evidence. This is one of the longest contemporary analyses of initiative and is significant in view of Hamilton’s later career. Hamilton described, in words unsurpassed by Maxse, how:

[a] brook, ... or imperceptible fold ... shelter a further advance. Half a dozen private soldiers may find themselves at this spot. If they possess sufficient training...together with new discipline, initiative and enthusiasm to take advantage of it, they will creep on ... [I]f, as a result, the enemy’s line is penetrated, even by a few men, the power of ... modern armament will make their flanking fire so ... effective that the position will either be abandoned...or... an assault may become practicable.68

Plowden had described similar tactics in Tirah, there are parallels with Boer tactics and an anticipation of 1918-style infiltration. Again initiative and fieldcraft are linked.

Hamilton highlighted modern weapons’ effectiveness. He recognised that discipline would have to change to complement new tactics and new weapons:

Let each little group understand the common objective. Then leave them to the promptings of their own consciences of what was right rather than to the dread of doing wrong.

This suggests switching from external to internal discipline. His point on objective reinforces the importance of all understanding aims in modern combat. By linking objective to small groups, who would not necessarily be officer-led, Hamilton indicates that combat would be less coherent. His comments on discipline and initiative, foreshadowed in Chapter 2, suggest that attitudes to these were changing. He later remarked:

Of all the rich windfalls garnered by Greater Britain from ... South Africa ... one of the best was her new Discipline (sic). Lessons learnt ... during ... Tirah ... had prepared our minds for the change and the fresh experiences of kopje and veldt soon convinced our officers that, in open country and during daylight, the ancient mechanical discipline ... could not be applied to the new tactics. Armament, necessitating ... wide extensions, isolated the individual. Neither by voice nor

68 Lt Gen Maxse The Soft Spot (1919), but this had been written during the First World War. It is one of the more important British works on infantry tactics. RCWSA Evidence II, p 108.

221
revolver could the captain [in 1900] dominate a firing line extended at [5-10] paces interval through the uproar ... of a battle. 69

This of course is not primary evidence, but, supported by primary material, written by an individual intimately involved in the process, it suggests how important the change was.

Conclusion

Many more stressed the need for low-level initiative than after Tirah. That commentators ranged from generals to civilians suggests the strength of South Africa's lessons. Their views were a decisive rejection of close-order tactics. The emphasis on initiative from 1900 suggests that the reforms in the 1890s had been inadequate. Increased firepower was the impelling force; it had clearly been underestimated before 1899. Contemporaries saw that links existed between initiative, tactics, education, training and discipline and that these factors needed to alter to improve initiative. The next sections examine the changes.

Inculcating Initiative from 1900

Inculcating initiative started during the war, while training was transformed with more extended-order work and greater emphasis on sub-units. 70 The Army overhauled its tactical manuals, stressing skirmishing and reconnaissance. Administrative simplification reduced centralisation, promoted initiative and freed time for training.

Remedial action began in Britain in early 1900, Wood, the AG, instructed the Royal Reserve and Militia that company commanders were to be given more initiative and that COs were to inculcate their officers with responsibility. 71 Wood's stress on company commanders suggests German influence. It may be argued that orders to the Reserve are unimportant, but with most regular units deployed, they are significant.

69 The Battalion on the Frontier (Lahore 1899), pp 16-17; The Soul and Body of an Army (1921), p 101.
70 Chapter 3.
71 USG (21/4/00), pp 312-3, see fn 38 above.
Wood’s timing, well before Roberts’ Pretoria committees, suggests how urgent introducing initiative was. Wood, inspecting Sandhurst in 1900, insisted that the cadets execute an outpost scheme instead of parading. The Deputy Commandant threatened to resign at this dangerous innovation. That the exercise involved detached duties requiring initiative was probably deliberate. Furthermore Wood had noted the poor performance of outposts in South Africa. That Wood acted so early suggests that Tirah may possibly have influenced him. Wood also stressed LI work, criticising its absence from the RMC syllabus. Sandhurst company commanders became more involved in training their cadets about this time. The new Hythe Commandant began revising musketry training with: ‘more emphasis on the individual which high authorities see as imperative.’

From the commencement of [1901] a good deal of weight has been given to skirmishing and to the use of the rifle in action generally. ... The standard reached in this training is, however, always disappointing... There is an absence of a sense of individual responsibility; combination, mutual support and intelligent initiative are wanting.

The timing suggests that Wood had initiated this change as Roberts left South Africa in mid-December 1900. In early 1901 Roberts recommended to Wood that more initiative be introduced into individual training. Wood claimed to have already started this from October 1900 before Roberts returned. By March 1901 Wood had ordered that company and squadron commanders were to be responsible for training their men. He saw this as the means of regenerating the Army. It was a key feature of the German Army.

Also in late 1900 or early 1901, Buller issued Observations on points on which

72 See fn 38 above; Chapter 2. One notes Henderson’s comments on Tirah’s effect.
73 Akers-Douglas Report p 2; Lt Gen Markham, Ibid Q 7461. Markham was regarded as ineffective so an external influence, an irate AG possibly, probably caused the latter change; Chapter 9.
74 USG (16/2/01),p 124; Chapter 4; Commandant Hythe Musketry Report 1901/(1902),p 5. The Commandant’s timing is imprecise, but as Roberts did not leave South Africa until December 1900, it is possible that Wood inspired Hythe’s instructions.
75 Midshipman p 259. This was written reasonably soon after the event described and, though the whole book is secondary evidence, this part may be argued to be primary. It is just possible that Roberts’ recommendation was made at the end of December 1900.
76 Col Maude ‘Army Reform’ MR II (1901), p 41.
South African Experience seemed to show how our system of training might be improved. Its precise form is unclear, but it was circulated with a reprint of Buller’s 1899 Training Memorandum. The latter, as Chapter 2 shows, had been influenced by Tirah. Observations may be linked with Wood’s efforts in 1900 to enhance initiative. It emphasised:

our Army lacks initiative and independence of action by subordinate commanders and independent and intelligent action [by soldiers]. In field practices drill ceases, and [COs] must ... allow more independence ... and educate all ranks to act more on their own initiative. It is better for a man during field training to do wrong than to do nothing.77

Later Buller criticised over-drilling, adding: ‘[i]t behoved officers to do their utmost to train the individual intelligence of all ranks.’ Separately he commented that close-order tactics cramped initiative. Buller stressed NCO initiative and scouting, criticising strict adherence to regulations. Though Buller did not command at Aldershot for long afterwards and therefore had limited ability to cause change, his views suggest how South Africa had changed attitudes to inculcating initiative.78 Before 1899 Buller had been seen as a centraliser. Gatacre at Colchester also enhanced opportunities for young officers and NCOs to exercise responsibility after returning from Africa. The acting CinC India instructed that all ranks were to show initiative, while the 1901-2 Indian Musketry Report criticised stereotyped tactics, noting that soldiers were now taught to use cover and did so intelligently. The Indian comments may represent Frontier as well as South African lessons.79

Roberts’ Memorandum on Musketry Efficiency, issued in 1902, stressed sub-unit training, itself fostering initiative, and that:

[i]nstruction in barracks and ...in firing exercises [is] designed to train individuals

77 It has not survived but is summarised in BA LXVI (1901), p 155. It is possible that Observations was based on Buller’s RCWSA paper, see fn 59 above.
78 USG (30/3/01), p 247; BA LXVI (1901), pp 178, 192; BULPS 2065M/add 2 SS-64-66 69-84 ‘Remarks at the Officer’s Clubhouse 17/9/01’
79 RCWSA Evidence II Qs 168448-53; ANG XLII (1901), p 941; L/MIL/7/2462 ‘Circular Memorandum Musketry 1901-2’ pp 5-6; Chapter 2.
to use their own intelligence and judgement...and ... to practice all ranks in selecting and making the best possible use of natural cover.\textsuperscript{80}

Roberts also emphasised to Kelly-Kenny, the new AG, that:

\begin{quote}
\textbf{[t]}he greatest care should be taken to teach [troopers] to scout in an intelligent manner... The whole system of instruction should be the encouragement of individuality.\textsuperscript{81}
\end{quote}

This instruction shows how much cavalry training had altered when it is compared with the \textit{CDB 1898}'s emphasis on drill. More or less simultaneously Roberts issued instructions on initiative, training and extended frontages.\textsuperscript{82} These do not survive, but are another example of contemporaries linking the three factors. That the CinC issued them suggests their importance. Also in 1902 the new manuals: \textit{CTrg 1902, IT 1902} and \textit{FAT 1902} stressed initiative far more than their predecessors. The whole suggests a coherent attempt to foster initiative.

Based on Wood's and Roberts' instructions, \textit{MRs 1903} had far less on volleys. It ordered: 'exercises in movement and fire must be set especially with the view of making [recruits] think and act for themselves. The new practices were based on independent fire and fieldcraft. Both required initiative.'\textsuperscript{83} Hythe was one of the Army's few central training schools; many infantry and cavalry officers and NCOs attended and it thus had Army-wide influence.

Some of the evidence cited above is incomplete, but collectively it suggests a powerful, coherent attempt to modify training and tactics to increase initiative. There does not appear to have been a pre-1899 equivalent, though Tirah had triggered some change.

'Infantry Officer' suggests that some results were already apparent by March 1901:

\begin{itemize}
\item [\textsuperscript{80}] \textit{BA LXVIII} (1902), p 427.
\item [\textsuperscript{81}] \textit{RPs 7101-23-124-2, F 479 7/5/02}: Chapter 5.
\item [\textsuperscript{82}] \textit{BA LXVIII} (1902), p 406.
\item [\textsuperscript{83}] \textit{MRs 1903} p 30. Tables 17&18; Chapters 4 and 6.
\end{itemize}
The new method of training ... is tending towards inculcating habits of self-reliance and independence ... [T]he private ... is to become ... capable of thinking and acting for himself, and not...a mere machine. The machine was good enough in the days of “Brown Bess” when troops could be manoeuvred in close formation to within 300 yards of the enemy; but now it is necessary to shake out ... at 1000 yards, it is obvious that men who may find themselves 10 or 20 yards from a comrade, and perhaps 100 yards from a section commander, must ... “play the game off their own bats.”

The article was on shooting, suggesting that contemporaries saw that the link between independent fire and initiative was important. The ‘new method’ may suggest the early results of Hythe’s changes, though the Commandant, as noted earlier, was less convinced on progress.

**Administration and Initiative**

The Army modified its administrative system to free time for training and to encourage initiative. The Dawkins Committee reviewed the Army’s clerical and administrative system to promote decentralisation. It noted that the:

> future training of the troops will be far more arduous and incessant... If [this] is to be done, officers and men must be given time in which to do it. Freedom from ... minute regulations will enable the soldier of every degree to increase his power of thought and...individual responsibility.

Its work was based on the principle of:

> Delegation of authority through the whole chain of command... so that every [CO], company, or squadron commander or officer, every [WO] and [NCO] shall have his sphere of decision.’

It was followed by another committee on simplifying regulations. The Special AO 1902 announcing the Army Corps organization also gave greater administrative freedom. This would have promoted initiative and, by reducing paperwork, would have freed time for training.

Service Pay, introduced in 1903, was another administrative method of improving initiative. It aimed explicitly at: ‘increasing efficiency’ by more pay for better

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[84] Chapter 2; ‘Army Shooting, and Its Improvement’ *BWM* CLIX (1901), p 320. Finkelstein attributes this to Lt Col Mockler-Ferryman, an LI officer.

[85] *RCWSA Appendices* (1904), Appendix 43; WO 33/2888 p 1; Special AO 4/3/02 pp 14-5.
performance; qualification being based on: ‘a fairly high standard of individual discipline ... physical and military efficiency.’ The cavalry standard was:

a good scout with ... knowledge of simple map reading, ...power of observation and reporting, a good horseman, groom, horse-master and man at arms. He should have an adequate knowledge of troop and squadron drill.

Mapreading was an essential soldier skill in dispersed combat and education was vital for it. Rimington’s brigade had issued all troopers with maps and Rimington linked mapreading, reconnaissance training and developing initiative. The Cavalry were encouraging mapreading throughout the arm. For infantrymen the standard for the award of Service Pay was: ‘a good skirmisher and should combine skill at arms with ... physical development.’ Arm-criteria stressed individuals’ abilities in decentralised combat. For cavalry collective skills were subsidiary to decentralised ones. Service Pay could increase a private’s income by over 50%, a considerable incentive. The repeated mention of ‘efficiency’ suggests the influence of the National Efficiency Movement, established because of South Africa.

That administrative measures reinforced tactical changes shows that the reforms were important, while such a combination was more likely to be effective in increasing initiative than just changing tactics.

Training and the Tactical Manuals

AO 189 of September 1901, amending KRIs, stated that: ‘efficient instruction and training of all ranks is ... of paramount importance.’ For officers it stressed: ‘the development of resourcefulness, prompt decision, and ... readiness to accept responsibility;’ for soldiers: ‘the development of individual intelligence and self-reliance.’ It continued:

The officer ought to be in all respects the instructor and leader of his men.... He

87 Text Book of Military Administration and Law (nd), pp 14-15; GR Searle The Quest for National Efficiency (1971). Several soldiers, mainly sappers, were founder-members. It partly inspired the Dawkins Committee.
must show himself superior to the soldier in knowledge, experience and strength of character, and he must be competent to carry out his duty in any situation whatsoever without shirking from responsibility, or, when thrown on his own resources, without waiting for orders. 88

This new emphasis on training has a Germanic ring; no longer would status be sufficient for command. Now professional ability and example, components of leadership, were to be the dominant criteria for officers. Here there are parallels with the LI pioneers.

Wood stressed that Sandhurst cadets were to be taught how to instruct their soldiers. This had not been the case previously; clearly training had increased in priority. NCOs were to be specially trained as: ‘competent instructors and leaders of the smaller units in both peace and war.’ This was a new emphasis on NCOs, their training, and their duty as instructors. Sub-unit commanders were made:

responsible to their [COs] for ... efficiency ...[in] military training of the men under their orders...This devolution of authority ...depends on a reasonable latitude being allowed to squadron and company leaders... Commanding and General Officers should not interfere... [S]quadron and company commanders will be judged by the readiness for war of their ...commands.

This suggests that the Cavalry had not fully implemented the Squadron System.

Decentralised training developed initiative. It reflected South Africa’s lesson that the infantry tactical unit were companies. This was a major change for Infantry. Both the German and the LI pioneers had emphasised sub-unit commanders’ responsibility for training. 89

The training manuals issued from 1902 accentuated initiative. Significantly they were not entitled ‘Drillbook,’ suggesting less rigidity. IT 1902, based on Henderson’s work with input from Ellison, differed markedly from IDB 1896. Its preface emphasised in words reminiscent of Clausewitz:

Modern fighting makes heavy demands on each individual... the subordinate leader must be so accustomed to responsibility as to be capable... of using his own judgement to further the general plan; the soldier of acting with intelligence

88 WO 123/43 AO 189 pp 4-5; Eds B Condell, DT Zabecki On the German Art of War Truppenfuhrung (Boulder 2001), p 5 cites a very similar German regulation.

228
and resolution when thrown on his own resources... The backbone of... training is the careful... instruction of the individual, officer or soldier... and the development to the utmost of his mental and physical powers. But such development is impossible unless free play is given to individual intelligence and initiative. It is therefore forbidden to limit... the freedom granted in these regulations to battalion and company commanders both as regards methods of instruction and the leading of their men in action. Nor are the men to be allowed to degenerate into mere machines.  

The emphasis on judgement links back towards Henderson's comments cited in Chapter 2 and anticipates the idea of doctrine. Its long, new section on skirmishing stressed:

Skirmishing implies extended order, in which each individual acts and thinks for himself, and makes use of all his powers, physical and mental, to attain a common object. It is absolutely essential... that... the intelligence of each recruit should be developed by every possible means, and that a spirit of independent action... should be sedulously encouraged... Skirmishing is the all important formation in warfare against a well-armed enemy.  

Skirmishing is a tactic and not a formation but this section, probably drafted by Henderson, using LI material supplied by Verner, shows both a direct LI influence and dispersed tactics' new importance. It was far less mechanical than IDB 1896's section on open-order drill. Furthermore IT 1902 emphasised recruit training far more than IDB 1896; this would reduce the risks of poor basic training damaging Army-wide standards.  

This strong condemnation, tougher than IDB 1896's, suggests that normal formations were still common. It continued:

[s]ince the conditions of modern warfare render the decentralisation of command in action an absolute necessity, no good results are to be expected unless... subordinate leaders have been trained to use their wits... and have been called upon to consider the necessity of departing from their original orders.

90 IT 1902 Preface. Both Henderson and Ellison were aware of German developments.
91 Ibid pp134-5; Chapter 2.
92 'Review Infantry Training (Provisional) 1902' RBC (1902), pp 159-60, 162-3.
93 IT 1902 pp 190-1.
This was more emphatic than *IDB 1896*'s qualified endorsement of initiative. *IT 1902* saw that decentralised training was needed to instil initiative and was enlightened about mistakes in training.\(^94\)

*CTrg 1902*, the British Army’s first modern all-arms tactical manual, stressed that:

\[\text{success...cannot be expected unless all ranks have been trained to use their wits... Generals and [COs] are... not only to encourage their subordinates in so doing by affording them constant opportunities of acting on their own responsibility, but they will also check all practices which interfere with the free exercise of the judgement, and will break down, by every means in their power, the paralysing habit of unreasoning and mechanical adherence to the letter of orders... when acting on service conditions.}\(^95\)

It continued:

\[\text{decentralisation of command, and a full recognition of the responsibilities of subordinates in action are... absolutely necessary and leaders must train their subordinates not only to work intelligently and resolutely in accordance with brief and very general instructions, but also to take upon themselves... the responsibility of departing from, or varying, the orders they may have received.}\(^96\)

*CTrg 1902*’s mention of ‘general instructions’ suggests the need for doctrine which would enable subordinates to interpret them. It concluded emphatically:

\[\text{if a subordinate, in the absence of a superior, neglects to depart from the letter of his orders, when such departure is clearly justified by circumstances and failure ensues, he will be held responsible.}\(^97\)

This was a radical departure; now failure to display initiative was punishable.

Later *CT 1904* emphasised initiative. Roberts impressed on cavalry officers the need to: ‘stimulate the keenness and increase the individual intelligence of their men,’ noting that:

\[\text{with our improved class of men and their better general education, the old methods of instruction no longer altogether meet the case. A higher aim must be given the soldier than merely satisfying the requirements of the drill instructor. He}\]

\(^94\) Ibid pp 191,193. Also stressed by Brig Gen Wilson 'Initiative and the Power of Manoeuvre' (AMS 1910). pp 10-11. Clausewitz also had emphasised this.

\(^95\) *CTrg 1902* Preface.

\(^96\) Ibid p 59.

\(^97\) Ibid p 60; Chapter 9.
should be encouraged that in perfecting himself as a fighting man, he is preparing himself for ... furthering the aims of his country... So that the development of individuality ... instead of loosening the bonds of discipline, will...supply a tie more elevated and more binding... in the spirit of patriotism, and self sacrifice.

This latter represented Hamilton's new discipline. Significantly Roberts saw that society-wide factors had changed and therefore the Army had to alter. Tactically CT 1904 emphasised detached duties, scouting and skirmishing, all demanded initiative. It differed strongly from CDB 1898's stress on drill and shock which inhibited initiative. Later the IGF noted that the new training of cavalry NCOs should fit them better for detached command.98

Roberts stressed the importance of skirmishing, commenting that: 't]he whole [LI] system was one of developing, not repressing intelligence...of enlisting the zeal of the private as much of the officer in perfecting the whole.' He continued by urging:

the necessity for thoroughly developing the system of training ....practised by ...Moore. Discipline is as important now as it was.... but self reliance is what is wanted, not the rigid discipline of the barrack square. Officers, [NCOs] and men must be encouraged to think and act for themselves.99

This Chapter argues that the changes instituted as a result of South Africa constituted a similar system, while Roberts saw that discipline and initiative were connected. Henderson and General Maurice, who edited Moore's diaries, are the likely sources for Roberts' information on LI.100

The new manuals strongly advocated greater initiative. There were not just the above injunctions but their stress on detached duties, skirmishing and reconnaissance for which initiative was essential

**Initiative Training after 1902**

Roberts wrote to GOCs in 1903 on developing initiative, his letter does not

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98 CT 1904 pp ix, 23-6,19,27; Chapters 5&8; WO 27/491 'IGF Report 1905' p 5.
99 FM Roberts 'The Army-As It Was and As It Is' 19C LVI (1905),p 23; Chapter 2.
100 ed Maj Gen Maurice The Diary of Sir John Moore (1904). Roberts cited this work in this article while Henderson stressed LI, Chapter 2.
survive, but that he wrote suggests initiative’s importance. French, GOC Aldershot, also emphasised company and squadron training, thereby enhancing initiative. Wood commanding II Corps reported that:

The individuality of the men has been developed, and advantage of ground is taken by the men. The section leaders have much improved, and many are fairly acquainted with their duties.

Wood had also reduced guards substantially, releasing men for training and no doubt improving morale. A chief umpire reported on the 1903 Manoeuvres:

Taken as a whole there was more initiative in the Infantry than could be seen in any manoeuvres before [1899]. The extensions ... were wider, the men were disposed to seek cover ... and the advance was more realistic and less like the stereotyped line which we were so often accustomed to see.

The above suggests that there was a coherent attempt to develop initiative in 1903. Roberts’ letter may have inspired it, but French and Wood were independently aware of initiative’s importance.

The Army in India also stressed initiative. Gen Burnett intended that the 1903 Poona Manoeuvres, based on South Africa, would:

test the initiatory powers of officers and non-commissioned officers... to force all ranks to think for themselves, to learn to read a map...and above all, not to adhere blindly to the traditions of the barrack-square.

As argued earlier, mapreading is a skill indicating decentralised combat and demanding education. Kitchener’s 1904 memorandum on training blamed many South African defeats on poor training. He instructed that:

It is impossible to lay too much stress upon the necessity for developing individual intelligence and initiative to the fullest extent... the great object must be to render officers and [NCOs] capable from the very first of exercising command.

101 BA LXXIX (1907), pp 149-50, Chapter 2.
102 Wood Midshipman pp 270-2. Guards are unpopular as kit has to be prepared and off-duty time surrendered. Wood wrote fairly soon after these innovations.
104 Capt Dawson ‘Tommy Cornstalk and the Empire’ JUSII XXXII (1903), p 83. Original italicised.
He stressed cavalry reconnaissance, while his Infantry Training Test included scouting and outposts with marks for initiative. Haig, IGC India, also stressed cavalry reconnaissance. Kitchener associated responsibility for training with increased professionalism and initiative:

The whole secret of preparing for war is a matter of training and instruction, and [COs] ... who profess or show their incapacity as instructors and their inability to train and educate those under them for all situations of modern war must be deemed unfit for the positions they hold.\(^{106}\)

This emphasis continued till at least 1910 when the Indian Staff Conference discussed ‘The Development (sic) of initiative by suitable training.’ The debates are only summarised but it is clear that imaginative training had occurred during the intervening period. It would have developed initiative.\(^{107}\)

More or less simultaneously the Army’s 4 senior commanders were all stressing initiative in training. That India with its better facilities for training than Britain was highlighting initiative suggests that permanent Army-wide change was occurring.

Col Parsons, Buller’s ex-CRA, conducted initiative training in Britain. Parsons had issued instructions on training junior ranks’ intelligence during the voyage to the Cape in 1899, suggesting that he had realised the need for initiative early. He later wrote on initiative at the RAI’s request. It is significant that the RA, who were generally felt to have shown initiative between 1899-1902, considered that such a work was necessary.\(^{108}\) Parsons began provocatively:

I have long thought that the training of the individual intelligence of officers, NCOs and men has either ... not been attempted at all, or has not been carried out on common sense lines ... [South Africa] has shown that ... too many weak points have been left. ... Some people argue that the training of a soldier must ... stifle initiative, ... and resource ... because a soldier must be trained to rigid discipline. Nothing could be more unsound and fallacious ... A well trained soldier ... understands the necessity for ... discipline. He therefore conforms to it.

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\(^{106}\) Ibid p 213; HPs 3155- 40 Box ‘Season 1903-1904 Inspection Notes.’ Haig’s encouragement of reconnaissance and initiative probably had substantial results. Chapter 9.

\(^{107}\) L/MIL/175/1811 pp 5-6.

\(^{108}\) Maj Geddes ‘Officers’ Despatch Riding Competition at Salisbury Plain’ PRAI XIX (1902-3); PP Diary Natal.
intelligently. His training should teach him to act for himself.\textsuperscript{109}

Parsons saw that ‘internal’ discipline was now needed to complement initiative. His pamphlet was widely disseminated under Wood and Roberts’ patronage. Parsons also emphasised initiative during artillery training and later when he was IGRA India. \textit{FAT 1902} also emphasised the need for initiative.\textsuperscript{110}

Unit training altered due to South Africa and possibly because of Tirah. The DLI’s 1901 company field training in India now included scouting, skirmishing and several 2-sided exercises. They concluded: ‘[t]he course has greatly benefited the men who have learned to act on their own individuality in taking cover and crossing open spaces;’ suggesting even in this LI unit that soldiers had not been taught fieldcraft.\textsuperscript{111}

### NCO Training

Amery considered that NCOs pre-1899 were: ‘frequently selected more for their capacities as clerks or as a reward for good behaviour than for their military qualities.’ That the JNCO promotion syllabus was biased towards drill and administration corroborates his accusation.\textsuperscript{112} The Leicesters criticised ignorant old-style NCOs and emphasised developing NCOs’ mental and instructional abilities.\textsuperscript{113} As Colvile had pointed out, NCOs’ tactical responsibilities had increased. Wood began a L/Cpl’s school in 1904. Its syllabus included mapreading, scouting and education. \textit{QRs 1899}’s NCOs promotion-syllabus did not include the first two skills which involved decentralised tactics.\textsuperscript{114} Education potentially increased initiative and was vital for mapreading. Wood’s school was a victim of economies, but his attempt suggests South Africa’s

\textsuperscript{109} ‘Hints on training the Intelligence and Powers of Observation of Officers, [NCOs] and Men’ \textit{PRAI XXVIII} (1901-2), pp 503-4.

\textsuperscript{110} \textit{ARSG 1901} (1902), pp13,17; L/MIL/7/10839 ‘IAR 1902-03’ p 1; Chapter 4.

\textsuperscript{111} \textit{The Bugle} XII (Jun 1901), p 6.

\textsuperscript{112} LS Amery \textit{THWSA} II (1902), p35; HWPs 3/1/1-2SA Ser 70 5/12/99 for one example; \textit{QRs 1899} pp 415-420.

\textsuperscript{113} ‘Gael’ ‘The Mental Evolution of a Soldier- A Sketch’ \textit{TG7 I} (Oct 1905), pp 2-4.

influence. One division held brigade NCOs classes and the Leinsters' NCO training included skirmishing, outposts, mapreading and signalling, all skills involving decentralised combat. The KOYLIs emphasised NCOs' man-management skills and aptitude for command as: 'section and squad commanders’ duties have become more responsible both in barracks and the field.' They highlighted NCOs’ instructional duties while they were to hold the training manuals. They encouraged each NCO: ‘by careful reading he must qualify himself to lead his section in the attack.' All were to achieve a 2nd class education certificate. Emphasis on reading and education suggests that theory’s importance was growing even for NCOs. General Douglas, a future CIGS, initiated a competition to test NCOs’ initiative and their use of cover and ground. The latter two skills, as Chapter 6 argues, also involved initiative.

Scout Training

Scout training was both tactically necessary and developed initiative. Baden-Powell wrote the most influential work on reconnaissance, reinforced by his successful defence of Mafeking. Though his work was based on Matabeleland and India, it effectively was part of South African’s lessons, being proof-read at Mafeking. It emphasised: ‘the ability to act “on your own hook”... without wanting an officer or [NCO] at your elbow to tell you exactly what to do.' In tone it was designed for soldiers. It was issued to companies in one unit and was followed by many books on scouting. Haig saw scout-training as important. He outlined scout training methods to the RCWSA. Several commentators advocated stalking training as:

[w]e are constantly being told that what is needed in the soldier of to-day is intelligent individuality, self-reliance and initiative.

115 'WO 163/12 'Annual Report IGF 1906' p73. WO 279/18 p9; [SOs] of the 1st Battalion ... Leinster Regiment ... (Aldershot 1908), p45. This was not in the 1900 version. Lt later FM Dill trained them.
117 BA LXXII (1904), p 524.
118 Aids to Scouting for NCOs and Men (Aldershot 1899), p 19.
119 The Bugle (DLI) XII (1900), pp 3489-90; BA LXXV (1905), p 249; Eg Col Furse Scouting (1902), Capt Carey Notes on Infantry Scouting (Allahabad 1902).
120 'Shikari' 'Shikar' The Antelope III (1904), p 149.
Late Col Carter lectured officially on ‘The Training and Use of Scouts.’ This was later published as a manual. Carter emphasised practical training, self-reliance and education, cited Moore and Craufurd, and criticised the British post-1815 ‘heavy’ infantry emphasis. That Carter was a non-LI officer suggests that LI ideas were influencing even ‘heavy’ infantry. 121

The Cavalry emphasised initiative much more due to the greater importance of reconnaissance after 1902. CT 1904 stated:

On detached duties, the success of mounted troops will depend chiefly on the initiative, skill and resource of the junior ranks. The importance, therefore of special individual training for every mounted man can hardly be exaggerated.

Later it emphasised that: ‘during ... training, the greatest pains must be taken to develop “initiative” (sic), not only in the officers and leaders, but also in the men.’ 122 CDB 1898 had nothing remotely similar. In Ireland Rimington imaginatively trained his brigade in reconnaissance, commenting after one such exercise:

As far as this brigade is concerned, it is one step more in developing in the cavalry soldier the qualities of Individuality (sic), self-reliance and ability to “carry on” without supervision. 123

Baden-Powell and Haig both promoted reconnaissance when they were respectively IGC in Britain and India. The IGF recommended that all troopers were to be taught to scout. 124 The 12th RLs stressed unit scout-training. In infantry battalions some 80 men per unit were to be trained as scouts. This scale of training, roughly 8% of a battalion’s strength, would have improved general tactical standards. 125 This post-1900 interest in scout training, which even influenced RE recruit instruction, was a Boer War lesson. It

121 RCWSA II pp405-6; The Training and Use of Scouts (1905), p 8.
122 CT 1904 pp 47, 218.
125 Sgt Vass ‘A Narrow Escape’ 12 RLJ 1 (1909); Lt Davis Scouting and the Training of Scouts in Peace (Dublin 1907), pp 11, 23.
shows that reconnaissance was far more tactically important after 1902.  

**Education, Training and Discipline**

**Soldier Education and Basic Training**

Earlier a relationship was proposed between education, initiative, discipline and dispersed tactics. Between 1903-1912 soldier education certificates doubled, suggesting a radical overhaul of the Army's priorities. Contemporaries felt that education enhanced initiative. The 1870 Education Act had caused some improvement but the Army's rate of increase was far higher than would have been accounted by this alone. Entry-level educational and recruit standards were generally low and, as far as can be judged, static. That RE recruits, who were meant to be skilled tradesmen on recruitment, averaged below the 3rd class education certificate level after some training suggests poor entry-standards. The samples are not large but their evidence indicates that the Army mainly caused the improvement through its in-service education of soldiers. 

The first IGF summarised the Army's attitude: '[e]ducation is after all, the bedrock of efficiency.' He tasked the Inspector of Infantry to report on the education of soldiers and how it affected their fighting value. The introduction of Service Pay has been considered above, but qualification for it was partly determined by:

a fairly high standard of ... educational... efficiency ...bearing in mind that individual intelligence is so essential ... in modern warfare.

This was clearly a South African lesson, and motivated some soldiers. AO 193 did not directly refer to initiative, but its mention of intelligence implies it, furthermore its military criteria, examined earlier, emphasised initiative. Later an education

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126 Col Ward *Standardisation in Education* (nd), pp 6-7. He was a member of the Efficiency Movement.  
127 Table 8; HC Barnard *A History of English Education from 1760* (1969), pp 168-172 for education’s post-1870 problems. This suggests that civil improvement were not responsible for the Army’s. 
128 WO 123/45, AO 193. Tables 26, 27 and 30. But Roberts acknowledged better entry-level education, see above.  
129 WO 27/491 ‘IGF Report 1904’ p 22; WO 27/509 ‘Instructions to Inspectors 30/05/04; ’AO 193 p 5; WO 163/12 p 62; Pte Richards *Old Soldier Sahib* (1965), p 208, Schoolmaster Cameron *Recollections of an Army Schoolmaster 1889-1920* (RAEC Box File 1.3). Both are secondary, but, given the money at stake, are persuasive sources.
certificate became mandatory for receiving Service Pay.

A committee examined Army schools in 1906. Two witnesses, FM Wood and Gen RC Hart, felt that both trained soldiers and recruits were too poorly educated for efficiency. Hart considered that:

Education makes … men more intelligent, which is what we require nowadays when men are often isolated from their officers and required to exercise … initiative.¹³⁰

The new tactical conditions emphasised mapreading and signalling, while the new weapons, mainly artillery, demanded more intelligence to handle, consequently education’s importance was increasing.¹³¹ Schoolmaster Wells supplied a further reason:

the developing tactics of warfare placing more and more responsibility for the movement of his men on the [NCO]… [M]apreading therefore became an essential requisite for the NCO and this soon extended to the private soldier and was included in the Second Class Certificate.¹³²

This is secondary evidence, but is supported by other material, while Wells served throughout the period.

Basic training improved; Robertson, the first to rise from private to DMT, commented:

The soldier was no longer treated as … being without intelligence… down whose throat it was the business of the NCO to force as much parrot-like drill as possible.¹³³

RSM Plumb felt that the new cavalry school’s instruction was much better than the old central depot’s: ‘cut and dried methods’ as it gave more scope to the: ‘men’s intellectual powers.’ Similarly there is a stark contrast between MRs 1898 and 1903. The latter ordered that recruit-instructors were to be specially selected, that they were to display:

¹³⁰ WO 163/12 Précis 324,pp 61-2.
¹³¹ Chapter 4 suggests how the new QFs demanded more skill.
¹³² RAEC Box File 1.3 Man and Boy p 41. Fn 104 & 105 above support him.
¹³³ From Private to Field Marshal (1921).p 157. This secondary evidence is supported by primary evidence cited below.
‘forbearance and tact,’ that recruits’ intelligence was to be developed, while training was to be both progressive and interesting.\textsuperscript{134} \textit{MRs 1898} did not mention these points.

The post-1902 manuals recommended improving training far more than the old drillbooks. One manual, typical of many, emphasised:

\begin{quote}
Discipline, strength of mind and body alone, are not sufficient; quickness, initiative and decision must be developed by individual training.
\end{quote}

It continued:

\begin{quote}
Recruits and all ranks should be encouraged to take an intelligent interest in everything connected with their work. Questions should be simple, and of a nature admitting of a short, intelligent but not parrot-like answer.\textsuperscript{135}
\end{quote}

Instructors were to be carefully selected and specially trained. Recruits were to be individually instructed, while emulation and keenness were to be encouraged. An officer recommended that:

\begin{quote}
In order to develop the intelligence of the recruit, practical instruction should be varied by lectures on theoretical subjects....Recruits should be encouraged to question their instructors on any points they do not understand.....Instructors must be patient and tactful, and refrain from discouraging a recruit in any way should he prove more backward than his comrades.\textsuperscript{136}
\end{quote}

The SLI stressed developing intelligence and hence initiative through questioning soldiers on what they had been taught.

It is unclear how far the injunctions, cited above, on improving soldier basic training were implemented. But the IGF criticised ASC basic training in 1906 for failing to foster: ‘intelligence, resourcefulness, and sense of responsibility.’ This suggests that the hierarchy was determined to continue fostering these qualities. The 1909 ASC manuals emphasised developing them. But recruits suggest that basic training remained

\textsuperscript{134} ‘The New Cavalry School’ \textit{TE II} (1908), pp 97-8. \textit{MRs 1898} p16, \textit{MRs 1903 (Provisional)}, pp 29-30. The latter also stresses decentralised command, p 47.

\textsuperscript{135} \textit{ASC Training} 1 (1909), pp 5-7. \textit{CT 1904} stresses the need for systematic training and delegation.

\textsuperscript{136} \textit{ASC Training} 1 p 5; Ibid p 6; Capt Bonham-Carter ‘Suggestions to Instructors of Recruits’ \textit{AR VII} (1914), pp 123-4.
tough, though there is no doubt of the direction which the Army intended to go.\textsuperscript{137}

**Officer Basic Training**

Wood instituted the Akers-Douglas Committee on officer education and training in December 1900 because of defects shown in South Africa.\textsuperscript{138} This was before Roberts’ return. Apart from general concerns with officer education and the lack of incentives to study, a point also made by Clarke in his *Times* article, several COs complained bitterly:

I consider the training of the Infantry Subaltern to be distinctly against his future efficiency. When the Captain is present the Subaltern as a rule does practically nothing...[E]very thing is done to stifle self-reliance and responsibility, and from the commencement of his career he is trained to look upon himself as a cog in a machine and not a leader... At Diamond Hill ... a young officer... demanded permission to move his company slightly as his men were commencing to suffer... He knew what to do, but feared to take such a small piece of responsibility... I consider every opportunity of delegating authority to young officers... should be availed of.\textsuperscript{139}

Such strong criticism suggests both the degree of concern aroused and the likelihood that radical change would result. The Committee criticised Sandhurst: ‘[l]ittle encouragement is given to originality of mind,’ noting that it over-drilled cadets. It recommended more practical training, commenting that cadets did no shooting at Sandhurst, though Woolwich did. This was illogical; Sandhurst trained infantry officers whose men were rifle-armed. The Committee stressed that cadets should be ‘proficient in ... scouting ... reconnaissance and the use of ground.’ All were South African lessons involving initiative.\textsuperscript{140} Sandhurst changed considerably and initiative was emphasised after 1900. Kitson, the new commandant, had revived the RMC Kingston and was probably chosen for this reason, the old commandant having been dismissed following an act of collective indiscipline, a symptom of poor leadership and over-rigid

\textsuperscript{137} [SOs] ...SLI (Devonport 1910), p 86; WO 27/491 ‘IGF Report 1906’ p 18; JF Lucy *There’s A Devil in the Drum* (1938),pp 28-39. This was written long afterwards and veterans are not noted for diminishing their hardships!

\textsuperscript{138} BalPs 13/33 ‘Memorandum 4/10/00’ p 5.

\textsuperscript{139}Akers-Douglas pp 2, 50-51.

\textsuperscript{140} Ibid pp 24,21. Chapter 6 for ground’s significance.
discipline. The standard and status of Sandhurst instructors improved after 1902.\textsuperscript{141} This change improved infantry and cavalry officer training, the two arms that had suffered most from defective initiative in 1899-1902. Significantly Woolwich was less criticised, young gunners and sappers had displayed more professionalism and initiative in South Africa.\textsuperscript{142}

Wolseley more or less simultaneously deplored the low standard of Guards and Cavalry officers and wished to recruit more graduates. This was implemented from 1900, while the Army expressed concern at the public schools’ educational standards. From 1904 incentives were offered to graduates with good degrees and universities were allowed to nominate candidates for commissions, subject to an Army veto.\textsuperscript{143} Some universities established military lecturers and the IGF continued to emphasise officer intellectual development.\textsuperscript{144} Detailed analysis in a work on tactics would be inappropriate but raising intellectual standards had implications for improving staffwork and developing doctrine.

Discipline

Courts-martials halved between 1904-1912, suggesting that the disciplinary system had altered radically. Better education generally improves conduct, but it is doubtful whether this improvement was due to education alone. The changes are in many respects elusive, representing altered attitudes rather than new legislation as the

\textsuperscript{141} Akers-Douglas pp 20, 25-6 criticised instructors, and hinted at the previous commandants’ unsuitability; RA Preston Canada’s RMC (Toronto 1969), pp 154,161-2; Akers-Douglas p 25 recommended pscs as instructors, RMCR II (1913), recorded all Sandhurst company commanders as psc; in 1899 pscs were exceptional; Maj De Gruyther ‘The Royal Military College, Sandhurst’ USM XXXI (1905), pp 145-6.

\textsuperscript{142} Akers-Douglas p 15.

\textsuperscript{143} AFPs 50304 ‘University Commissions,’ ‘Report on Promotion Exams May 1904’; Regulations under which Commissions ... may be obtained by University Candidates (1904); WO 35/56 ‘GS Folder Appendix B,’ AFPs 50309 ‘Summary of Year’s Work at the WO 31/1/05’ p 14. AFPs 50321 ‘University Candidates May-October 1905.’

\textsuperscript{144} RPs 7101-23-207 ‘Selection for Promotion’ p 3. USG 4/6/04Jun 1904, p 445 for Cambridge’s lecturer, USG 23/7/04 p 585 reported that Edinburgh was to appoint a military lecturer and USG 27/8/04 p 687 London had 3; WO 27/491 ‘IGF Report 1907’ pp 8-9.
1893 Army Act remained in force until 1906. As argued above, initiative and dispersed tactics demands 'internal' discipline and this in turn requires leadership and a more enlightened attitude to discipline by commanders. A journal commented on the old system:

Whatever were the shortcomings of the British soldier in South Africa, they were the results of his faulty and misdirected training in peace-time; of the mechanical discipline handed down to us from Crimean days. This suggests the continuance of imposed discipline till 1899, the link between it, training and tactics and its ability to damage initiative.

Dickson’s cavalry committee in South Africa were the earliest to consider discipline. They recommended that government posts be reserved for veterans, post-service employment was seen as attracting more intelligent recruits who were more likely to behave well and show initiative. They also advocated better barrack accommodation with more privacy. They suggested the modification of:

The present irksome regulations as regards all-night and other passes .. Plain clothes to be worn by all NCOs when off duty out of barracks and by all men on furlough. All unnecessary riding school and foot drill to be abolished. Burnishing of steel work to be absolutely forbidden... Barrack yard fatigues to be reduced to a minimum.

They recommended that COs should be able to discharge indifferent characters and allowing recruits choose their regiment. All these measures would have indirectly improved discipline and made the Army a more attractive career, thus indirectly promoting initiative. Reducing fatigues meant that more time and men were available for training. Wood, when GOC II Corps, cut duties and guards ruthlessly.

Lt Col May, a Camberley DS, concluded: ‘old-fashioned discipline has in modern warfare been largely superseded by intelligence.’ He blamed over-supervision for

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143 Table 7; RH Ahrenfeldt Psychiatry in the British Army in the Second World War (1958), pp 77-81; ANG XXXVII (22/8/96), p 707.
144 USG 30/5/07.
147 See fn 102 above.
damaging initiative and recommended appealing to soldiers' sense of honour rather than disciplining them by fear. At Camberley May was well-placed to influence the future elite.\(^{149}\) Maj Caunter argued:

we cannot be wrong in ... encouraging individuality and initiative in our soldiers, these qualities are by no means antagonistic to, but, on the contrary, are complementary of that true discipline... which is based on mutual confidence between all ranks.

Cauter became Deputy Commandant Sandhurst in 1902 and was able to shape officer training.\(^{150}\) Roberts suggested the direction the Army should take:

Discipline is as important now as it was then but self reliance is what is wanted, not the rigid discipline of the barrack square. Officers, [NCOs] and men must be encouraged to think and act for themselves.\(^ {151}\)

Roberts linked discipline, training and initiative, as well as the value of the LI system.

Improvements were made in the disciplinary system. In 1899 a committee, chaired and apparently instigated by Buller, had recommended that imprisoned soldiers were to be treated differently from civilian convicts. Successive Inspectors of Military Prisons introduced more education, military training and abolished unsatisfactory NCO-supervised Provost Prisons. In 1901 military prisons were brought under army control and specialist military staffs were established.\(^ {152}\) In 1902 overall discipline was modified to add:

greater freedom, and to diminish the amount of time spent on fatigues... Permission has been given to abolish roll-calls... By these changes the soldier must, in future feel that more responsibility is thrown upon himself, and that his self-respect should be ... increased.\(^ {153}\)

These modifications were achieved administratively rather than by changing the Army Act. They would have aided recruitment of better-quality soldiers, thus fostering

\(^{149}\) Retrospect pp 70, viii.
\(^{150}\) The Campaign in the Free State and its Lessons (1901), p 29.
\(^{151}\) FM Roberts 'The Army-As It Was and As It Is' /9C LVI (1905),p 3.
\(^{152}\) WO32/8734; Lt Col Garcia ... Military Prisons 1901 (1902), pp 24-5,59; Maj Clayton ...Military Prisons 1902 (1903), pp 19-20; AO 241/1901. WO 32/18740-43 covers implementation.
\(^{153}\) Annual Report of the Inspector General for Recruiting ... 1902,p 6. That a recruiting report makes these points, suggests that the Army was trying to raise entry standards.
initiative indirectly. The document suggests that improved disciplinary conditions could improve initiative. FW Kitchener modified discipline in his division, warning that:

[regimental restriction very often militates against individuality ... it is essential that soldiers should be encouraged to feel a sense of individual responsibility.]

Connaught, the IGF and a Rifleman, recommended easing tight discipline and advocated that the Army study how civilian firms maintained it. He also suggested improving soldiers’ conditions. He did not link his changes specifically to inculcating initiative, but the same report highlighted the topic. Connaught concluded:

I am not advocating anything that will militate against the preservation of discipline... but I consider with a better class to deal with, many of the rigid methods of the past might be modified, as in many cases they have been, to suit modern conditions.

In 1904-5 remission for good conduct was introduced; in 1906 soldier prisoners were to wear uniform rather than convict garb, which was reserved for serious offenders awaiting discharge. Also in this period soldiers were detained rather than imprisoned. The change was made in the Army Act 1907 in order to remove the stigma of imprisonment for offences which were military in character. Flogging unruly military prisoners was abolished. A committee considering military punishments showed a similar trend toward greater flexibility. It recommended that minor offences committed by recruits should not prejudice their later careers. The Committee heard that recruits were now better educated and less prone to drunkenness. In the period the military penal ethos shifted from punishment to reformation focussed on training and education, recidivism reduced and assaults on staff became ‘practically unknown.’

In 1909 COs’ powers were increased in order to reduce the number of courts-

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154 Lt Col Hamnett ‘Summary Awards in the Army’ ASCQ I (1905), suggesting that COs’ attitudes were changing; ANG XLIV (18/4/03) p 365.
157 AFPs 50323 F15; WO 32/6872; AFPs 50323 F19 p 107; McPherson Discipline p 74. But statistics cited at Tables 7, 26&27 suggest that drunkenness was reducing at a slower rate than courts-martials, while entry-level education was still low.
martials and thereby heighten their deterrent effect. This would improve discipline, reduce paperwork and free time for training. Better conduct meant that there was less need for coercion; soldiers could be trusted more, aiding extended-order tactics. But the Army did not adopt ‘internal’ discipline entirely. There were still many tough characters and taut ‘external’ discipline was necessary in some units. But Ian Hamilton considered:

the balance point of discipline has... insensibly shifted in the past ten years. 
...[O]ur officers have definitely faced the new conditions and have made up their minds to seek discipline for the future in the effects of good example, sympathy and kindness, in ... traditions, in the maintenance of a high level of camaraderie ; in the intelligent comprehension by the rank and file of the why and the wherefore of an order and in their keenness to carry it out. 

When Hamilton wrote this is unclear. If it was during his time as AG, it is important evidence of change. If later, it suggests that fundamental alteration had taken place, witnessed by an officer with overall disciplinary responsibility. It makes no claims for Hamilton’s personal role and is consistent with his RCWSA paper. Brig Gen Haking later considered that:

The idea of turning a man into a machine, by means of strict discipline, and thus making him more afraid of disobeying orders than of ... the enemy... has long proved abortive. This method of training was only possible when infantry fought in close formation.

The origins of ‘internal’ discipline can be viewed as a continuation of the self-help and restraint which the Victorians saw as a sign of manliness. The Army had similarly stressed temperance and sexual restraint, especially in India where temptation was ever-present and families remote. Roberts had fostered the ATA when CinC there. Here it may be noted that the level of offences, particularly drunkenness, and VD remained relatively high despite such efforts. The ATA also promoted self discipline as

159 HamPs 15/1/36 pp 58-9.  
160 Company Training (1913), p 1.  
it was largely run by soldiers, albeit with officer supervision. However, this emphasis did not apparently affect the Army’s handling of disciplinary issues or have a tactical dimension before 1900. Disease and alcoholism rendered men unfit to fight and therefore motivated the Army. But the stress on ‘internal’ discipline after 1902 related to the requirements of combat under the new tactical conditions and differed from the Victorian efforts.

In summary one notes a substantial improvement in discipline; why this happened cannot be conclusively proved, though education played a part. But it is also argued that the demand for initiative, the imperatives of dispersed combat and alterations in the exercise of command from imposed control to leadership contributed. Another element of the interrelationships postulated above had changed radically.

**Conclusions**

From 1897, especially after 1899, the rate of change towards initiative, ‘internal’ discipline and decentralised tactics accelerated. This coincided with experience of combat involving magazine rifles. These weapons enforced dispersion. Dispersed, more complex combat required better educated and trained soldiers capable of initiative. That soldiers’ education certificates roughly doubled between 1903-1912, while courts-martials halved in the same period suggests that the Army had changed radically. Was this primarily the result of battlefield factors and the consequent need for initiative or the product of wider social factors? This cannot be conclusively answered; wider factors and altering mental attitudes were significant, but, with the exception of a few comments acknowledging education’s effects on improving discipline, they are not mentioned. One also notes a generational shift of commanders and changes in the civil education and justice systems, but both are elusive as factors in causing change when compared to the tactical. On the recorded military evidence the most important cause

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162 *ATA Report 1893-1895* (1895): Table 7
was South Africa, with Tirah its precursor.

Earlier this Chapter outlined interrelationships between initiative, tactics, training, education and discipline, all changed radically in the period. It is not possible to prove conclusively the other elements changed just because of the need to enhance initiative. But on the evidence deployed in this Chapter the basic motivating factor was that Infantry and to a lesser extent the other arms now had to fight in open-order. The switch towards initiative was incomplete in 1914, but the Army's prewar direction was clear. Tactically dispersed skirmishing, scouting and reconnaissance, dependent on initiative, were emphasised. Many saw training as the way to inculcate initiative. Similarly greater education was needed in dispersed, complex combat. Both officer and soldier basic training changed substantially with less drill and more intelligent instruction. These would have increased initiative. It is harder to demonstrate the exact link between disciplinary changes and initiative, but less coercive enforcement would have improved the latter. Furthermore the Army changed its administrative and pay systems to enhance initiative. This wide spectrum of means suggests how important it was to increase initiative. The rough period 1897-1909 saw profound changes in attitudes to initiative, discipline and training. This is not to argue that the results equated to current standards, but essentially the modern system of initiative and 'internal' discipline was established. Chapter 9 examines the contrast between the Army and industry. A journal summarised the changes:

fitness and efficiency off the barrack square are rightly considered of first importance. In former days ... efficiency was gained by constant adjutant's parades; the company officer was allowed little work in the training of his men; open order drill was as stereotyped as a march past; much more was thought of correct dressing .....than in making use of cover ... [I]ndividualism had no place in the training of the infantry soldier ....Now.....individualism is encouraged by every possible means .....This is really the great change which has come over the British Army. 163

163 BA LXXXVIII (1912),p 368.
Chapter 8. The Russo-Japanese War

Down in the Infantry nobody cares;
Down in the Cavalry. Colonel 'e swears;
But off in the lead with the wheel at the flog,
Turns the bold bombardier to a little whipped dog.

Introduction

Kipling summarises the lessons of Manchuria; soldiers felt there were few for British infantry, cavalry colonels undoubtedly swore at Cossack inertia, but artillery was to be the arm most affected. This Chapter examines the firepower, mobility and protective lessons of Manchuria. It scrutinises the war's effects on siege warfare and general tactics. It probes Dr Towle's thesis, long regarded as the definitive assessment of Manchuria's influence on the British, arguing that his judgment that it had little effect on the Army requires modification. His deductions over-emphasise 1914-18, thereby obscuring prewar reasoning. Chapter 9 analyses Manchuria's influence on doctrine.

This chapter argues that, though Manchuria's greatest tactical effect was on artillery, it confirmed to contemporaries that operational level manoeuvre was vital. This and other continuities from South Africa are at odds with those who have seen Manchuria through the prism of 1914-18. These continuities explain why Manchuria had few unique effects on Britain, but they are significant in their own right. However, Manchuria influenced FSRs, reinforced British interest in human factors, modified the South African emphasis on tactical outflanking, though it did not lessen British stress on manoeuvre and reawakened interest in siege warfare.

Commentators felt that Manchuria had particular relevance for Britain as a predominantly maritime power was combating a mainly military one. Furthermore Britain might have to fight Russia, either because of the Anglo-Japanese alliance or

to defend India. With 2 regular armies fighting, modern artillery in action, rough numerical equality and more conventional tactics than in South Africa, there were many reasons for study. The Army made substantial efforts to learn, perhaps greater than for any other war which it has not fought, sending MAs to both sides. 3

Manchuria inspired three British official histories and is unique as the only war in which Britain was neutral, but for which these works were written. 4 The Army circulated war-bulletins to officers and translated many Japanese and Russian documents. The latter did not cease in 1905. 5 Military journals reprinted many foreign articles on the war. 6 Officers were ordered to keep war diaries and make appreciations aided by official lectures on Manchuria. Camberley and Quetta studied Manchuria intensely. Brooke took extensive notes and a CO lectured to his unit on the war. Japanese methods were used in training, a journal recorded British enthusiasm for Manchurian data, while several officially-sponsored competitions analysed its lessons. 7 Kitchener, Rawlinson, Broadwood, Barrow and other officers toured Manchuria’s battlefields. At least one guidebook described them, suggesting the degree of interest in the war. The Indian Staff College visited Manchuria in 1907 on perhaps the longest battlefield tour ever undertaken by a British staff college. 8 Quetta continued to study Manchuria closely till at least 1913. All suggest that

3 Col Waters Reports on the Campaign in Manchuria in 1904 (1905), p 3; Table 27.
5 Notes upon Company and Battalion Tactics translated GS, JRUSI LII (1908); JRUSI XLIX (1905), pp 680-5; FO 46/665; in 1907 the JRUSI published GS-translated documents.
6 Eg ‘Infantry Combat in the Russo-Japanese War’ JRUSI L (1906) from the French.
7 ANG XLV (1904), p 291; Maj Banon The Situation in the Far East and the Events that have led up to it. (Dublin 1904), p 1, instituted by the GOCinC to aid diarists; L/MIL/175/2276 p 30; BRPs 3/5; Lt Col Robson 5 Lectures on the Russo-Japanese War (1904); CRMPs Biography pp 125,128, Letters, 11/8/07 & 15/8/07; ANG XLV (1904), p 819; Prize Essay ‘Lessons in Modern Tactics ... from ... the Russo-Japanese War’ JUSII XXXIX (1910).
8 Gen Barrow The Fire of Life (1942), pp 136-7; HQ India ordered the tour, Vincent, a wartime MA, attended; Cook’s Tourists Handbook to Peking, ... Mukden, Dalny, Port Arthur, ... Port Arthur (1910); Maj Austin A Scamper Through the Far East (1909), p viii; Maj Gen Rawlinson ‘A Trip through Siberia to the Battlefields of Manchuria’ JLR I (1910); DALISCMBS (Simla 1908); MMPs 4/1 & 2, Quetta’s timetables in 1912-13 show much Manchurian matter. It is likely that Camberley remained interested.
Manchuria keenly interested officers and thus had potential to influence them.

There were also obstacles to learning. Russia was fighting at the end of a long logistic chain and therefore amassed forces slowly. This would not be the case in Western Europe. Contemporaries felt that this impugned some of the war's lessons. Russia's Army was seen as backward, possibly creating resistance to learning from them, while Japan did not have a major power's resources. Shrewd commentators felt that Japanese human factors were unique. Poor roads and mountains in Manchuria hampered mobility more than in Western Europe. Commentators assessed that this had reduced the pace of fighting; consequently they argued that some tactical features of Manchuria, particularly extensive entrenchment, were unlikely to recur in Europe. There combat would be at a higher tempo.

Dr Towle argues that Britain should have learned more from Russia, blaming the tendency to concentrate on learning from the victor. But Britain and Russia were enemies, thus there was an incentive to learn about Russia's performance, this accounts for the considerable number of IA officers who served as MAs, and for Russia to restrict British access. MAs were carefully selected. Many had language or Intelligence skills, while several were veterans of the Boxer Rising. More were sent to Japan, but the British had an entrée due to the Anglo-Japanese alliance.

Firepower

Artillery

Manchuria was the first war in which numerous modern artillery, some QF, fought. However observers had reservations about both sides' weaponry. Japanese field guns were technically inferior to the Russians', though better training offset this. Others viewed Russian field guns as not true QFs, though substantially ahead of

\[^9\] DALISCMBs p 75; Waters Reports p 51.
\[^{10}\] VDPs 69/74/1 p 31 citing the GS in 1909.
\[^{11}\] Table 28. There were a high proportion of IA officers; the IA was naturally interested in Russia.
their Japanese or South African equivalents.\textsuperscript{12} Despite these caveats, commentators generally recognised that firepower, particularly artillery, was becoming more important. Home, a Gurkha MA, commented:

\begin{quote}
The great impression... is the overwhelming effect of modern artillery fire... [U]nder modern conditions artillery is the decisive arm.\textsuperscript{13}
\end{quote}

General Gerrard, another MA, commented:

\begin{quote}
the days when infantry was the Queen of Battles have now passed away.... Artillery has now a preponderating influence.
\end{quote}

That two non-gunners recognised this suggests wider appreciation of firepower's growing importance. This parallels South African lessons.\textsuperscript{14} The Times emphasised:

\begin{quote}
A feature of the campaign has been the overwhelmingly important part played by artillery.
\end{quote}

Gen French, CinC Aldershot, urged gunners to study the Manchurian artillery reports, commenting: '[t]here can be no doubt... that the relative importance and power of Artillery ... have increased enormously.' Rawlinson, Commandant Camberley, concurred, citing artillery's ability to crush counterattacks. But most, including many gunners, still saw Infantry as the master arm. France and Germany also agreed with this historically-based assumption.\textsuperscript{15}

Towle has detected variations between British MAs with the Japanese and those with the Russians, commenting that:

\begin{quote}
Conservative tacticians ... tended to accept the views of Col Hume and the rest of the observers with the Japanese. They played down the role of artillery and frequently argued against the use of covered positions and heavy guns.\textsuperscript{16}
\end{quote}

But Hume was not always as negative as Towle states; he did not argue against

\textsuperscript{12} BORs II (1908), pp 567-8,570.  
\textsuperscript{13} BORs III (1908), p 215; Table 28.  
\textsuperscript{14} WO 106/38 Report 38 para7; Chapter 4. Coincidentally both men had started their careers as gunners but transferred to the IA. That they had transferred early on does not suggest inherent pro-artillery bias.  
\textsuperscript{15} Col Cordonnier The Japanese in Manchuria II (1912), p 252; AFPS 50321 F25 p 151; Lt Col Kiggell 'The Counter-attack' (AMS 1905), p 16; Maj Jeudwine, Maj Sykes, Capt Robertson in separate 'Duncan Medal Essays' PRAls XXXV (1908-1909), pp 154, 218,249. All were gunners or sappers.  
\textsuperscript{16} Towle Influence p 105.
Indirect Fire nor criticise heavy guns per se, though feeling that Russian weapons were ineffective as they were mostly obsolete. Significantly Hume praised Russian 5.9" howitzers. These were modern German pieces; British opinion was to consider them the best German 1914-1918 weapon. Furthermore being howitzers they were likely to be firing Indirect. Here it is worth re-examining the characteristics of Indirect Fire. It depends on signals, which both sides were forced to improvise during fighting, and is slow when training for it is poor. There were thus sound reasons for gunners to have reservations about using Indirect Fire to support troops manoeuvring as time is generally critical then. Nor are variations between observers altogether surprising.

Towle argues that the MAs with the Japanese underestimated Russian casualties from artillery and consequently undervalued its importance. However, the British would not suffer equally from shelling as their formations were much more extended than Russian ones. Moreover by 1907 the GS had circulated Russian data and Russian casualties from artillery were better appreciated. British reports of continental manoeuvres criticised dense formations, suggesting that firepower's effectiveness was understood. That Britain developed Artillery Formations after 1905 also weakens Towle's argument that artillery was undervalued. Their institution shows that British infantry appreciated artillery firepower. It is impossible to prove that Manchuria inspired them, but that war saw infantry far more exposed to shellfire than South Africa. Brig Gen Pilcher's lecture,

\footnotesize

17 Hume saw advantages to both howitzers and Indirect Fire, see fn 24 & 33 below; Chapter 4.
19 GS 'Some Tactical Notes on the Russo-Japanese War' (1906), p 12; Capt Vincent 'Artillery in the Manchurian Campaign' JRUSI LII (1908), p 28, eg the official Notes upon Russian Artillery Tactics in the War of 1904-5 ...(1907).
20 Towle Influence p 107; DALISCMBs.p58; 'The Kaiser-Manover in Germany 1905' JRUSI L (1906), p 187; WO 27/493 'IGF Report German Cavalry Manoeuvres 1906' p 2; Glossary.

252
the first traceable reference to them, used much Manchurian data. Hume
also commented:

\[[g]iven more careful training and better shrapnel, the Russian field artillery, even though weaker in number of guns, would have been a still more important factor.\]

The Russians were also in the middle of introducing a new field gun and British MAs appreciated that this weakness was transitory. Hume later emphasised the growing importance of artillery in supporting attacks. Neither piece of evidence suggests that MAs with the Japanese significantly undervalued artillery. Dr Towle also criticises Hume for attacking British teaching that infantry could not attack before enemy artillery was subdued. However, Hume was right to warn:

\[
\text{except under the most favourable conditions of ground, or with very great superiority in number or power of guns, it is practically impossible to silence an opponent’s artillery if it be well entrenched.}
\]

Combat between 1915-18 confirmed Hume’s point. British development of CB tactics took years, depended on scientific progress and, though eventually achieving preponderance, never silenced the German artillery completely.

That French and Rawlinson, both very influential, stressed artillery’s effectiveness using Russo-Japanese data, suggests that Towle’s argument that the British downplayed artillery after Manchuria is wrong. Furthermore the later British increase in divisional artillery contradicts him. Clearly the new large divisions needed more pieces in view of their size, but, had the British felt that artillery was ineffective in Manchuria, it is unlikely that they would have agreed so large an increase.

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21 'Formations of Infantry in Attack and Defence' (AMS 1906), pp 3-5, using Vincent’s data. IT 1911 p 111 describes such a formation, which was not in IT 1905. WO 279/9 pp 119-12 suggests the Manchurian influence and describes trials.

22 BORs II pp 582-3, 585-6, 608-9; Towle Influence p 106, citing BORs II p 619 and by implication pp 579, 617-8, Towle contradicts himself Influence p 135; BORs II p 617; Col Rawlins A History of the Development of the British Artillery in France 1914-1918 (nd), p 86.

23 Towle Influence p 108; Table 20.
Howitzers

British commentators were positive about howitzers, paralleling South African lessons and indirectly supporting Indirect Fire. Hamilton observed:

I cannot think of a single engagement between the Mo-tien Ling and Liao-yang where howitzers would not have been invaluable.

Others concurred, including Vincent, a dashing field-gunner, later a Quetta DS and cavalryman, who noted howitzers’ ability to search dead ground. This suggests that RFA attitudes were changing, thus reinforcing Chapter 4’s arguments. Hume noted howitzers’ value at Mukden, while others reported heavy Japanese howitzers’ destructiveness at Port Arthur.24

Towle claims that Britain was slower in rearming with howitzers than Continental armies. This is surprising; the 4.5" Howitzer’s introduction predated the deployment of its German equivalent.25 Though South Africa inspired the 4.5", had howitzers failed in Manchuria, this might have prejudiced its deployment which occurred well after the Russo-Japanese War. Nor is there is much evidence of British criticisms of howitzers in Manchuria. Britain fielded 18 howitzers in each infantry division, the same number as Germany, while France did not deploy them below corps.26 Significantly Towle does not cite French howitzer statistics in making his criticism. He also states:

As a result of [Manchuria], [gunners] came to regard the heavy howitzer both as more important than the heavy fieldgun and also as essential in any field army.27

Siege experts had reached similar conclusions in the 1890s on their superiority to siege guns. There is also a technical nuance; heavy field guns differ from heavy guns used in the field. The British had the latter, the 60 Pounder, but not the former. The

24 BORs II pp 604, 610-11; Capt Buzzard 'The Heavy Howitzer in Modern Warfare' PRAI s XXXII (1905-6),p 561; Chapter 4.
26 Table 30, RA Doughty Pyrrhic Victory (Cambridge 2005), pp 29-30.
27 Towle Influence pp 129,123.
standard 6" British heavy howitzer did not attend manoeuvres regularly and was not formally included in the BEF’s order of battle. But the weapons speedily deployed in 1914.28 However, their field training increased after 1904, though it is impossible to attribute this just to Manchuria. South Africa had shown their value.29 The RA’s philosophy of heavy artillery in the field emphasised guns, the Germans stressed howitzers, while France downplayed both types of heavy artillery. Headlam, the RA historian, viewed as an enemy of Indirect Fire, was convinced that Manchuria had improved the howitzer’s reputation and raised the question of their allocation to infantry divisions.30 But the logic of the organisation of large divisions demanded that howitzers were incorporated in them. They required resources immediately at hand to support manoeuvre speedily. Headlam is therefore probably wrong to attribute their allocation to divisions just to Manchuria. But Manchuria encouraged the formation of large divisions and reconfirmed 1899-1902’s lesson that field howitzers were valuable but subordinate to field guns. Here British conclusions paralleled German ones.31

**Indirect Fire**

Indirect Fire was used more often in Manchuria than in South Africa. Its use there was controversial. Some MAs argued against it and historians have suggested that criticisms of Indirect Fire in Manchuria were severe. But conditions were adverse to it. Most weapons in Manchuria were guns and both sides’ signalling was primitive, thus there were technical reasons why it would not be fully effective,

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28 Siege Artillery Drill 1891, p 62; Brig Gen Wolfe-Murray ‘Do we require Field Artillery?’ PRAI XXIX (1902-3); Col Stone ‘The Heavy Artillery of a Field Army’ JRUSI LII (1908), pp 925,927, 932; Brig Gen Edmonds MOFB 1914 I (1922), p 424.
29 Col Stone ‘Heavy Artillery in the Field’ JRA XXXV (1908-9), pp 1-2; Chapter 4; GAT II 1906 p 5. However the IGF saw 6" Howitzers firing and felt that the question of them deploying with the field army should be considered, WO 27/493 ‘Note Connaught’s visit Rhayader 1906.’
30 Maj Gen Headlam The History of the [RA] II 1899-1914 (Woolwich 1937), pp 178-9. Headlam was not biased towards howitzers. By rejecting a corps-based organization, it would be hard to see how else a short-range weapon could have been organised except by allocating them to divisions.
despite the fact that the Russians had developed its techniques prewar. Despite these drawbacks, some MAs felt Indirect Fire was needed. Hamilton felt that greater enemy firepower made cover for artillery: 'absolutely essential,' demanding Indirect Fire, while Gerrard remarked:

The present shrapnel fire with QF guns is such that no troops can face it in the open nor can artillery serve their guns under it. Indirect fire seemed to be the only practicable method.

That two senior non-gunner MAs recommended Indirect Fire suggests greater all-arms awareness of its potential. Hume saw some advantages of Indirect Fire, noting CB’s ineffectiveness against hidden pieces. He also appreciated the danger of artillery moving under shellfire. The latter was an argument for Indirect Fire and weakens Towle’s criticisms of Hume. Vincent, also with the Japanese, was open-minded and spent more time in his RUSI lecture discussing Indirect Fire than any other topic. Capt Thacker, the Canadian gunner with the Japanese, stressed both Indirect Fire and that Japanese artillery had generally supported their infantry well. Maj Archdale, a field gunner, touring Manchuria after the war, concluded: ‘the primary lesson appeared ... to be the necessity of using indirect fire.’ Dr Marble has reported numerous criticisms of Japanese artillery’s support of infantry; the above evidence suggests that he is over-harsh.

Dr Towle states that opposition to introducing Indirect Fire came primarily from the other arms. In fact many gunners resisted it. Given that professional opinion generally saw artillery tactics as a purely gunner matter, it is hard to see the Army resisting the switch to Indirect Fire had the RA unequivocally endorsed it. Nor does Towle appreciate that South African evidence supported its introduction and that its

33 BORS II p561; WO 106/38, Report 38 9/9/04, para 7; BORS II p578; BORS II, p 571.
34 Vincent 'Artillery' pp 36-39.
35 Marble 'Doctrine' p 93; HamPs 3/1/2, pp 14, 16 report criticisms of Japanese artillery.
36 Towle Influence p110; Col Bailey The First World War and the Birth of Modern Warfare (Camberley nd); Marble 'Doctrine' pp 97-98.
use in training had increased after 1900. Maj Budworth, a horse-gunner, argued that Indirect Fire was a South African lesson confirmed by Manchuria; another tactical continuity. But Manchuria caused it to receive more attention in training. 37

RFA Guns and Ammunition

Britain had made important deductions from South Africa on future field guns, but had reservations on their correctness due to the absence of QFs and eccentric Boer artillery tactics. Manchurian data was used to validate the 18 Pounder’s characteristics. Experts, using Manchurian data, re-examined whether it should fire HE. 38 The choice of the RFA’s standard ammunition is significant as it suggests the Army’s, or at least the RA’s tactical assumptions on future combat. Selecting shrapnel shows that men in the open were the prime targets, thus anticipating manoeuvre en rase campagne. Choosing HE indicates that structures were the priority, foreseeing entrenchment and more positional combat. Towle argues that gunners, sappers and progressive infantrymen supported introducing HE, with conservatives opposed. He implies that the reactionaries won. 39 The choice of shrapnel is more defensible that he allows. In manoeuvre, logistics preclude massive destructive bombardments, while time limits entrenchment. 40 These factors made shrapnel effective for killing men in the open or neutralising trenches. Nor was the division of support as clear-cut as Dr Towle suggests. Many gunners opposed HE.

An influential RA committee had concluded after South Africa:

One of the most important lessons demonstrated [in South Africa] is the utter inefficiency as mankillers of common shell ... and the efficacy of good time shrapnel under similar circumstances. 41

37 WO 27/503 'Training ... 1st Army Corps', p 2. French reemphasized Indirect Fire in 1905 AFPs 50321 'Training of the Aldershot Army Corps 1905' pp 150-1; 'Tactical Employment of Artillery' (AMS 1908), p 7; Gen Hamilton 'Training of the Troops during 1906' JRUSI L (1906), pp 1519-20, 'Training of the Troops during 1907' JRUSI LI (1908), pp 85-6; Chapter 4.
38 AFPs 50314 'The New Field Gun Appendix B' pp 16-17.
39 Towle Influence p 118; the MAs cited as supporting HE were infantry or cavalry, 2 opponents were gunners; Table 28.
40 VDFs 69/74/1 The Supply of Munitions to the Army (nd), p 31 citing GS comments made in 1909. The paper was written during the 1914-18 war.
41 WO 33/339 para 3; Glossary.
Marshall, Roberts' CRA, had decried HE at the RCWSA, despite many cavalry and infantrymen demanding it. Dr Marble also criticises the RFA for their obsession with shrapnel as their prime ammunition nature. Contrastingly Dr Towle states that gunners supported introducing HE. It is argued here that he has misread the evidence by stating that HE was the RA's preference. Some continental experts supported their selection of shrapnel, while a Manchurian veteran judged that HE had no anti-personnel effect.42

Dr Towle assesses future artillery tasks and this naturally bears on his belief that HE ammunition was needed:

After ... Manchuria... most British gunners thought that their task was to pin down the enemy's infantry and to make holes in their trenches.43

The RGA may have seen the latter task as a priority, though there were only 6 RGA batteries in the BEF, but is incorrect for the RFA whose guns, though not their howitzers, lacked HE. Even their howitzers had a sizeable shrapnel ammunition scale, as did the RGA's 60 Pounders, which, being guns, were less suitable for destroying trenches. Consequently if Towle's statement is accepted, the RFA's field guns, most of the BEF's artillery, had the wrong ammunition for a major role. In fact the RFA's main task was infantry support with men their prime target. For this shrapnel was lethal. Hume partly contradicts Towle:

Field artillery, though provided with [HE] and common shell, can produce little or no effect on good trenches, even when well supported by heavy guns.

Clearly there are qualifications of scale and duration of attack. Days of shelling from massed field guns on a small target would have produced significant damage, but a

42 Brig Bidwell and D Graham *Firepower* (1985), p 97; Glossary; LS Amery *THWSA* VI (1909), pp 483-6. *Appendices to Evidence RCWSA* (1904), pp 195-8; WO 106/38 & BORs III p 217. Hamilton and Vincent had doubts on HE's value, though Vincent reported the Japanese felt that the Russians should have used it, *BORs* I p 55; Capt Barrett 'The "Q" Club Prize Essay 1906' *JRUSI* LI (1907), p 805; Gen Rohne 'Optimism in the German Field Artillery' *JRUSI* XLIV (1905), p 522; Marble *Infantry*, p 19 wrongly states that shrapnel has no neutralising effect; Capt Soloviev *Actual Experiences of War* (Washington 1906), p 18. This work was available in Britain.

43 Towle *Influence* p 134, he does not cite contemporary sources for this statement.
small army emphasising manoeuvre was unlikely to be able to afford the time or ammunition. But Hume saw HE as a valuable adjunct to shrapnel, as the latter had little destructive effect. Dr Towle criticises the British for not introducing HE, citing Continental armies’ adoption of field gun HE, but British divisions had, unlike the French, HE-firing howitzers, while Germany’s strategy based on offence meant that they might reasonably expect to have to shell fortifications more often than the British. Furthermore Continental field gun HE scales were small, while wartime experience showed that field gun HE shells were too small to destroy defences.44

Inter-Arm Cooperation

As in South Africa the MAs identified infantry/artillery cooperation as vital to cover attacks due to increased defensive firepower. Dr Marble suggests that Japanese gunners were severely criticised for using Indirect Fire and consequently for providing poor infantry support. The evidence is not overwhelming; many MAs and commentators suggest that generally artillery support was good. Hume reported that some Japanese infantry abused their artillery, a phenomenon not unknown in other armies, but most: ‘look more and more for the support of the guns.’ Hume ended:

The way the Japanese artillery supports its infantry is admirable, concentrating fire on important points, firing over the heads of the attacking lines and keeping it up to the last moment.

South Africa had emphasised both the latter points. That the Japanese used overhead fire suggests that they were possibly firing Indirect and that Hume was more evenly balanced on the question than Dr Towle allows. Swinton, involved with the British Official History, felt that cooperation was better than in South Africa. British manuals continued to stress artillery/infantry cooperation down to 1914  

44WO 33/1518 p 373; FAT (Provisional) 1912 p 218; BORS II p 611; Glossary; Stone ‘Heavy Artillery’ p 931; Table 25; VDPs 69/74/1 ‘Smith-Dorrien/von Donop 20/12/14.
suggesting continuity between South Africa and Manchuria.\textsuperscript{45}

**Artillery Tactics**

British commentators used Manchurian data to debate whether artillery should be massed or dispersed. South Africa had first raised the issue. MAs noted that the Japanese switched from concentrated batteries at the Yalu to dispersed, despite their primitive signalling. Hamilton supported dispersion, Gen Nicholson was undecided, but recommended that batteries should be able to communicate rapidly, implicitly recognising that dispersal might be necessary. Vincent stressed artillery communications and many commentators highlighted the value of telephones for artillery. Manchuria confirmed that dispersing artillery was advantageous but demanded good signalling. Dispersion would inevitably mean greater use of Indirect Fire.\textsuperscript{46} Vincent made another deduction by stressing the need for a divisional CRA to control dispersed batteries. The Army did not permanently establish CRAs until 1908 and it would be wrong to claim that Manchuria was decisive in their establishment. The greater number of pieces in the large infantry divisions made them essential, while South Africa had demonstrated their value.\textsuperscript{47}

Dr Towle states that contemporaries first questioned artillery duels as a separate tactical phase after Manchuria. In fact South Africa had already shown that the weaker, defending artillery would reserve its fire, thus shunning duelling, until enemy infantry advanced. The Army rebutted Hamilton’s criticisms of artillery duels in Manchuria by stating that *FAT 1902* did not mention them. But there was still debate on them as late as 1906. Later the Direct Fire artillery duel mutated into the

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\textsuperscript{45}Vincent ‘Artillery’ pp 31-2; Marble ‘RA’ p 93; *BORS* II pp 617,578; Capt Dawnay ‘Artillery and Infantry in the Final Stages of the Attack’ *JRA* XXXV (1908-9), pp 51-2; MAs emphasised artillery communications eg WO 33/1518 pp 353, 374; Capt Swinton ‘The Defence of a Position Upon Open Ground’ *REJ* IV (1906), p 132; Gen Hamilton ‘Training of the Troops during 1906’ *JRUSI* L (1906),p 1521; Glossary.

\textsuperscript{46} *BORS* II p 562; Ibid pp 562-3, Ibid p 560; ‘Artillery’ pp 34-5; ‘The Transmission of Orders and Information in War’ *USM* XXXI (1905),p 523; Chapter 4; Glossary.

\textsuperscript{47} Vincent ‘Artillery’ p 35; Chapters 3-4; WO 27/491 ‘IGF Report 1905’ pp 23-4 urged establishing CRAs in divisions.
long CB struggle that was such a prominent feature of the First World War.\textsuperscript{48} This, however, was based on Indirect Fire.

**Mountain Artillery**

Dr Towle states that: ‘in 1903 the Mountain Artillery had finally been abolished in the British Army.’ He does not account for Territorial mountain artillery.\textsuperscript{49} Despite favourable Manchurian reports, mountain was, and for that matter remains inferior to field artillery in range and firepower. It was usually packborne, having higher cross-country but lower road mobility than wheeled weapons. Continental combat generally demanded field artillery’s attributes and, in a period of stringency, reluctance to expand mountain artillery in Britain made sense.\textsuperscript{50} But CTrg 1905 was amended to emphasise mountain artillery’s ability to support infantry closely in conventional warfare through its inconspicuousness and cross-country mobility. CTrg 1902 had not mentioned this point which was clearly a Manchurian lesson.\textsuperscript{51} Also India formed more mountain batteries after 1904. But this increase cannot be ascribed just to Manchuria. They were essential to combat growing tribal firepower. The development of the 3.7” QF mountain howitzer after Manchuria again suggests that Towle’s point is overemphasised.\textsuperscript{52}

**Infantry Firepower**

The British criticised both sides’ marksmanship; Hamilton reported Russian reservists unable to sight their rifles and 70-man Russian volleys, contrasting them

\textsuperscript{48} Towle *Influence* p 134; WO 33/1520 p 455 fn; Lt Col May *A Retrospect on the South African War* (1901), pp 126-8 suggests their obsolescence. But duels were seen in Manchuria, probably because of primitive tactics and poor communications, eg BORS II p618, compelled Direct Fire; Chapter 4; WO 27/491 ‘IGF Report 1907’ pp 79-80; WO 27/503 ‘Discussion following RA Operations 26/8/04;’ Gen Famdale *History of the Royal Regiment of Artillery* (Woolwich 1986), pp 147-9, 186-90.\textsuperscript{49} Towle *Influence* p130, this and his footnote 98 are ambiguous; Maj MacMunn *The Armies of India* (1911), p 180; Maj Knapp ‘Pack Artillery and the Close Support of the Infantry Attack’ *JRUSI* LII (1908), p 963.\textsuperscript{50} Maj Geddes ‘The Tactical Employment of Pack Artillery: A Criticism’ *JRUSI* L (1906), pp722-3.\textsuperscript{51} CTrg 1905 *Amendments* (1907), p 13.\textsuperscript{52} L/MIL/17/5/1617 p 294; WO 33/3013 pp 46,49. But the IGF criticised the fact that there was little mountain artillery in Britain, citing Manchuria, WO 27/491 ‘IGF Report 1905’ p 23.
with Japanese independent fire. He felt that Russia had not studied South Africa’s firepower lessons. The MAs generally felt that neither side exploited small arms firepower fully, though they reported machine guns’ effectiveness. This was despite neither side having emphasised them prewar.\(^{53}\) Monro, Commandant Hythe, highlighted their importance to the 1906 GS Conference, citing Manchurian data. Based on this, French centralised machine guns in 3 brigades, ordering their brigadiers to select a BMGO who was to train their detachments.\(^{54}\) *MAT 1908* stressed:

> The value of machineguns in every form of warfare has been and is steadily increasing; the fire effect ... will be of the greatest importance on battlefields of the future.\(^{55}\)

This does not refer to Manchuria directly, but that it made deductions on future wars suggests that experience from Manchuria was used. Later *MAT 1908* mentioned the Russo-Japanese War directly, recommending training extra machine gunners to replace casualties. Generally, however, commentators felt that in shooting and minor infantry tactics there were few lessons for Britain.\(^{56}\)

**Mobility and Manoeuvre**

South African operations were generally very mobile, contrastingly

Manchurian combat was sluggish. Home commented: ‘manoeuvring was apparently not practised.’ Cavalry colonels and commentators alike were disappointed with the cavalry’s performance. Britain had hoped that Manchuria would offer guidance on mounted tactics, but, as Lyttelton noted, these expectations were unfulfilled.\(^{57}\)

There were specific reasons; Manchurian terrain was generally adverse, part was mountainous, and agriculture hampered mounted movement elsewhere. Despite these

\(^{53}\) *BORs* I pp 152-3; Lt Col Bird ‘Rifle Calibre Machinegun Tactics’ AMS (1904), p 3; ‘Russian machineguns at Liao-yang’ *REJ* I (1905), p 219.


\(^{55}\) *MAT 1908* has a section on them. The IGF often mentioned them, WO 27/491 ‘1912’ pp 69-70.

handicaps, commentators felt that Russia should have had a major advantage in its
 cavalry. This was more numerous, rifle-armed and had better horses than the
Japanese. Japan had not stressed the arm before 1904 so its cavalry tended to avoid
shock. Russian cavalry tactics were based on the US Civil War MI-style combat. 58
Towle cites McCullagh, who rode with Russian cavalry in Manchuria, on their poor
marksmanship, concluding that they must have been trained for shock-only tactics. 59
This is logical but wrong. In Manchuria most Russian cavalry were untrained
Cossacks, who, Gen Scobell, citing MA reports, assessed as being tactically
equivalent to undrilled Yeomanry and inferior to them in character. Even Russians
felt that their cavalry's training was poor. Despite these criticisms, non-cavalrymen
stressed the arm's importance; Hume felt that:

A couple of divisions of cavalry with their complement of horse artillery
would have made the defeat of the Russians [after Mukden] complete and
overwhelming.

Two Indian Staff College RFA students concurred, suggesting that the point was not
just one made by cavalrymen. 60

The MAs criticised the Russian cavalry for poor horsemastership, overloaded
horses, inertia, insufficient machine guns, poor training, defective marksmanship and
scouting. These repeated British mistakes in South Africa. 61 British cavalrymen
censured Japanese cavalry for lacking rifles, machine guns and horse artillery. 62 This
shows that British cavalry attitudes had altered since South Africa and it suggests
continuity of lessons.

58 Jardine felt terrain impaired cavalry mobility, BORs II, pp 535-6; Hamilton disagreed, pp 528-9;
Ibid, pp 569,589; Gen de Negrier The Lessons of the Russo-Japanese War (1906), p 10; W McElwee
The Art of War (1974), pp 172, 196-7 for the Russian cavalry's MI style tactics based on the US Civil
War.
59 Influence p 175; ANG XLVI (1905), p 54 claimed that Cossacks did no marksmanship training.
60 F McCullagh With the Cossacks (1906), p 277; BORs I p 216. Maj Burton 'Cossack and Sowar' JUSII
XXXIII (1904), p 134; 'A Neglected Warning in Russia' CJ II (1907), pp 217-8; 'Cavalry' AMS
(1905), p 7. Jardine disparaged Cossacks, WO 33/1518 p 347; 'RUSSIA-Cavalry in the Present War'
JRUSI XLIX (1905), pp 981-2; BORs II, p 611; DALISCMBs pp 88,96.
61 Staff Col Zaleskij 'The Russian Cavalry in the War with the Japanese' CJ I (1906), p 320.

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Towle argues that South Africa and Manchuria demonstrated the superiority of MI over cavalry tactics. Dr Badsey has criticised this general proposition, while Russian MI-style tactics cannot be regarded as having been effective in Manchuria. The Russians failed to exploit their superiority in cavalry and consequently in mobility. It is suggested here that the correct argument is not fire versus shock but manoeuvre against inertia. Here Hamilton has force:

My arguments are not directed against the sword as such but only against those who would train cavalry so that they would enter upon a field of battle thinking rather of where they may deliver a charge than of how they may employ their mobility. I have watched thousands of men trained on this system... sitting idle on their horses.63

Historians have often focused on Hamilton’s remark:

it would be as reasonable to introduce the elephants of Porus on to a modern battlefield as regiments of lancers and dragoons who are too much imbued with the true cavalry spirit to use fire-arms.

They have concluded consequently that all cavalry were obsolete; in fact Hamilton was criticising shock-only tactics. He later emphasised:

All the obvious tactical advantages commanded by the well-mounted soldier—such as ability to cross swiftly a fire-swept zone, moving rapidly to the flank or rear of the enemy, seizing a position far in advance of the army.64

He noted that there were still fleeting opportunities for shock. Two of Hamilton’s 3 tasks involved manoeuvre not shock. This suggests that British thinking on cavalry was developing towards operational level manoeuvre as Chapter 5 argues.

Many cavalrymen agreed with him. Furthermore mounted reconnaissance, increasingly tactically important, could not be conducted using MI-style tactics.65

The British criticised both sides’ cavalry for inertia, defensiveness and failure

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62 Brig Gen Bethune ‘The Uses of Cavalry and [MI] in Modern Warfare’ JRUSI L (1906), p630.
63 Towle Influence p167; S Badsey Fire and the Sword (Cambridge 1981), pp 348-51; BORs II pp 528-9.
64 HamPs 15/1/31 p 12; Maj Gen Greenly Russo-Japanese War-Cavalry Reports (np nd), ‘Report (35)’ p 317; A Staff Officer’s Scrapbook I (1905), pp 215-6; Greenly Russo-Japanese p 323.
65 Eg Maj Gen Scobell ‘Cavalry’ (AMS 1905), pp 10-11; ‘German Cavalry and Lessons of the Russo-Japanese War CJ II (1907), pp 224,222. Doctrinally British MI did not reconnoitre mounted; there had been exceptions in South Africa; Chapter 5.
to exploit successes, though they recognised the Japanese disadvantages. They argued for greater manoeuvre. *CT 1907*’s emphasis on daring action may have been partly derived from the inert performance of cavalry in Manchuria. British views on cavalry raids were influenced by a sluggish Russian mission, made without surprise, with poor protection and reliant on wheeled resupply. That wagons accompanied the raiders slowed their movement over country in which requisitions could have been levied. The raid unsurprisingly failed to cut vital Japanese communications. The Russians botched a chance for decisive manoeuvre.

British commentators condemned both sides’ immobility. Haking remarked:

‘[n]either [side] have shown any power or capability of manoeuvre.’

Haking, a Camberley DS, lecturing at the 1905 GS conference, probably reflected official thinking by deducing from Manchuria:

> With our small army we should, therefore, be masters in the art of manoeuvring ... To do this effectively it is of the first importance that we should possess great skill in the handling of cavalry, of advanced guards and of outposts. We should be constantly practicing such operations, our junior officers should thoroughly understand both the theory and practice of such detachments, so they can act intelligently, ably and without fear ... of doing ... wrong. ... If we could free our officers of that fear we should have the finest army in the world.

Haking’s link between initiative and manoeuvre again suggests continuity of lessons from South Africa. His use of ‘theory’ implies doctrine, and his point on tolerating mistakes suggests that training was changing as Chapter 9 argues. Col Kiggell criticised Japanese slowness, though recognising their logistic and geographic handicaps. He stressed that mobility was vital between evenly-matched forces. Many

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66 *CT 1907* p 187. There was also a reaction against *CT 1904*. Cavalry inertia in South Africa also contributed to *CT 1907*’s emphasis.

67 Capt Knox ‘Mischenko’s Raid on Yinkow’ *JUSII* XXXVII (1908), pp 82,84,87-8,152-3; Gen Hamilton ‘Manoeuvre Notes 1/9/07’ p 2.

commentators argued for activity and manoeuvre in combat after Manchuria. Such tactics did not necessarily involve shock action. They represented a shift towards operational level manoeuvre. Haking’s recommendations can be seen as a forerunner of *MAT 1908* which similarly emphasised manoeuvre.

Col Maude argued that Manchurian lessons on the need for heavy artillery and additional ammunition would, if implemented, delay embarking an expeditionary force. Elsewhere he blamed indecisive Manchurian battles on: ‘slow movement.’ He argued that mobility determined victory; this view by an ex-sapper suggests that not all apostles of mobility were hippophiles. Col May, a gunner, argued similarly in CGS’s presence. Grierson, when DMO, stimulated by Manchurian reports, criticised excessive British baggage as hampering mobility; this probably resulted in a committee which cut transport and impedimenta. The Committee cited Stonewall Jackson’s campaigns as a reason for increasing mobility. Commentators condemned Japanese operational and strategic caution, insufficient cavalry, and sluggish pursuits, while postwar official reports emphasised that Japan was increasing her cavalry.

**Protection**

With one regular siege and periods when combat congealed into positional warfare, entrenchment was more extensive than in South Africa. Whether increased firepower or the slower pace of combat in Manchuria, caused by logistics and other factors, impelled such tactics is irrelevant here. British commentators noted the

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69 Gen Hamley and Col Kiggell *The Operations of War* (Edinburgh 1907), pp 380-1, 408; ‘How Cavalry might have been used in the Russo-Japanese War’ CII (1907), p 478; ‘What Cavalry Should Learn from the Late Campaign in Manchuria’ CII (1907), p 363; Chapter 5.

70 Economic Army Reform’ CRev XC (1906), p 218.

71 Lt Col Maude ‘Mobility: Its Influence on Strategy’ JRUSI LII (1908), pp 197,204, Clausewitz argued similarly, Chapter 9; ‘The Employment of Heavy Artillery in the Field’ JRA XXXV (1908-1909), p 21.

change, but were divided on the cause.

Fieldcraft

MAs reported that Russian infantry were untrained in using cover and were thus vulnerable to enemy fire. It:

was heavy in manoeuvre and not trained to fight in extended order. The losses due to close formations were very heavy... After... Mukden loose formations were practised,...[but] to the last ... the Russians had not learnt how to use ground and they still moved slowly presenting a good target. 73

Hamilton, with the Japanese, noted that:

The closeness of the Russian formations left nothing to be desired. The men were shoulder to shoulder, usually quite visible lying along the top of a ridge while their officers stood up with field glasses. 74

He reported that the Japanese tended to extend more as the war progressed adopting: ‘South African’ tactics. The Indian Staff College felt that Boer-style extension would have been more effective than the Russian close-order. That British MAs with both sides had clearly recognised Russian vulnerability to fire suggests that Dr Towle’s point that the British had underestimated Russian casualties is overstated. 75

Observers argued that Russian soldiers, due to poor education and rigid discipline, were incapable of dispersed combat and individual fieldcraft, Col Monro emphasised both points at CGS’ 1906 conference. These failings partly explain Russian difficulties with reconnaissance. MAs reported the Japanese stress on concealment and camouflage. But South Africa had sensitised the British to fieldcraft and concealment, another tactical continuity between the wars. Later Aldershot stressed the importance of studying ground, citing Manchurian lessons. 76

Field Defences

MAs carefully reported trench designs, praising good entrenchment and

73 Capt Holman The Russo-Japanese War Joint Report I (1906), p 49. He served with the Russians.
74 Maj Macomb ‘The Russian Infantry Soldier’ JRUSI L (1906), p 1167; BORs I p 152.
75 DALISCMBp 35.
76 W Kirton ‘With the Japanese on the Yalu’ JRUSI XLIV (1905), p 271; WO 279/9 p 120; WO 33/1518 p 50; WO 27/506 ‘Training ... Aldershot...1907.’
excoriating exposed or poorly-dug trenches. That one critic was an Indian
cavalryman suggests that arm’s attitudes had altered since 1899. As combat
continued, both sides appreciated field defences: ‘more and more strongly.’ Several
MAs noted Japanese entrenchment during assaults and their increased carriage of
entrenching tools. Agar’s report devoted a section to both topics, emphasising the
growth of firepower and the consequent need for defences. But South Africa had also
stressed both points. 77

MAs highlighted the tactical importance of anti-infantry obstacles, particularly
barbed wire combined with machine guns:

in almost every succeeding engagement the main difficulty to be overcome has
arisen from these two creations of modern war.

South Africa had taught similar lessons, though, due to Boer reluctance to attack,
their salience was less. Guided by both campaigns, Callwell foresaw that: ‘that wire
will.... be very extensively used’ in future wars. An infantryman commented:

‘Manchuria points to wire entanglements as being ... the best obstacle.’ 78 Haldane
deduced that sappers were needed to cut wire during attacks. He criticised CTrg
1902’s statement that it was impossible to entrench during attacks. CTrg 1905 was
later altered to reflect both lessons. 79

Manchuria reconfirmed the South African lesson on the need to hide defences.
Observers reported careful Japanese camouflage and were highly critical of
prominent Russian positions which were consequently vulnerable to artillery. Agar
commented:

hardly sufficient importance has hitherto been attached by us to this most
important matter of concealment, invisibility only being given fifth place in the

77 BORS II Reports 39,40&41; BORS I pp 182,166; BORS II pp 641, 638-640
78 Col Callwell The Tactics of To-Day (Edinburgh 1909),p 158; BORS I (1908),p 60; Maj Jennings-
Bramly The Execution of Infantry Entrenchments (1908), p 55.
79 BORs I, p226; Ibid p227. CTrg 1902 did not reflect 1899-1902’s experience; it probably meant
formal entrenchment rather than hasty digging, see Chapter 6. For Haldane’s original remarks, see
WO 33/1518 p 118.
essential principles in the design of a fire-trench ... in the [MME].

 Later The Manual of Field Engineering stressed:

The value of concealment cannot be over-estimated and every effort must be made to conceal the site of all earthworks... It must always be borne in mind that invisibility is often as valuable as cover itself.

It is not possible to directly link this change to Manchuria as South Africa had already stressed concealment, but the publication date of Manual of Field Engineering suggests that Manchuria probably caused this change. It apparently influenced new trench designs.

Engineers

Engineers felt that Manchuria was more representative for their arm as most tasks involved combat. In South Africa most had been logistical. The Wood Committee, established to review the sappers, stated:

The general trend of modern warfare, study of the South African War... and also the reports of the [MAs] from [Manchuria] point to... the greater employment of field engineers on the modern field of battle... [and] an effective organisation for the quick transmission of information.

Here a major committee recognised continuity of lessons. The Committee felt that engineers should be increased, citing, based on Manchuria, their greater role in combat, siege warfare and manning both communications and new technology.

South Africa had also demonstrated the latter two tasks' importance. Gen French argued for RE expansion; later Britain increased engineers in infantry divisions from 1 to 2 field companies and wished to include more, but engineers were expensive as Dr Towle explains. But this increase was at the expense of overall RE numbers in

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80 BORs II pp 641-2.
81 Manual of Military Engineering (1911), p 24; Suggested by Lt Col Heath who reproduced the new designs in his lecture 'Field Engineering in the Light of Modern Warfare' JRUSI L (1906). The plates show complex redoubts, very different from the designs used in South African field combat. MME 1901 (Provisional) saw redoubts as not very useful in war, emphasis on them in the 1905 edition suggests Manchuria's influence.
82 Eg Capt Wilson 'Field Engineers for Our Next War' REJ VI (1906), p 89.
the BEF. The Committee recommended that senior RE officers of divisions be given greater powers, and stressed the need for speedy formation-wide communications. Both were also South African lessons. The British created a specialist Signals Service in 1912; this was an RE responsibility. This was not just a result of Manchuria; Tirah and South Africa had demonstrated the importance of signals in dispersed combat, but the continuity of lessons is important. Manchuria also influenced RE training.

**Positional and Siege Warfare**

Dr Towle suggested that Britain should have adopted more positional tactics after Manchuria. He has criticised Repington’s comment:

Fortifications are the invention of the Evil One and that an army that intrenches, (sic) except offensively, is lost. War is an affair of activity, initiative and manoeuvre; the trench and the parapet are the negation of all three.

But this was apparently directed at war’s operational level, suggested by Repington’s use of ‘army,’ rather than indicating his opposition to all tactical entrenchment. That Repington had also stressed manoeuvre immediately before and after the above quotation supports this argument. De Negrier shared Repington’s concerns. Lt Col Heath, a sapper psc who later served on the Siege Committee, argued that even elaborate defences could be outmanoeuvred. Edmonds, another sapper, writing about a campaign also involving extensive fortification, concurred. Col Agar, a sapper MA, felt that extensive entrenchment would be impossible in Europe; neither time nor labour would be available, but he stressed its value in slower-paced Manchurian combat. That a senior sapper MA argued thus suggests that not all critics

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84 Maj Priestley *The Signals Service in the European War of 1914 to 1918* (Chatham 1921), p 5.
85 WO 27/505 ‘CRE Aldershot Memorandum on Field Engineering Manchwia.’ Though limited to Aldershot, the garrison’s prominence was likely to have caused further dissemination.
88 *The Campaign in Virginia in May and June 1864* PRAIs XXXV(1908-1909), p 543.
of over-entrenchment were either reactionary or non-engineers. Col Ferrier, Commandant SME, emphasised to an all-arms senior officers' fortification course the dangers: 'of fortified areas in which armies are liable to be trapped.' His comment possibly suggests Port Arthur where a substantial Russian force was encircled. Ferrier was rather critical of the course's value but one student was impressed in retrospect. That such a course had been established suggests Manchuria's influence. Camberley felt that: 'MANOEUVRE is the ANTIDOTE of ENTRENCHMENTS (sic).'

Dr Towle argues that sappers generally advocated entrenchment and hence positional warfare. Here it is suggested that the division was more complex. Towle correctly identifies a number of junior engineers who supported such tactics. But some senior sappers appreciated that entrenchment was no ne plus ultra to manoeuvre. Nicholson, the CGS, though an engineer and an ex-Manchurian MA, permitted MAT 1908 and FSRs 1909 to emphasise manoeuvre. Towle also argues that junior ranks, defying their superiors, prevented effective digging on manoeuvres. Here it must be stressed that the style of manoeuvres changed from the deliberate, positional Manchurian-based schemes, to highly mobile ones before 1914. It is hard to see Smith-Dorrien or Haig being powerless to force their juniors to dig while Hamilton noted that troops entrenched enthusiastically. However, French as IGF was worried:

I do not believe that instruction in the practical and thorough entrenching of positions receives adequate attention, though a few years ago it was a prominent feature of all our larger exercises.

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89 BORS II p 637. The similar GS opinion cited by von Donop may be due to Agar's influence. But Nicholson was also present and was far more senior.
90 FEP's pp 15-4.
91 CAB 45/132 Birch/Edmonds 8/7/30. Birch was a horse gunner; he became a senior artillery commander and heavy artillery expert in the First World War.
92 ROBPs 1/2/10 'Notes on Strategy by Col Henderson...' 1912 Edition. Operations DESERT STORM and COMPASS confirm the point.
93 Towle Influence p 14; Chesney, an ex-sapper, had also stressed manoeuvre, Chapter 5.
Consequently French set a TEWT for the REs of 1, 2 and 3 Divisions involving the
defence of a 4 mile position. Rather earlier Smith Dorrien had caused a Manchurian
style position to be prepared and attacked. The Army Council noted that next MAT
would emphasise entrenchment. 94

Port Arthur rekindled British interest in siege warfare, largely dormant since
Delhi. Here it is emphasised that South Africa’s sieges were blockades rather than
conforming to Vauban’s classic principles. Previously the RGA had practised siege
gunnery, siege trains existed and sappers studied fortification, but these had little
discernible army-wide impact. Port Arthur emphasised that sieges were a distinct
possibility for Britain; that it supported naval operations strengthened the argument.

Dr Towle ignores the impact on Britain:

[1]he importance of Siege Manoeuvres has of late years been recognised by
more than one Continental Power, and the want of technical skill shewn by the
Japanese troops in their attack on Port Arthur, directed the attention of the
English Military Authorities to the great necessity for the instruction of troops
in siege warfare... It was thought that the day of mining and handgrenades were
numbered. [Manchuria] has...clearly demonstrated that this is far from...the
case. 95

The 1907 Chatham siege manoeuvres resulted. These involved demolishing a fort
and were on a considerable scale. But the report was clear as to why a major siege
posed problems for Britain. It would demand at least 3 divisions, many batteries, as
well as a multi-division covering force, and would last months. Here it is worth
emphasising that Bloch had forecast that prolonged mass-warfare was economically
and logistically impossible. No major state anticipated prolonged fighting in 1914. 96

94 Ibid p 156; manoeuvres primarily exercise commanders and staff; timescales are curtailed, low­
level tactics are less prominent. The GS were concerned at improving entrenchment on manoeuvres,
WO 279/45 p 56, the problem was time and filling in trenches afterwards; ‘Training of the Troops
during 1906’ JRUSI L (1906), p 1521. WO 279/48 p 26 stresses that British Infantry had many more
1904.’ WO 27/508 ‘IGF Report 1910’ p 5. There was not enough time on manoeuvres for extensive
digging, while filling in trenches was slow and damage costly; Ibid pp 20-1.
95 WO279/15 p 7.
96 I Bloch Is War Now Impossible? (1899), pp xi, xxxii-xxxvi; Lt Gen von Freytag-Loringhoven
Deductions from the World War (1918), pp 15-6.
A siege committee was established in 1908. Its work was based on Manchuria and the 1907 manoeuvres. It recommended publishing a manual of siege warfare. Ex-Manchurian MAs with experience of Port Arthur, drafted this work which was later subsumed within *FSRs 1909*. There it probably had a greater chance of influencing the other arms.  

Manchuria influenced subsequent siege training and inspired the development of grenades, Bangalore Torpedoes and 9.2" Howitzers.

**Human Factors**

**Initiative**

British commentators were convinced that superior Japanese human factors were partly responsible for their victory. There was great British interest in them, perhaps implicitly recognising British failures in South Africa. That the British had overhauled their treatment of initiative and discipline after 1902 was a further reason for study. Many contrasted Japanese initiative with Russian inertia. Hamilton commented: ‘our allies are warlike … by tradition; and upon patriotism… their government has been careful to graft initiative, quickness and intelligence.’ He linked these qualities to Japanese education. Hamilton criticised Russian frontal close-order attacks: ‘[n]ot even their companies still less their sections or individuals seemed to show much flexibility, dash or initiative.’ He censured Russian failures to use ground, describing their volleys as: ‘the negation of individualism and wide extensions.’ Col Waters thought that the Russians had problems adopting modern tactics due to their: ‘lack of initiative.’ French stressed to the Aldershot Command that human factors were vital in successful combat, citing the Japanese as an

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98 WO 33/2986; Lt Col Sandes *The Indian Sappers and Miners* (Chatham 1948), p 446.  
100 Eg ‘Chasseur’ *A Study of the Russo-Japanese War II* *BWM* CLXXVII (1905), p 296; Holbrook *Russo-Japanese War* p 605.  
101 Gen Hamilton *A Staff Officer’s Scrapbook* I (1905), pp 10-11, 16-7, 256-7, 113.  
102 *Reports on the Campaign in Manchuria in 1904* (1905), pp 3, 133.
example. Maj Bird, a Quetta DS, criticised Russian training, remarking that:

‘individual initiative [was] discouraged.’ Col Ross, a Camberley DS, criticised the
Russian Viceroy who: ‘stamped out initiative, and thereby destroyed all offensive
spirit.’ These criticisms by two able middle-ranking officers suggest the Army’s
trend of thinking. Repington stressed the imperative need for: ‘independence,
initiative and intelligence,’ which he felt Tsarism had repressed. Defective human
factors had impeded the Russian ability to manoeuvre. Maj Maurice, later DMO,
praised Japanese soldiers’ qualities and their army’s training, contrastingly the
Russians were: ‘quite incapable of thinking for themselves.’ In a work translated
and edited by serving British officers, Kuropatkin, the Russian CinC, condemned
Russian officers and soldiers’ poor initiative and recommended urgent
improvement. The GS circulated an article by Capt Degtyarev, a Manchurian
veteran, recommending low-level initiative. Others maintained that the Russians
were unable to adopt open-order tactics due to their inertia, comparing: ‘[i]ntelligent’
Japanese soldiers with their: ‘stupid, cumbersome and ill-led’ adversaries. The
Quarterly Review commented that: ‘the necessity for education, personal initiative,
and intelligence has been equally proved by [South Africa and Manchuria].’ This is
another example of contemporary parallels between the two wars.

The above evidence suggests that British interest in initiative had not declined
since 1902. All were effectively arguing that the Russians were incapable of
dispersed, modern tactics due to their defective human factors. Dr Towle argues that

103 WO 27/503 ‘Training 1st Army Corps’ p 2; Lectures on the Strategy of the Russo-Japanese War
104 Far East pp 314-5. made immediately before commenting on entrenchment, fn 86 above.
105 Cambridge Modern History XII (Cambridge 1910), pp 584-5. FB Maurice wrote this section.
107 ‘Notes upon Company and Battalion Tactics’ JRUSI LII (1908), p 66.
p 129; FHE Cunliffe Some Causes of the Japanese Victories’ CHM XVIII (1905), p 770; Col
Training...1906’ JRUSI LI (1907), p 714.
British infantry tactics regressed after Manchuria. This is examined later but what must be stressed here is that the contemporary British emphasis on human factors was essential for modern, dispersed tactics. Manchuria had reiterated the importance of initiative.  

Training after 1905 continued to emphasise initiative. Col Macartney-Filgate described imaginative scout training, designed to develop initiative, based on Manchuria. Brig Gen Bloomfield’s lecture ‘Modern Warfare and Individual Initiative’ cited many Manchurian and South African examples. Bloomfield linked firepower and extended battlefields, deducing that on them: ‘individual intelligence became absolutely necessary.’ The Japanese stress on initiative influenced scout training, while the Pachmahi Musketry School instilled initiative on Japanese lines. Unfortunately the article did not describe their methods, but that a major school stressed both initiative and the Japanese example suggests that Manchuria was influential.

**Patriotism and the Japanese**

The Japanese example encouraged the cultivation of patriotism in soldiers. Capper, Commandant Quetta, stressed this and British manuals from 1905 accentuated it. *CT 1907* emphasised:

The soldier must be given a far higher aim than that of merely satisfying ... the drill instructor. He must be encouraged to feel that in perfecting himself as a fighting man he is preparing to take his part in furthering the aims of his country... Among soldiers so trained, individuality and self-reliance can safely be developed without any fear of sacrificing discipline. The strongest form of discipline in an army is that which comes from the conception of duty in its highest form which is the spirit of loyalty to King and country.

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110 Towle *Influence* pp 84-5; Capt Cunninghame *Changes in Training and Infantry Formations* (Dublin 1911), p 13.

111 ‘Manchuria in the Mourne Mountains.’ *CHM* XXVI (1909). It also included Peninsular LI experience; *USG* (18/1/06), p 45.

112 *Scouting and the Training of Scouts in Peace* (Dublin 1907), pp 3, 5, 8-9; Col Skinner ‘Fire Discipline’ *AR* II (1912), pp 458, 462; CPs 2/4/1 ‘Memoir for Junior Division-Lecture’ 1908 pp 2-4.

113 *CT 1907* p 18.
This quotation analyses ‘internal’ discipline well. *CT 1904* was less emphatic, suggesting that the Japanese Army and Manchuria had caused the change. Though it is impossible to prove Japanese influence directly, but when comparing these sentiments with Capper’s remarks on patriotism, Maj Bannerman’s lecture ‘The Creation of the Japanese National Spirit,’ Diosy’s lecture ‘The Spirit of the Armed Forces of Japan’ or Repington’s ‘The Soul of a Nation,’ the linkage is strong. Other manuals stressed patriotism, suggesting the shift towards ‘internal’ motivation argued in Chapter 7.¹¹⁴

It may be objected that both the press and schools had promoted patriotism heavily before 1899. Scholars have analysed both contemporary attitudes to and the efforts to instil it. But they have not cited official efforts to promote patriotism in the Army. The scholarly consensus is that patriotism was reasonably widespread in those classes which furnished the bulk of officers and soldiers. Furthermore the rush of volunteers in 1899-1900 suggests no lack of patriotism.¹¹⁵ Baynes argues that patriotism was a deep-rooted but undemonstrative element in most officers and to a lesser extent in soldiers.¹¹⁶ Had a lack of patriotism been perceived as a problem in South Africa, and there is no evidence of such attitudes affecting combat, it would have been logical to have used *CTrg 1902* and *IT 1902* to start inculcating it.¹¹⁷ It is of course possible to argue that there would have been a lag before implementation, but the fact that *CT 1904*, a major manual, emphasised patriotism far less than *CT*

¹¹⁴ *PRAIs* XXXII (1905-6); *The Times* 4/10/04, Repington *Far East* Chapter XXXIII; *IT 1911* stressed patriotism and morale, pp 1-2, *IT 1905* issued on 1/2/05, effectively before Manchuria’s lessons were digested, was far less emphatic than the former.


¹¹⁶ Lt Col Baynes *Morale* (NY reprinted 1988), Chapter 10. The work is secondary and has defects, but it is, however, the only detailed analysis of attitudes of soldiers in the Edwardian period and was based on research with veterans.

1907 did, suggests that the Russo-Japanese War was the main reason. The Japanese provided a formidable example of patriotism, initiative and ‘internal’ discipline. This naturally appeared very relevant to inculcating these qualities, demanded by manoeuvre-based tactics, in British soldiers. The second point of interest is that the Army even made an official effort. Generally the British attitude to the official fostering of patriotism is well illustrated by Kipling’s: ‘Jelly-bellied Flag-flapper.’ Here it must be emphasised that individual officers and units probably encouraged patriotism before 1904, though the evidence is poor. After Manchuria the Japanese were often cited as an example.

Professor Travers argues that the British overemphasised morale and determination in 1914, though their doctrine was more restrained than the French, but his criticisms are somewhat overstated. Morale remains a principle of war, human factors are vital in manoeuvre warfare and, given the radical alterations in the British treatment of initiative and discipline, their interest in Japanese personnel qualities is defensible, being related to ‘internal’ discipline and open-order tactics.

It may also be added that, despite far greater casualties and a far more testing combat-environment, the Army in 1916-18 did not suffer as large a dip in morale as occurred between 1941-2. How far its fostering of human factors before 1914 sustained morale in the grim period 1915-1916 is remain a matter for further research. But on the evidence available here, the Army was probably right

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118 R Kipling Stalky and Co (1899), pp 211-15. It may be noted that the Chancellor of the Exchequer’s promotion of Britishness has equally failed to move the nation, Times various dates May-June 2007. The use of fiction may be deemed inappropriate but Kipling who had excellent links with the Establishment and Army has considerable credibility and was writing in the period.
Patriotism, Initiative, the Boy Scouts and Japan

The creation of the Boy Scout movement gives an interesting sidelight on a number of issues with which this Chapter examines. The Scouts grew out of Baden-Powell’s manual *Aids to Scouting* which was spontaneously used by teachers, leaders of organisations such as the Boys’ Brigade and private individuals to train youths from 1900. Allenby’s governess used it to teach his son. She had been instructed in its educational value at her training college.

It would be wrong to argue that the development of the Boy Scout movement was a planned top-down process, nor was it entirely military, though Baden-Powell used much military terminology early on. Then he wished to use ‘corporal’ and ‘adjutant’ to designate subordinate scout leaders. The Army called their leaders of reconnaissance troops: ‘scoutmasters,’ like the Scouts. Baden-Powell’s programme at Brownsea Island showed a heavy military influence, while his stress on training in living in rough conditions was an important South African lesson. He took his group at Brownsea out: ‘on duty as “night picket”’ and let them bivouac by patrols. His programme there was based on the following:

- **Day 1** Duties, orders.
- **Day 2** Campaigning, including cooking, health, camp resourcefulness.
- **Day 3** Observation.
- **Day 4** Woodcraft including stalking.
- **Day 5** Chivalry including: ‘Code of the Knights.’ ‘Patriotism,’ ‘Loyalty to King, employers and officers.’
- **Day 6** Lifesaving.
- **Day 7** Patriotism incorporating the Services, also marksmanship, History and Empire, duties as citizens.
- **Day 8** Games for the above.

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121 It is hard to make direct comparisons and a large number of factors have to be taken into account when assessing morale in the two World Wars. The British Army in 1941-2 had suffered a series of humiliating defeats for which there was no equivalent in 1914-18. The Depression, the aftermath of 1914-18 and criticisms of the Army undoubtedly had weakened morale. Boredom, separation from families who were in many instances more exposed to danger than soldiers provided a worse basis for morale than was the case in 1915-16. D French *Raising Churchill’s Army* (Oxford 200), p 130, C Duffy *Through German Eyes* (2006), pp 121,328. Further it can be suggested that the combat environment in 1940-1 with tanks, aircraft attacking in depth was worse than the stresses that the German artillery and machine guns inflicted between 1914-18, despite the fact that the latter caused heavier casualties.

122 P Everett *The First Ten Years* (Ipswich nd), p 13. Everett was closely associated with Baden-Powell in the period and the summary above which precises Everett’s quotation appears to have been taken from a contemporary document.
The Day 5 and 7 programmes suggest the Japanese influence. Bushido roughly interpreted equates to ‘Code of the Knights.’ Nitobe, a contemporary Japanese scholar, used knight as a synonym for samurai and chivalry for Bushido. Baden Powell explicitly acknowledged the Japanese in Scouting for Boys.¹²³

Jeal considers that Baden-Powell’s emphasis on initiative and independence was inconsistent with his stress on discipline.¹²⁴ This is perfectly explained by the fact that the Army was switching to ‘internal’ discipline fostered by patriotism, teamwork and comradeship. Baden-Powell stated that:

Scout-craft includes... resourcefulness, discipline, self-reliance, unselfishness, physical activity... loyalty and patriotism.¹²⁵

These were exactly the qualities which the Army was now seeking to inculcate in its soldiers. That Baden-Powell selected as the basic element of his organisation, the scout, the most valuable type of Infantry and Cavalry private soldier is significant. Many of the elementary games which he used had military themes or were based on military methods. The movement developed fitness, critical in view of the revelations of the poor average physique that recruiting for South Africa had revealed.¹²⁶

The Scout movement is an interesting synthesis of tactics, South African and Japanese influences mixed with civilian aspects. Howell, 2ic of the 4th Hussars stressed the need to arouse the Boy Scout spirit in the unit and in one Kitchener battalion the CO selected his JNCOs from ex-scouts.¹²⁷

General Tactics

The British admired Japanese human factors but criticised their tactics, noting that they later started to adopt South African ones. MAs reported with a touch of

¹²³ I Nitobe Bushido (NY 1905), pp 4-4,6-7; Scouting for Boys (Oxford reprinted 2004), p 212.
¹²⁴ T Jeal Baden-Powell (1989), pp 381, 413.
¹²⁵ Lt Oen Baden-Powell Scouting Games (1910); Memorandum by the Director-General, Army Medical Service, on the Physical Unfitness ... [Recruits] (1903) (Cd 1501).
¹²⁶ Lt Gen R Baden Powell Scouting Games (1910); Memorandum by the Director-General, Army Medical Service, on the Physical Unfitness ... [Recruits] (1903) (Cd 1501).
¹²⁷ HowPs 8/4/1 Letter 16/12/13.
schadenfreude the failure of close-order German tactics in Manchuria. Thus British interest was mainly directed therefore at the higher tactical levels. Roberts' tactics in 1900 had been largely based on outflanking and this was reflected in post-war training. A brigade attacking an unentrenched ½ battalion frontally was adjudged defeated. Here it must be stressed that, though outflanking was then as it is now tactically advantageous, it is often unachievable. Manchuria renewed emphasis on tactically frontal attacks. Paradoxically this may have aided manoeuvre. Smith-Dorrien conducted a 3 day frontal assault on an entrenched Manchurian-style position. A similar live-firing exercise occurred in Ireland which also involved artillery clearing barbed wire. In 1905 French outlined forthcoming training involving the: 

practice of great attacks which require several days to initiate, mature ... and bring to a successful conclusion. I mean the employment of such tactics as were used by the Japanese.

The British had noted that terrain might, as at Nan-shan, compel frontal attacks and that very extended lateral lines restricted manoeuvrability. The Army circulated the Japanese Opinions with regard to the Attack of Entrenched Positions, while Maj Home wrote a long article 'Reflections on the Tactics of the Attack' outlining deliberate, methodical assaults on positions. That Home, an MA with the Russians, became a staff officer at Aldershot in April 1905 weakens Towle's case that MAs with the Russians and their reports were ignored. But it would be over-stretching the evidence to suggest that Home decisively influenced Aldershot training in 1906.

French was clearly using MA reports. Similarly Col Waters lectured to Camberley in

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128 Notes for Guidance on South African Warfare (1900); WO 279/9 p 116; Maj Gilbert 'The Battle of Kinchau' JUSII XXXIII (1904), p 238. The ratio of relative strengths 8:1 for the attackers exceeds present norms generally taken as 3:1.
129 L/MIL/17/5/1811 pp 57-8; ‘Fantassin’ ‘Practice as Opposed to Theory...’ USM XXXVI (1907), p 203. The Glossary explains the paradox.
130Brig Gen Ballard Smith-Dorrien (1931), pp 120-1. Though secondary it is a factual statement; ‘Combined Training in Ireland’ ANG XLVI (1905), p 898; AFPs 50321 ‘Training Aldershot ...1905’ p 153.
1905. Similar deliberate tactics were used in the ‘Manchurian attack’ exercises held throughout Western India; these consisted of sapping towards objectives.

Large-scale, deliberate frontal attacks posed problems for a small, regular army. They would be costly in casualties. Far more artillery would be needed, thus impairing mobility and complicating logistics. Such tactics would have locked the British into positional, attritional combat in which numbers would ultimately prevail. They would have clashed with the BEF’s semi-independent role which demanded manoeuvre. French retrospectively criticised his failure to foresee positional warfare, but for a brief period he clearly had. The rationale which drove the Army towards manoeuvre was implicit in its size and likely mission.

Capper, writing about Manchurian night attacks, criticised positional, methodical operations, citing the Spion Kop campaign as an example. Capper saw night operations as a means of avoiding such deliberate tactics and Manchuria influenced night training, instanced by the Indian publication and FSRs 1909’s Chapter 9. Night operations were a means of defeating defensive firepower and gaining surprise. Manchuria and South Africa inspired searchlight trials and the establishment of a searchlight company. Commentators were influenced by Manchuria but also foresaw that evading aircraft observation would make night operations more attractive. Later the Army issued Elementary Training in Night Operations 1911. This summarised existing material but its production suggests the importance that the Army attached to night combat. The IGF scrutinised night

131 Glossary; JRUSJ LI (1907); Tactics pp12,1; JRUSJ LII (1908), pp 1633,1638; fn above; QAL 1908 p 10a; IPs Diary 7/4/05.
132 L/MIL/17/5/1810 p 60. Capper deprecated them for teaching over-caution.
134 FM French 1914 (1919), pp 11-12; EPs 8704-35-17; WO 106/180 p 3. Here Capper meant the slow move and methodical operations before the assault, see SKDs (1902); DFANAMW (Simla 1908); Lt Col Haldane ‘Night Attacks’ BORs II p 520.
135 Col Dawkins Night Operations For Infantry (1910),pp 1-2. Gen Haldane A Soldier’s Saga (1948), p 271 trained his brigade extensively at night, particularly in withdrawal.
training. Headlam argued that Manchuria modified South Africa’s lessons and made British tactics better suited to European warfare. This is a retrospective judgement, but Headlam, criticised for his opposition to Indirect Fire, partly a Manchurian lesson, would appear unprejudiced here. Dr Towle criticises Kiggell’s comment that 1870 was a surer model for British tactics than Manchuria, implying mental rigidity. But it is arguable that 1870, which saw manoeuvre, doctrine and initiative used at the operational level to defeat the French rapidly, may indeed be seen as superior to a war causing revolution and bankruptcy. Kiggell, introducing his edited version of Hamley’s *The Operations of War*, emphasised that tactics were constantly changing; he later analysed Manchuria and made a case for why combat there was abnormal and why manoeuvre on the lines of 1870 was still possible. It may be argued, though not conclusively proved, that Kiggell, an educated soldier, was commending 1870 for its operational-level manoeuvre, rather than the continued validity of its minor tactics. Here one faces the problem that contemporaries used tactics to describe everything from section-level combat to the operations of an army corps.

The British were very critical of Russian failures to persist in combats by committing reserves and for irresolution. Here one can detect a parallel with South Africa, where Buller’s failure to force through attacks and Roberts’ avoidance of casualties were criticised. No British contemporary commentator made this point, career considerations would have made such criticisms risky, but stinging denunciations of Russian irresolution and praise for Japanese tenacity implicitly

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136 WO 27/505 Capt Holloway ‘...Night Operations’ p 1; Gen Hamilton ‘Remarks... on Training 1908’ *JRUSI* (1908), pp 1549-50; WO 33/2967, the Committee’s work was based on Manchurian, South African, trials and European evidence; L/MIL/17/5/1617 Appendix 13 p 78; Baker-Brown *RES*, p 292; WO 27/491 ‘IGF Report 1907’ p 7.


138 Towle *Influence* p 18.

139 Hamley & Kiggell *Operations* pp v. 403-4, 376; *Home War* p 17.
criticised British performance in 1899-1900. Here one can speculate that South Africa and Manchuria helped to foster the over-determination in attack and retention of even unfavourable terrain often seen between 1914-1918.

Dr Towle sees the reports on infantry tactics as divided between progressives and conservatives, suggesting that tactics regressed after 1905. His argument is largely based on the question of extension between men. Extensions in 1899-1902 were abnormal, being up to 30 paces between men. These strained the ability to control and massively exceeded near-current British norms. At higher levels brigades and divisions deployed across frontages far exceeding European norms. Even extensions post-1902 ranged from 6-20 paces between men. The reasons for such over-extensions were the very open terrain and Boer reluctance to counterattack. Gen Hutton, a tactically progressive rifleman, had already queried them, while Hamilton, not tactically reactionary, commented:

Nothing in the war in the Far East justifies the idea that vigorously defended positions can be taken by thin lines of skirmishers.

Hythe’s trials discovered that closer intervals were feasible without undue casualties. Hamilton noted that over-wide lateral extensions hampered manoeuvre, arguing that they had become a South African fetish. This suggests that Towle’s argument is simplistic. Indeed reducing lateral extensions may enable depth to be increased, thus enhancing manoeuvrability. Hamilton argued thus, though he also warned that lateral intervals could not be contracted further. Later Capt Cunninghame, a GS officer, advocated less stereotyped tactics based on greater depth. Such tactics would have increased manoeuvrability. They depended on low-level initiative. The final

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140 Towle *Influence* pp 76-7.
141 Infantry in the late 1980s deployed roughly 10 yards apart. *MAT* 1908 pp 5-6 emphasises the difference between tactical and formation extensions and the dangers of over-extended formations.
142 HuPs 50086 Hutton/Wood 26/11/03; 'The Training of Troops during 1906' *JRUSI* L (1906), p 1523; Towle notes Hamilton’s support *Influence* p 84; WO 279/9 pp 119-120; ‘Training 1906’ p 1523; Glossary.
143 L/MIL/175/1811 p56; ‘Training of the Troops during 1907’ *JRUSI* LII (1908), pp 89-90.
argument against Towle’ thesis that British formations were insufficiently extended are British criticisms of dense German formations and German reports of wide British extensions from 1906.144

Dr Towle implicitly criticises Haig’s warning against ‘premature extension,’ but here the dual meaning of ‘extension’ deceives him. This did not relate to the physical distance between men in combat but to deployment from manoeuvre to fighting formations. Haig’s warning has validity.145

Conclusions

Current scholarship has interpreted the British assessment of Manchuria’s lessons as a failure to foresee the tactical conditions which prevailed between 1915-18. This thesis argues that Manchuria’s lessons, seen without the benefit of hindsight, were not so straightforward. Many contemporaries, including several MAs, saw tactical continuities between Manchuria and South Africa. Gen De Negrier, a noted authority, and the Germans concurred.146 Modern analysts have stressed the tactical discontinuities between the two wars. Here it is argued that, however correct these retrospective arguments are, they were not emphasised before 1914.147

Dr Towle has stated that Manchuria’s results on Britain were small; here it is argued that his judgement must be qualified. Accepting that contemporary opinion saw much continuity, Manchuria’s unique effects were certainly small, though it revived interest in sieges and more minor lessons were implemented than Towle cites. But continuity is significant in its own right. Dr Towle argues that the British failed to align their tactics with their new continental strategy. He implies that more

144 ‘Training’ pp7,10,13; Glossary; Capt Yate, an ex-Manchurian MA, The Manoeuvres of the Prussian Guard Corps in 1910 (1910), p 12; Edmonds MOFB 1914 I pp 70,72; Maj von Heydebreck ‘The British Army of the Present Day’ CR XCIII (1908), p 257.
145 Glossary; Towle Influence p 88 citing Indian Training Memorandum 1910.
146 Eg Hamilton WO 33/1518 pp 37-8, Nicholson disagreed, Lessons, p 8, ‘Von Lobell Reports 1904’ JRUSI XLIX (1905), p 1277. They were German official documents, translated annually in Britain.
emphasis should have been placed on firepower and positional tactics, the lessons that Manchuria, in his judgement, taught. But until 1911 British strategy was not dovetailed into French plans and thus demanded operational and tactical mobility.\textsuperscript{148}

Nor could Britain assume that a major war would start with positional combat; neither France nor Germany planned for this. French tactics, though generally incoherent, were neither positional nor defensive. Had the British adopted such tactics, it is likely that there would have been problems in 1914.\textsuperscript{149}

Dr Towle claims that Manchuria damaged British tactics. Certainly extensions reduced, but these were probably excessive given existing communications. Some contemporary evidence contradicts him. Continued British interest in initiative, the antithesis of close-order tactics, weakens his argument, while the substantial increase in divisional artillery after Manchuria impugns his proposition that artillery was devalued. Manchuria links South Africa to \textit{FSRs 1909}'s emphasis on manoeuvre. To contemporaries Manchuria showed the dangers of congealed combat: bankruptcy in Japan, revolution in Russia.

\textsuperscript{148} Towle \textit{Influence} p 18.

\textsuperscript{149} Not least because increasing artillery would have delayed the BEF's deployment.
Chapter 9 Doctrine, Command, the Staff and Training

An' thus in mem'r'y's cinematograph,
Now that the show is over, I recall,
The peevish voice and 'oary mushroom 'ead,
Of 'im we owned was greater than us all,
'Oo gave instruction to the quick an' the dead-
The Shuddering Beggar- not upon the Staff!

Introduction

This Chapter argues the Army advanced from drill towards doctrine in order to guide greater initiative and to facilitate manoeuvre in increasingly complex combat. This new theoretical emphasis demanded a substantial mental shift for a service with an anti-intellectual bias.\(^1\) The Chapter analyses doctrine's links with the staff. Improvements in that organisation aided the introduction of doctrine, or if not purposefully intended so, they would have been beneficial. The training system altered to accommodate complexity and initiative and to develop judgement. These alterations also helped to introduce doctrine. This Chapter examines the principal manuals, *CTrg 1902, 1905* & *FSRs 1909*. It concludes that the assessment that there was no British military doctrine before 1914 is wrong.\(^2\)

**Doctrine**

Doctrine is defined as: 'that which is taught' or 'teaching' and in this sense armies always have had doctrine. But this definition is inadequate as it can simply be applied to Dundas’s 18 Manoeuvres, rigid drill with little scope for initiative. However the link made between training and doctrine is significant. The quantitative and qualitative improvement of training from 1900 demanded a more doctrinal approach. Reasoned deductions about future combat, ie doctrine, were needed in order to determine what must be taught. Furthermore to prevent confusion, such deductions had to be Army-wide with uniformity imposed in training.

However, a contemporary military definition of doctrine gives a better insight into its nature:

Fundamental principles by which the military forces guide their actions in support of objectives.  

Such principles demand study to identify and thus have implications for the staff, the body charged with examining issues systematically. ‘Fundamental’ also suggests that the principles so obtained should be consistent. The Army stressed identifying ‘principles’ from 1902 and, if they are accepted as essential components of doctrine, this suggests that it was being developed then. Doctrine’s link with objectives implies that it tends to relate to the higher military levels where aims are decided. Therefore it has a greater involvement with the strategic and operational levels of war rather than tactics. This further suggests that doctrine has a greater affinity with manoeuvre rather than tactically-dominated attrition. Manoeuvre stretches communications more than positional warfare and tends to be fought at a higher tempo thus making initiative and doctrine more necessary.

A contemporary analysis of doctrine is valuable in comprehending its nature and benefits:

Knowledge and understanding of doctrine... aid clarity of thought in the chaos of war. Sound doctrine provides a common approach... which is not bound by prescriptive rules. This will lead through training to consistent behaviour, mutual confidence and properly orchestrated collective action, without constraining individual initiative. Doctrine also encompasses organization and command, to ensure unity of effort.

Neither quotation suggests rigid compliance. The second’s reference to chaos suggests how doctrine guides initiative amidst complexity. The accentuation of initiative from 1897, analysed in Chapter 7, is another argument for doctrine’s

2 Col Henderson The Science of War (1905), p 419.
3 WO 32/6782 'DMT/CGS 3/12/04' refers repeatedly to 'principles' in tactics and training.
4 C Bellamy The Evolution of Modern Land Warfare (1990), pp 60-2 suggests that increased dispersion fostered the operational level. Figure 3.2 shows combat’s spatial expansion; Chapter 5.
5 BDD (1996), p 1-4. The point on tempo can be deduced by comparing Megiddo to 3rd Ypres.
emergence, for, as the quotation above suggests, it balances control and independence. Applying doctrine catering for uncertainty demands judgement, developed by training and education, rather than rigid obedience instilled by drill.  

Henderson concluded that a key priority of the LI system was: ‘[t]o train the judgement of the officers, so that when left to themselves, they may do the right thing’ supports this proposition. Developing judgement demands education and principles which serve as: ‘a framework of understanding...to provide direction’ to thought. Clausewitz commented on the importance of training in this process:

peacetime manoeuvres are a feeble substitute for [war] but even they can give an army an advantage over others whose training is confined to drill. To plan manoeuvres so that some of the elements of friction are involved, which will train officers’ judgement... is far more worthwhile.

It follows that training is different for doctrinally-reliant armies than for those imposing top-down control. The former involves delegation and complexity, aiming to develop judgement, with greater toleration of mistakes. Training indoctrinates commanders, training validates doctrine. This relationship has long been militarily accepted, having similarities with university research and tuition.

Contemporary analysis suggests that relationships exist between doctrine, organization and command, linked by the staff, while ‘unity of effort’ emphasises aims’ importance, ie that all activity must support their achievement. Armies emphasising doctrine are more likely to stress all-arms cooperation, partly because army-wide doctrine develops judgement and facilitates cooperation between the arms. In turn all-arms cooperation requires common standards of training. These encourage doctrine’s development. British manuals from 1902 stressed inter-arm

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8 Gen Langlois, translated GS, Lessons from Two Recent Wars (1909), pp 144-5; Chapter 7.
9 Henderson Science pp 347-8, 364; Chapter 2
10 DMOp p 1-2.
12 ADP 2 p 3-3; Henderson Science p 347; eg MAT India 1910-11 extensively criticises violations of FSRs, AR II (1912),p 59. The British and American Armies link doctrine and training, eg TRADOC. DGDT. DMOp (1996), pp 4-4,4-39,4-44 analyses this; Ibid pp 4-45-6.
cooperation. This suggests that conditions were conducive to doctrine emerging.

Modern military doctrine dates back to Clausewitz, being first implemented by Moltke.\(^\text{13}\) Henderson analysed its development, stressing the importance of ‘judgement,’ ‘principles,’ as well as training and the significance of strategy in the process. Before 1899 the British had no doctrine as currently militarily defined. \(\text{IDB 1896’s very title suggests rigidity. Tirah had exposed its defects, emphasising that initiative, staffwork and coordination were essential in complex combat. From Tirah and the Peninsular LI, Verner and Henderson developed a tactical model which emphasised initiative and judgement in such fighting.}\(^\text{14}\) This, Henderson’s analysis of the Germans and his stress on strategy at the start of \textit{Stonewall Jackson} suggest that conditions likely to promote doctrine were developing.

**Doctrine and Staffwork**

Success in combat not only relies on initiative but also on transmission of command aims, co-ordination and synchronisation.\(^\text{15}\) The staff generates these effects, which may be broadly described as staffwork, allowing generals to concentrate on essentials.\(^\text{16}\) Earlier it was argued that attrition influenced staffwork, putting a premium on the managerial accumulation of resources to generate firepower. However manoeuvre equally depends on intelligent staffwork as unguided initiative is dangerous. Control is as important in manoeuvre as it is in attrition. Indeed manoeuvre, dependent on careful selection of aims and their transmission, reliant on synchronisation and coordination, has perhaps greater need for intelligent

\(^\text{13}\) B Condell & DT Zabecki \textit{On the German Art of War Truppenfuhrung} (Boulder 2001), p x.
\(^\text{14}\) S Wilkinson \textit{The Brain of an Army} (1890), pp 96-7; Gen von Caemmerer, \textit{The Development of Strategic Science during the 19th Century} (1905), ix, examines Moltke’s methods using mobility and initiative, which ‘demanded uniformity of thought’ ie doctrine; Henderson \textit{Science} pp 4-7; Chapter 2.
\(^\text{15}\) The section used no staffwork in its skirmish, but that it reached its start-line, its training, organization and logistics, represented vast staff effort, Chapter 1; It is probably more than a historical curiosity that the British Army in South Africa popularised the wearing of wristwatches, suggesting greater synchronisation. JR Beniger \textit{The Control Revolution} (Cambridge 1986), p 329.
\(^\text{16}\) Brig Gen Aston \textit{Staff Duties and Other Subjects} (1913), pp 3-5.
staffwork than attrition which can offset mistakes by numerical superiority. In manoeuvre there is a greater requirement for creativity as instanced by Manstein’s concept for SICHELSCHNITT. This contrasts with the managerial dumping calculations required in attrition. The German Army, originators of the modern staff system, doctrinally manoeuvrist, was superior in operational staffwork in the World Wars to the Allies, who relied more on attrition. The latter were better provided with resources and were arguably better at logistic staffwork.

Developing and disseminating doctrine and planning training, largely staff functions, are critical. Though initiating doctrine may not depend absolutely on the staff, its development and continuity depends on them as Arnold Foster emphasised:

[i]t is impossible to secure continuity of policy and action without reasoned and well-ordered thought. At present, as in the past, every Officer... has his own opinion on every conceivable military subject... Thus continuity of thought, of purpose and of action are wholly impossible.

Continuity is essential to establishing doctrine, while developments in the staff and staffwork suggest increasingly complex combat, which in turn demands a more doctrinal approach and more advanced training.

**Doctrine and Weapons**

Purpose-designed weapons embody basic assumptions on warfare and thus represent crystallised doctrine. From 1900 Britain developed its new field guns, the Army’s largest pre-1914 equipment programme, in a radically new way. This

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17 Lt Col Maurice ‘The Use and Abuse of the Initiative’ AR VII (1914), p8; Lt Col Henderson Stonewall Jackson (1898), pp 220-2; pre-manoeuvre assembly demands tight traffic control, eg poor staffwork prejudiced the reserves’ move at Loos and during manoeuvre staffwork is critical, Brig Gen Edmonds MOPB 1915 II (1928), pp 394-5; WO 108/299 pp 10-11 shows how uncoordinated interference damaged rail mobility in South Africa.

18 BR Posen The Sources of Military Doctrine (Ithaca 1984), pp 65-6 analyses German links between mobility and offence; Col Dupuy A Genius for War (Fairfax 1989), pp 47, 49, 51-2. But the Germans suffered logistically. AR Millet and W Murray Military Effectiveness I The First World War (Boston 1988), p 15 for the importance of C3 and staffwork on increasing German mobility, despite their poorer physical capabilities, eg in motor transport; FM von Manstein Lost Victories (1958), pp 103-105; M van Creveld Supplying War (1977), Chapter 7.

19 S Bronfeld ‘Fighting Outnumbered’ JMH 71 (2007) for the influence of Gens DePuy and Starry in initiating doctrine; B Condell, DT Zabecki Truppenführung, p xi; Capt Lupfer The Dynamics of Doctrine (Leavenworth 1991), pp 8, 56; AFPs 50321 ‘Memorandum ... Formation of the [GS].’ Maj Gen Callwell Field Marshal Sir Henry Wilson I (1927), p 63 claims this was Wilson’s work.
involved user-specifications based on assumptions about future combat. Previously
the Army had relied on manufacturers’ ideas. The SMLE was developed similarly,
though it was less technically radical than the new QFs. The introduction of
purpose-designed weapons shows that combat was becoming more complex and that
consequently greater intellectual effort was needed if weapons were to match the
expected conditions of combat. Doctrinally developing weapons also encouraged
thinking about future tactics, in turn causing adjustments to training.

South African Defects

South Africa revealed an array of defects in the Army’s organization, its inter-
arm and inter-formation cooperation, staffwork and command. There were also
defects in preparation for the war and strategic errors at its start. The latter are
outside the scope of this thesis, but they all suggest serious defects in Army’s
command and staff system. Henderson blamed bad staffwork on the small numbers
attending Camberley and the consequent lack of common principles. Ultimately the
whole points to doctrinal defects, a want of thought about war, its needs and the
principles involved. Col Clarke commented:

The more I study the SA war (sic), the more I see that Staff incompetence,
muddling and disorder lay at the very root of our humiliations.

He diagnosed that staff-disorganisation meant that thinking about war, a pre-
requisite for developing doctrine was impossible. The RCWSA heavily criticised
improvised formations, poor staffwork and the ensuing chaos, concluding:

For an Army of 90,000 ... we had, probably as many trained staff officers as
were required. But when the Army grew to ... 300,000...appointments had to
be filled by men with whom want of experience was the rule ... [T]he absence
of a definite system of staff duties... was undoubtedly prejudicial to the smooth
running of the military machine. Many instances of indifferent staffwork might

20 BalPs RMMISAs 1895-1928 I ‘Memorandum...ordnance factories’ pp 4,6; Maj Gen Headlam The
21 Henderson Science pp 397-8.
22 Clarke/Esher 13/6/04; ‘Training of the Army’ The Times 28/2/01 p 8.
be quoted, and it seems clear that the entire staff should be thoroughly trained; that a definite system of staff duties should be laid down.  

Key staff officers were not psc qualified, this added to the formidable problems caused by an incoherent system of staff duties, while the SAFF had been muddled on mobilisation. Col Vincent commented that: ‘the army corps, divisions, and brigades [mobilised for South Africa] were formed upon no intelligent or predetermined scheme.’ As has been pointed out above, doctrine includes organisations. Hilyard remarked of his brigade, the only one to deploy intact to South Africa, that it:

was composed of four battalions that had been under my command...they had been through a course of company training, battalion training, and brigade training...This... practical work proved subsequently in the field of the greatest ...value. The [COs] were thoroughly known to me and to one another; they understood one another ... [and] their company commanders.

Hilyard’s stress upon cohesion is significant but equally important is his accentuation of training, particularly company training. This was an important means of injecting initiative. Amery commented:

Englishman would not dream of sending a crew to Henley whose members had never rowed together before, were quite content that a general’s staff should be hastily improvised at the last moment from officers scraped together.

As Table 29 shows, he hardly exaggerated. French noted that the cavalry brigade staffs were new to their brigadiers, who were in turn unknown to their formations; this, just before the key manoeuvre which led to Kimberley’s relief, he remarked laconically was: ‘a great disadvantage.’

Organisational incoherence did not end after disembarkation. In several battles, Colenso, Spion Kop and Paardeberg, command structures were unnecessarily disrupted and superiors interfered in details with unfortunate results. Coke who had

\[23 \text{RCWSA Report (1903), p 53.} \]
\[24 \text{Table 29 Buller’s COS, the AAG I Division and the Cavalry Brigade BMs were not psc; ‘Lessons from the War for Immediate Application’ USM XXIV (1901), p 35.} \]
\[25 \text{RCWSA Evidence II Q 15972.} \]
\[26 \text{Chapter 7; RCWSA II Q16182. At least Barton and his BM were only separated by the length of Piccadilly, see Table 29 sers 45&6; LS Amery THWSA II (1902), p 38; RCWSA Report p 59.} \]
\[27 \text{Eg Buller’s attempt to organise the recovery of Long’s guns at Colenso, Maj Gen Maurice BROHSA I (1906), pp 362-6. Consequently the senior neglects his own task and subordinates feel distrusted.} \]
experienced confusion on landing in South Africa, commenting on Spion Kop where he assumed command of a division with an improvised staff in the middle of the operation: 'here was another of our many cases of “organisation disorganised.”' The SAFF’s unwieldy corps-based organisation which had to be broken down when fighting started, partly caused this disruption.

Training is related to doctrine but the British Army in 1899 was badly trained. Repington noted that manoeuvres before 1899 were poor, while Roberts commented after South Africa:

manoeuvres on a large scale were so infrequent that it was impossible to ascertain by this practical test whether ... senior officers had kept their knowledge, whether they could handle troops in accordance with the principles of modern tactics ... Troops in action cover such a wide front and so great a depth, that control of a battalion today is more difficult than a brigade a few years ago.

Roberts stressed combat’s greater complexity and the resulting need for all-arms training. Haig commented that: ‘[t]he chief danger... arises from the utterly false usages hitherto practiced ... at manoeuvres.’ Clarke considered that the Army in Britain was undertrained, while exercises were ‘farcical’ before 1899. He blamed these problems on the staff. Whatever the cause, manoeuvres neither effectively trained nor tested commanders, staffs and troops.

Firepower-induced dispersion made coordination and signalling more important; both in turn influenced staffwork. South African distances and numbers, (the SAFF was vast by British standards), further increased complexity. Wartime improvisation of staffs, organisations and tactics no longer sufficed. Now systematic preparation for war was vital. This demanded staffs who would think about future tactics and weapons. In turn this demanded doctrine to give the staff a framework for

28 RCWSA Evidence II Qs 20199-20205; Ibid p 442 and Appendix O.
29 'Suggestions from the Front' 19C XLVIII (1900), p 714; RCWSA Report (1903), p 53; Haig, RCWSA II p 404; The Times 28/2/01 p 8.

293
analysing war and devising training.  

Poor tactical coordination in South Africa partly stemmed from bad staffwork, there was no army-wide system of staff duties, partly because there was no common understanding between commanders, a doctrinal problem, while many were unused to using staffs, suggesting inadequate training. Both Buller and Roberts disrupted command structures unnecessarily. Roberts often used his private secretary to issue operation orders, suggesting that he was trying to command personally, rather than using his senior operations staff officer. De Lisle, a psc, was scathing on the effects of poor staff work, generally involving muddled movement, and poor orders at Paardeberg. Buller was equally destructive, delegating to subordinates who had inadequate staffs and communications and then interfering, while failing to act decisively himself. Roberts criticised Buller’s failure to intervene while Warren was mishandling the Spion Kop operation. Buller abandoned most of his staff when he moved to Natal and his exercise of command there was denounced by a future CIGS and brother rifleman. At Paardeberg, Kitchener, without staff, communications or clear authority, was unable to coordinate attacks. Later, when CinC, Kitchener proved reluctant to use his staff and had difficulty coordinating widely dispersed and generally very mobile counter-guerrilla combat. Roberts, despite personal errors, saw poor staffwork as a major problem and stressed the staff’s role in training.

Operation orders, critical instruments of command, were often vague, due to poor staff work and the absence of standard formats, or over-prescriptive. Buller’s

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30 Table 44; EPs 8704-35-33 p 1. Similar criticisms had been made after Tirah; Chapter 2. Doctrine was needed not just because of poor tactical performance but because strategy undirected by doctrine had exposed Britain to serious defeat in 1899; DMO p1-3.

31 Grierson assumed a roughly comparable post to Col GS Ops and systemised the issue of orders. B Williams THWSA IV (1906), pp 412-3 for the problems of Roberts both commanding and acting as COS. Roberts also disrupted Intelligence unnecessarily. There was of course formally no G Staff.

32 'The South African War-I’ pp 17,18,29. SKDs (1902), p 4; Chapter 3.

33 Table 2; Maj Gen Colvile The Work of the Ninth Division (1901), pp 22,69. Roberts had stellenbosched Colvile; HEWPs 3/1/5, pp 8,17,25.

34 Gen Hamilton The Commander (1957), pp 101-2; RCWSA Evidence II Qs 13130-1; E Childers THWSA V (1907),pp 89-90, 270-3; BalPs RMMISAs 1 ‘Minute by the [CinC] on… training [GS].’
orders at Colenso and Spion Kop were defective. A veteran analysed the effect of
over-prescriptive orders on subordinates indoctrinated in obedience:

You must break down, by every means in your power, the paralysing habit of
an unreasoning and mechanical adherence to the letter of orders... when acting
under service conditions. 35

French commented:

[tactics crystallise in Orders (sic): it is essential for officers to be able to understand how to interpret orders, correctly and also how to be able to issue clear, complete, and concise orders. 36

There were clearly serious defects in the Army and its officers' intellectual standards. Wolseley had commented earlier during the Sudan Campaign that some COs were unfit to be corporals, staffwork was poor and that there was overmuch personal rivalry. Similar faults recurred in South Africa causing Col Clarke to deduce that:

The only possible means of raising the educational standard and the military efficiency of our Army is to have a highly trained [GS] to leaven the mass of ignorance from the top downwards. 37

Clarke did not directly call for doctrine, but developing the Army's education and establishing a GS system would provide a intellectual coherence which would foster doctrine. 38

The Demand for Doctrine

Tirah had seen improvised formations, poor staffs and bad staffwork heavily criticised, but no direct demands for doctrine had resulted. From 1900 commentators not only denounced these failings, remedying them would have facilitated doctrine's introduction, but some argued for doctrine directly. A military journal commented that the lack of a system of tactics and strategy was responsible for the Spion Kop

35 GEOHWSA I (1904),pp 53-6 ; SKDs. Enclosure D; Capt Russell The Employment of Artillery in the Field... (1902),p 5.
36RCWSA Report p 59; Chapter 3; GEOHSA II, pp 139-40,202; RCWSA Evidence II p 301. 'The Place of Doctrine in War' EDR CCXV (1912),p 27 highlights doctrine's value in interpreting orders; Capt Marindin Staff Rides (1907), p 55 criticised many orders written in training.
37 H Kochanski Sir Garnet Wolseley (1999), pp 172-3; Clarke/Esher 13/6/04.
38 DMO p 1-2.
debacle. Amery recommended establishing a common school of military training and thought, deploring the absence of army-wide standards and commanders’ tendency to play for their own ends rather than the Army’s. He blamed this on: ‘the lack of a GS spirit.’ This suggests the lack of animating army-wide values, as well as poor intellectual standards. Doctrine would partly provide these, thereby enhancing cooperation. Roberts stressed the need for thorough staff training based on a combination of manoeuvres, staff rides and improvements at Camberley. Such a system would have translated into greater coherence by virtue of common training even if written doctrine was unchanged. But such enhancements would have probably led to formal doctrine. Buller also stressed staff training, remarking that:

the great defect at present throughout ... the Army is a want of a sense of the paramount importance of cooperation.

He blamed this defect on over-regulation. Individuals naturally take no chances in a culture which accentuates blame. This is why forces which understand what professionalism entails tend not to be over-critical of honest mistakes in training. Buller continued:

scarcely one officer in a hundred who has been taught any rule which would guide him how to act in deciding how to act when confronted by the problem... “what ought I to do?” ...[I]t is a chance if he acts aright; because, owing to his defective training, he acts on the wrong impulse. He does not ask himself how he can best further the operation as a whole.

Both quotations imply doctrine; the first is rather more obscure but doctrine enhances cooperation, differing sharply from the rigidity which Buller criticised. In the second, though his mention of ‘rule’ suggests more rigidity than doctrine usually involves, but Buller’s reference to ‘guide’ and his stress on overall operational objectives imply it. French recommended that:

a large proportion of officers should yearly take part in Staff Tours... By this

39 ANG XLI (21/4/00), p 378.  
40 RCWSA Evidence II pp 468-9; Ibid Qs 13163,13191.  
41 Ibid p 213; Chapter 7, Kipling’s verse.
means uniformity of ideas in staff management and tactics generally would gradually be produced throughout the Army.\textsuperscript{42}

This suggests how training helps to generate doctrine. General Warren emphasised:

We require complete uniformity in the army as to principles, but such uniformity does not constitute the army as a machine capable of acting only in a certain groove; rather it enables it to become an organisation capable of adapting itself... an organisation which assigns to every man responsibility, animating the whole... with a spirit of self-reliance.

Uniform principles suggest doctrine and Warren saw that they would not inhibit initiative. Wood, the AG, stressed that: ‘tactical principles’ should be instilled during officer training.\textsuperscript{43} Principles, as argued earlier, equate to doctrine. Lt Col May, writing at Camberley, stressed war’s varied nature and consequently the need for insisting on its spirit, rather than on rigid tactical rules. May did not formally advocate doctrine, but his diagnosis that: ‘what we want ... is quick discernment of how best to apply to the case in hand ... knowledge’ suggests it. That May wrote at Camberley may indicate the way the future elite were thinking.\textsuperscript{44} An anonymous article, possibly officially inspired, emphasised the need to consider theory in relation to warfare. It warned against the staff becoming mired in administration and stressed instilling ‘principles’.\textsuperscript{45}

Both German and French authorities criticised Britain for ignoring doctrine between 1899-1902 Their criticisms were made somewhat later, but, given that British introduction of doctrine took time, their views are important. General Langlois was adamant:

The drillbooks in England before [1899] were quite as good as those of other European armies; they were faithfully carried out to the letter, but they were not connected by a general common doctrine. This introduces a new factor, which is independent of textbooks, tactical education, or doctrine (sic)... rendered indispensable by the increased necessity for initiative.

\textsuperscript{42}RCWSA Evidence II pp 213,301; Haig commented very similarly, Ibid p 404.
\textsuperscript{43}‘Some Lessons of the South African War’ NR XXXVIII (1901). p 182; Akers-Douglas p 125.
\textsuperscript{44}A Retrospect of the South African War (1901), pp 35-6, 37.
\textsuperscript{45}‘Communicated’ ‘General Staff Duties’ JRUS/ XLV(1901), p 863. As the RUSI had excellent links with the Army’s hierarchy, this suggests that the author was either senior, writing officially or both.
He was charitable; Tirah and South Africa had seen *IDB 1896*’s injunctions repeatedly violated, while the Akers-Douglas Committee had already condemned the British manuals as unsystematic and ill-thought out. The Germans concluded that: ‘[British] leaders…had no mental grasp of the requirements of a modern battle.’ They continued by criticising British training. The quotation is superficially unclear but British commentators were clear that they meant doctrine.⁴⁶

From almost the start of the war, soldiers and commentators were convinced that the Army’s intellectual standard was insufficient for modern war. Doctrine was essential as control and initiative had to be balanced.

**Doctrine post-1902**

**Training**

Earlier a relationship was suggested between training and doctrine. After South Africa training and its higher direction were revolutionised. Callwell commented on: ‘the great revival in training which took place consequent upon the experience of the South African War.’ The Army switched from training largely based on drill to realistic manoeuvres over the period 1890-1914, with the main effort coming after 1902. This encouraged the development of doctrine. Before training had been the AG’s responsibility, but the Akers-Douglas Committee’s recommendations led to the reestablishment of the DME with Hilyard as its first Director and Rawlinson and Wilson on its staff. Roberts selected Hilyard on the basis of his Camberley and South African service and he ensured that the DME was directly under the CinC.⁴⁷ This and the posting of high-calibre individuals to the DME suggest that training would have greater priority than before 1899.


⁴⁷BPs 49725 ‘Minute on … Hilyard’s Position’; *ANG XLIV* (31/1/03), p. 10.
Major manoeuvres in Britain became standard from 1902. Before 1899 there had been few and these were often flawed by non-tactical phases and standing camps. After 1902 more frequent, more realistic manoeuvres not only improved formation and staff training but developed doctrine and trialled new equipments. The 1903 Manoeuvres tested the use of dispersed batteries and artillery signals. The 1904 Essex Manoeuvres examined invasion’s feasibility. They also gave valuable lessons on close-country tactics and inspired an RN/Army conference on overseas expeditions. Later manoeuvres validated the new MT supply system and air reconnaissance.48

Reporting on training increased. French issued annual training reports at Aldershot, as did many other commanders, including Ian Hamilton at Southern Command. These reports do not appear to have exact pre-1899 equivalents, thus suggesting greater emphasis on correcting mistakes and improving uniformity. Training consequently would have been more effective. Somewhat later Haldane issued a series of training notes for his brigade. These emphasised training the instructors before training the soldiers, thus ensuring more effective results, and systematic instruction.49

The purpose of training also changed with a new emphasis on instilling principles. French stressed:

During [1904] my great endeavour has been to set schemes ... which might illustrate the great principles of war. My object has been to stimulate intelligence and cultivate military instinct by inculcating those principles.50

French was developing both doctrine and initiative. No similar emphasis on

4Chapter 2; Maj Geddes ‘Communication between Artillery units in action’ PRAI XXX (1903-4), it is unclear whether this was a formal objective; AFPs 50318; WO 33/620; Col Callwell The Tactics of Home Defence (Edinburgh 1908), pp 5-8.
49Hamilton’s were published in the JRUSI. An exception is Buller’s 1899 Memorandum; according to the USG 8/1/98 Connaught issued a training memorandum in 1897. That pre-1899 reports do not survive in the NA, while many were produced after 1902 suggests greater attention to training; Notes on Training issued 1912-14 (reprinted Rhine Army 1919).
50WO 27/503 ‘Training ... 1st Army Corps 28/9/04’ p 1.
introducing principles in training has been traced in the Army before 1899. French also considered that the British must expect to be numerically inferior. He consequently stressed the need for 'all ranks' to know something of the art of war. The former implies reliance on manoeuvre rather than attrition and anticipates FSRs 1909's manoeuvrist slant. French's second point suggests how doctrine links to initiative and the new attitudes to the junior ranks. French’s emphasis on instilling principles was partly based on Japanese performance in Manchuria; French commended their morale. French also emphasised principles in 1905, stressing, similarly to CTrg 1902, that:

if we would ensure success in war, knowledge must be absolutely instinctive and as it were, a second nature to us. To quote the words of one of the greatest leaders of the Franco-German War:-“The principles of our employment must form part of our flesh and blood.”

‘Knowledge’ suggests greater intellectual effort, while ‘principles’ suggests doctrine. That French emphasised them in successive years suggests their importance. French made the same points on instinctive knowledge after 1918, suggesting that it had become deeply embedded in his mind. French criticised officers' understanding of strategy after his experience of training in 1904. Consequently he reissued Henderson’s article on strategy to officers at Aldershot. This outlined how smaller forces could defeat larger ones through manoeuvre and surprise. It also highlighted the importance of strategy, arguing that strategic unlike tactical mistakes were rarely recoverable. It stressed that many more officers than just CinCs needed to understand: ‘strategical principles’ because of the dispersed nature of modern combat. He recommended using staff rides to inculcate strategic knowledge. A shortened version of Henderson’s paper was issued to

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51 Ibid p1; CTrg 1902 p 3.
53 WO 27/503 ‘Training ... 1st Army Corps’ p 1; WO 27/504 ‘Aldershot 1905.’
Camberley students down till at least 1912. French's stress on strategy suggests greater focus on war's operational level and manoeuvre, while the fact that he was emphasising principles suggests that doctrine was being developed.

French also wrote *Theoretical Instruction in the Art of War*. This is mechanical in tone, the most significant fact is that French wished to improve the professional training of his command and that he focussed on strategy. He also stressed the importance of strategy and principles on staff rides. It is unclear how widely *Theoretical Instruction* was issued, but it was designed for non-pscs. This suggests more attention to theoretical training and greater emphasis on war's operational level. French continued this theme later, criticising senior officers' lack of 'instinctive knowledge and perception of strategic principles.' French's stress supports the link, made earlier, between doctrine and the higher levels of war.

French blamed these faults on the lack of a historical GS section able to undertake:

the formulation and laying down of principles deduced from the highest and best war experience. I hold that these principles and the power of applying them to any given problem or situation must be, as it were, instilled as a second nature in the mind of any soldier who aspires to exercise high command in war. I regret to report that I observed a distinct lack of these qualifications in most of our higher leaders, and hence results the hesitation, ill-timed combination, faulty plans, and grave tactical errors which have been a marked feature of the larger manoeuvre[s].

French describes doctrine as it would be understood today, stressing the staff's analytical role in developing it. South Africa had seen similar errors to those French observed and soldiers were probably able to read between the lines to see an implied criticism of British performance there. The emphasis on theoretical training of officers continued: in 1907-8 Aldershot promulgated details of such instruction, while Chesney's *Waterloo Lectures* were specifically reprinted for this. French describes doctrine as it would be understood today, stressing the staff's analytical role in developing it. South Africa had seen similar errors to those French observed and soldiers were probably able to read between the lines to see an implied criticism of British performance there. The emphasis on theoretical training of officers continued: in 1907-8 Aldershot promulgated details of such instruction, while Chesney's *Waterloo Lectures* were specifically reprinted for this. French observed and soldiers were probably able to read between the lines to see an implied criticism of British performance there. The emphasis on theoretical training of officers continued: in 1907-8 Aldershot promulgated details of such instruction, while Chesney's *Waterloo Lectures* were specifically reprinted for this.

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55 ROBPs 1/2/10 'Notes on Strategy by Col Henderson. Compiled for the use of students at the Staff College' (6th edition 1912). That it had gone through 6 editions suggests its importance.

56 Undated; WO 27/504 Aldershot Staff Tour Final Remarks' pp 1-2.

57 WO 27/491 'Training ... Winter 1907-08;' Col Chesney *Waterloo Lectures* (1907).
reiterated his idea of instilling principles in 1908 when he ordered his arm-inspectors to check that:

the system of instruction develops in the minds of officers... a thorough and instinctive knowledge of the main principles... of war.

Another concern was:

Are officers trained ... to approach the solution of strategic and tactical problems with sound definite ideas as to the principles of war and do they ... understand the “appreciation of situations”?58

The last point suggests that far greater attention was being given to intellectual effort with all that it implied for the development of professionalism and doctrine. Despite this French was scathing after his first inspections in 1908:

I regret, however, to be obliged once more to record my conviction that a great deal more needs to be done in this direction [theoretical instruction in the higher branches of the art of war] before the highest level of efficiency ... is reached. In the staff tours which formed an important part of my divisional inspections, in written appreciations of officers of all ranks, at the conferences, and finally at the ... Army Manoeuvres, I have seen evidence of a lack of knowledge of strategical principles, and a failure to appreciate any given situation accurately..., combined with an inability to grasp the salient factors of the problem. ... I become more and more convinced that many of the senior officers do not possess a sufficient knowledge of the principles and practice of war on a large scale.59

French also made stinging criticisms of senior officers; his criticisms led to the dismissal of Scobell as IGC for neglect of training, despite the latter’s impeccable social connections and fine South African record. French in 1909 denounced the GOC 2 Division for lacking strategical knowledge and for handling his formation poorly. He criticised a brigadier:

[he] does not yet show that he possesses sufficient knowledge of the art of war in its higher branches to fill his present post.

These were strong criticisms in an institution that many have seen as a pleasant social club. Douglas, the next IGHF, concurred with French’s criticisms of senior officers, stressing in 1912:

59 Ibid ‘IGF Report 1908’ p 5; the words in brackets are taken from the paragraph above.
Still too many officers in command ... who are incompetent instructors, and incompetent Commanders. If progress is to be sought, it must be by raising the standard of the unit commanders by the elimination of the unfit.  

Both French and Douglas recommended the introduction of more selective promotion. French's and Douglas' comments and actions suggest the swing towards professionalism, the emphasis on the strategic, or in current parlance, the operational level of war, and the fact that doctrine in the form of principles was emerging.

Grierson felt that the remedy for poor staff performance in South Africa was staff rides. These, copied from Germany, were becoming frequent by the mid-1900s. French commented of them:

[...the object is ... to illustrate by examples on the ground how the general strategic situation must always govern all tactical operations. I trust that the principles involved may be inculcated amongst all ranks.]

His point on strategy suggests greater theoretical emphasis, the shift towards war's operational level and more subordinate initiative. CGS held a major operational level ride in 1906. Haig's Indian rides were also set at this level. Regimental tours, less elaborate rides, were introduced and the topic inspired four books. They suggest much more attention to both theory and training. The 1908 Army Staff Ride, which included a preliminary wargame, tested the forthcoming FSRs. Afterwards CGS summarised its lessons and the main principles of staffwork. This was a more coordinated way of examining problems, developing doctrine and conducting training. Before 1899 manoeuvres had been conducted without such preparatory training. Haig emphasised FSRs' principles on staff rides as did Smith-Dorrien:

61 Ibid 'IGF Report 1912' p 5.
62 DS McDairmid The Life of Lt General ... Grierson (1923), p 271 citing Grierson/Stamfordham 7/7/00; WO 27/503 'Training .... Aldershot 1905' p 155.
63 Report on Staff Ride in the Severn Valley 1906; Cavalry Studies Strategical and Tactical (1907) based on Haig's 1903-6 rides; Chapter 5.
64 Col Haking Staff Rides and Regimental Tours (1908); Maj Fowle Notes on Staff Rides and Regimental and Tactical Tours for Beginners (1908); Capt Marindin Staff Rides (1905); Haig Rides.
65 WO 279/30 p1 noted that the 1909 training season deliberately started with 2 rides.

303
'Avoid violating any great principle of war in your initial plan (sic).\textsuperscript{66} More frequent staff rides and unit tours suggest more attention to theoretical training, staffwork and recognition of junior officers’ increased tactical importance. French and Haig’s stress on strategy in their rides also suggests that commanders were thinking more about war’s operational level. This links with the developments analysed in Chapter 5.

In India Kitchener emphasised the importance of training as the basis for greater professionalism:

The whole secret of preparing for war is a matter of training and instruction, and [COs] … who profess or show their incapacity as instructors and their inability to train and educate those under them for all situations of modern war must be deemed unfit for the positions they hold.\textsuperscript{67}

This increased emphasis on training also had implications for doctrine and the staff as argued earlier. Britain similarly emphasised officers’ training duties. Kitchener’s structural changes in India introduced decentralisation to promote initiative, while units were concentrated into permanent formations largely for training reasons. Proximity facilitates inter-arm and inter-unit training. It also shows that the Army in India was shifting from being organised primarily for IS to preparing for major warfare.

The Staff Colleges and Doctrine

Roberts in July 1901 emphasised that Camberley’s instruction needed to become more practical.\textsuperscript{68} Camberley pre-1914 had three very successful commandants, Rawlinson, Wilson and Robertson. All impressed students, all had influential later careers. The pre-1899 academic atmosphere and remote relations between staff and students ceased and training became more practical, while

\textsuperscript{66} WO 279/22; HOWPs 1/17 13/7/11; WO 279/21 p 22.

\textsuperscript{67} RLKAI (Simla 1909), p 213, citing IAO 35 16/1/05. Kitchener had stressed the point to Roberts earlier, PRO 30/57/28 letter 4/6/03. Chapter 7 stresses that training had now become the main peacetime officer task. French’s and Douglas’ comments on the same point are included above.

\textsuperscript{68} RPs 7101-23-124-1 F43.
Methuen's advice that DS posts should be plums reserved for the best was followed.\(^{69}\) Under Rawlinson Camberley looked at the higher military levels, stressing command rather than routine staffwork. This probably helped doctrine's introduction. Staff training expanded with Camberley's growth, the establishment of Quetta, the introduction of administrative staff training at the LSE and Command Intelligence courses.\(^{70}\)

Kitchener overhauled the staff in India, establishing 'the art of war staff' to plan future operations and founding a staff college.\(^{71}\) Much opposition to this was caused by fears that 2 different schools of military thought would develop, thus damaging combat effectiveness. Both the AG and QMG raised these concerns.\(^{72}\) Wolfe-Murray, the MGO, countered: '[i]t is better to have another school of thought... rather than no school of thought at all.' Kitchener concurred, feeling that India had no school of thought. He emphasised that incompatibility between Britain and India would not be allowed. This suggests that the Army's hierarchy appreciated doctrine's importance. Significantly Kitchener cited good Japanese staffwork when arguing for an Indian staff college. Emphasis on forming 'a school of thought' and common staff training suggests the contemporary pressure for adopting doctrine. Common syllabi, examinations, and exchanges of DS were instituted to prevent doctrinal divergence.\(^{73}\)

Both staff colleges helped to develop doctrine. Wilson wrote annually to DSD highlighting issues which Camberley considered important.\(^{74}\) In 1907 he highlighted the need for principles for starting campaigns, for handling strategic

\(^{69}\) Maj Gen Fuller *The Army in My Time* (1934), p 122. Fuller was not easy to please, as a pre-1914 student, his views, though retrospective have value; Maj Gen Aston *Memories of a Marine* (1919), pp 239-40; *RCWSA Evidence* II (1903), Q14290. Table 34 contrasts later careers of DS.

\(^{70}\) WO 279/18 p 36; WO279/515 for one course. Robertson, Haldane and Edmonds lectured, while Japanese Intelligence in Manchuria was stressed.

\(^{71}\) *RLKIA*, pp 90, 93-4,95-6; L/MIL/17/5/1617 pp 224-6 IAO 246; Chapter 7.

\(^{72}\) L/MIL/17/5/1617 pp 204-9; WO 163/9 pp 216,218.

\(^{73}\) WO 163/9 p218; PRO 30/57/34 Kitchener/Clarke 5/7/05; WO 163/9 p 332.

\(^{74}\) Eg Quetta analysed Manchuria; see WO 106/180, *DALISCMBs*. 305
advance guards and the general reserve, as well as whether divisions should be concentrated or dispersed when marching? All suggest manoeuvre and the operational level. They differed from CT 1905’s more positional emphasis, while Wilson’s stress on the need for principles shows that doctrine was being developed. He also highlighted requisitioning, billeting, controlling lines of communication and systemising field intelligence, an issue that India was also tackling. All suggest the new importance of manoeuvre. Wilson and Robertson emphasised doctrine at Camberley, the former aiming to develop ‘a school of thought’ there. Scholarly views on the significance of Wilson’s school differ, but his emphasis on developing one suggests the British adoption of doctrine.

Capper at Quetta emphasised studying strategy, noting that that CGS was concerned that officers were ignorant of its principles. This ties in with French’s criticisms and possibly reveals a concerted effort to improve strategic understanding in both Armies. This further suggests the development of judgement, delegation and initiative. Consequently Capper ordered students to write a strategic primer incorporating: ‘[o]nly general (sic) [principles] of the widest kind.’ Later, when lecturing on strategy, Capper stressed the importance of campaigns being based on the commander’s overall concept:

your idea must be framed to secure a decisive object; that you must preserve that idea, no matter how adverse circumstances seem; and that you can only preserve your idea by keeping the initiative ... and that, to keep this initiative, you must maintain a vigorous and uncompromising offensive.

Capper’s stress on determination suggests Japanese influence. Though modern commentators would probably see Capper as dogmatic rather than doctrinaire, his

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75 Field Marshal Sir Henry Wilson
76 ‘Memoir for Junior Division’ p 1, Capper was stressing principles and the quotation demands the word’s insertion.
insistence that campaigns were based on an overall concept demanded a more
analytical approach which would in turn require doctrine. The stress on campaigns
suggests the operational level. He continued:

We must encourage by all means the power of movement and the mobility of
our forces, so that we can by rapid and skilful marches place the enemy at a
disadvantage by opposing our full numbers to only a portion of his force.78

Haking had already outlined such views, which were similar to Stonewall Jackson’s
tactics and Chesney’s ideas. Robertson later articulated this theme at Camberley.79

The GS

The Staff Colleges’ development dovetailed with the Esher reforms and the
GS’s establishment; the combination synergistically improving doctrine and training.
The GS’ establishment was one, if not the Army’s most substantial change between
1897-1914 and the Esher Committee had ambitious objectives for it:

[w]e desired to teach the highest branches of the art of war; we wanted men
who could think for themselves and were qualified to form reasoned opinions
on the great military questions... We hoped to get hold of our ablest young
officers and to give them an intellectual equipment which would fit them for
high command and which, as they spread throughout the Army, would help to
create a higher standard generally.80

The GS would:

as in Germany and Japan, provide the means of raising the intellectual standard
of the army... [and] create and consolidate military opinion on sound and
generally accepted lines. Such machinery has been hitherto absolutely wanting
in our army.81

Here the extract outlines doctrine’s importance, though it did not use the word, but
‘reasoned opinions’ and ‘consolidation... on sound and generally accepted lines’
imply it. They continued by outlining how these ‘reasoned opinions’ were to be
disseminated, as well as highlighting the need for greater intellectual effort.

78 Ibid ‘Lecture on Strategy’ p 11 underlined in original; Ibid p 16. The last quote also suggests
Henderson’s comments, WO 27/504 ‘Strategy.’
79 Robertson’s quote is at fn 140 below.
80 CAB17/14 Clarke/Kitchener 8/8/05.
81 AFPs 50321 ‘Esher Co Memorandum’ 28/6/05 p 2.

307
The Japanese Influence

The mention of 'Japan' and the Committee's comment: 'The Japanese have created such a staff, with the result that huge forces have been handled in the field with conspicuous success' shows Manchuria's influence. Capper, lecturing in Dublin, cited a Japanese officer: 'we attribute the success of [Manchuria] equally to the extreme efficiency of our staff.' Capper continued:

We have learnt our lesson, we have learnt that leading in war means in peace time constant study, reflection, research, keeping up with modern developments, modern ideas, the study for the preparation of the strategical concentration and deployment.'

The Japanese example did not cause the GS to be established but it helped to consolidate it. Rawlinson was convinced of need for higher staff and command training based on his study of the Russo-Japanese War. Hamilton also linked Germany and Japan when stressing that staff organisation should be the same in war and peace. Kuropatkin's criticism that the Russian Army lacked doctrine also influenced British military opinion. Montgomery-Massingberd stressed in his Camberley memoir the need for:

a system thoroughly inculcated into the generals, staff & regimental officers for the whole army, so that all may work together on the same lines. Mutual support & mutual understanding were perhaps the most important features of this system.'

He did not describe this as doctrine and it may be that he was just stressing the structural elements of cohesion, but doctrine, a lesson which others drew from Manchuria, is more likely. This conclusion is suggested by his use of 'system' and the fact that he then analysed training. At Quetta in 1912 and 1913 a Senior Division
essay-topic was:

In both the Franco-German War and the Russo-Japanese War the comparative superiority of the "System of Command" and "Staff Organisation" of the victorious army contributed conspicuously towards its success. 86

This does not point directly at doctrine, though by this time others were emphasising Japanese doctrine as a factor in their success, while doctrine could well be described as: 'a system of command.' But the Staff Colleges saw the Manchurian staff lessons as important.

**Training and the GS**

The AO establishing the GS saw training as one of its major tasks and implied that it would develop doctrine:

3. The functions of the [GS] are to assist ... in promoting military efficiency, especially in regard to the education of officers and the training of the troops and to aid ... in carrying out the policy prescribed by Army Headquarters.
4. With these objects in view, the [GS] will be drawn from the officers of the Army who may be considered most likely to be capable of forming a school of progressive military thought. 87

Both paragraphs acknowledge doctrine, though not specifically calling it so, but 'policy' applied to tactics and a 'progressive school of military thought' both imply it. Both also suggest how doctrine was to be spread. Subordinate commands reflected this emphasis on the importance of training as a GS task:

The general system on which [GS] Work (sic) of the [Irish] Command is carried out is that it may assist all ranks... in training for war.

Nine of the Irish BGS’s 12 tasks and 10 of the GSO 2’s 12 involved training. These instructions provide a mass of detail on training, how amendments to FSRs and feedback on training were to be generated. 88 They were modelled on Col Haldane’s Eastern Command instructions. This suggests that other commands similarly emphasised their GS’s training responsibilities. India also accentuated the GS’

86 MMPs 4/1 ‘Quetta Orders 1912 22/3/12.’
87 AO 233 12/9/06.
training role.\textsuperscript{89}

Some formations held GS-led ‘War Courses’ for regimental officers. These covered the tactics of a battalion and battery and stressed teaching senior officers how to train their juniors. Individual pscs could influence their juniors profoundly. Montgomery wrote decades later but his comment which suggests reliance on another does not appear biased. Aldershot Command had for some years encouraged the study of campaigns, providing both lectures and a bibliography for young officers.\textsuperscript{90} Eastern Command established a very thorough training system to prepare officers for the tactical fitness exam. This consisted of a week on paper problems and TEWTS, a week’s staff tour and a long attachment to another arm. The source does not state that the Command GS officers instructed but it would seem highly probable that they did. Such instruction shows the far greater attention to professional training than before 1899. The Aldershot and Irish Military Societies continued to flourish and their lectures after 1902 were of higher professional value than those before 1899.\textsuperscript{91}

The GS reforms made important structural changes at the War Office; two key directors directly under CGS were made responsible for training and doctrine. DSD dealt with doctrine and DMT training policy, while the IGF, not a GS officer, though an important part of the GS system, scrutinised training. It may be felt that the split between doctrinal development and training was unsound, DSD had many other demanding tasks, but despite this drawback, the GS structure gave much greater focus on training and doctrine than before 1899 when the WO was biased toward administration.\textsuperscript{92}

\textsuperscript{89} L/MIL/17/5/1617 p 211; the first Indian Staff Conference stressed it, L/MIL/17/5/1810 pp 21-37.
\textsuperscript{90} WO 279/18 pp 7-8; FM Montgomery Memoirs (1958), p 31; WO 279/496 p 57. these were additional to the AMS lectures.
\textsuperscript{91} Maj Moore Notes for the Tactical Fitness Exam (1907), pp v-vi; Bibliography of Military Societies.
\textsuperscript{92} WO 123/48 AO 233.
The GS Conferences

Wilson originated the GS conferences, held annually at Camberley from 1905 and later imitated in India. These included staff rides, updated GS officers on recent changes, sought ideas and developed doctrine. They covered many topics; the 1909 Conference scrutinised Infantry/Artillery communications, divisional frontages, training, to which a day was devoted suggesting its importance, and requisitioning. Some Commands held their own preparatory GS conferences before Camberley.

The IGF

The Esher reforms established the post of IGF, whose responsibilities stressed that:

the methods of training to be adopted shall be such as to ensure uniformity throughout the [UK]; so that units on removal from one command to another may find the same ideals placed before them, the same system in vogue to arrive at these ideals, and may not have to unlearn in one place what they have acquired in another. It will be the first duty of the [IGF] to assist... in establishing and maintaining this uniformity.

Unauthorised normal formations were prevalent before 1899 so establishing uniformity was an important advance, but it was not always achieved. Tactical confusion causes defeat and has often resulted in inferior British tactical performance and poor inter-arm cooperation. French noted that in one command all batteries fire Indirect yet the reverse was true in another. The IGF would receive many WO reports, which with his own inspections, would enable him to:

report what steps have been taken to remedy any defects... [Y]ou are also requested to remark upon the absence or insufficiency of training... and to call attention to any direction in which military efficiency might be developed.

93WO 33/2747; L/MIL/17/5/1810; The 1909 Conference discussed operation orders; its conclusions were incorporated in FSRs. Ideas were sought, WO 35/56 ‘GS Folder’ pp 55-6. WO 32/4731 suggests the 1912 conference was important for developing staff procedures embodied within The Staff Manual War 1912.
941909 Report’ pp 3-4; WO 35/56 pp 56-7
95AFPs 50305 ‘Letter 33/Hd Quarters/91 (MT2) 14/5/04.’
97AFPs 50305 ‘Letter 14/5/04.’
The institution of a system of generating feedback on lessons learned was important. It may have inspired the lengthy Command annual reports on training which began to be issued at this time. The IGF was also to develop:

a practical and intelligent system of instruction for both Officers and men. Regimental Tours, Staff Rides and War Games which form an integral part of military training should also ... receive close attention.

Systemising practical and theoretical methods clearly provided more effective training than exercises which did not start with theoretical training. Furthermore any doctrine so developed would be more robust. Staff rides often now preceded manoeuvres, increasing the latters' effectiveness, while care was taken with the mechanics of umpiring. In 1904 the Army Council replied to a point raised by the IGF on artillery's use of cover that FAT would be amended consequently. The IGF's annual reports provide a mass of detail and demonstrate his ability to improve training and alter doctrine.

Arm inspectors supported the IGF. Though not all the arm inspectors' posts were new; there had previously been IGCs in both Britain and India, yet by being included in a structure under the IGF, they were better placed to champion change, enforce uniformity and develop their arm's doctrine. The IGC was perhaps the most significant of the IGF's subordinates, as, unlike the RA, which had a far greater institutional base, the Cavalry were regimentally organised. Hitherto they had been without centralised institutions, except a rather nebulous cavalry committee and central depot at Canterbury. The new emphasis on training led to the establishment of cavalry schools in Britain and India and the establishment of the Cavalry Journal. The 1904 IGC's report demonstrates how defects could be remedied. Later the IGC

94WO 27/503 shows a tour immediately before the Army Manoeuvres; WO 35/56 'GS Folder Appendix C'; Col Forestier-Walker 'Umpiring' (AMS 1910).
96Ibid 'Report 1906' for ASC recruit training problems and the remedies adopted.
97WO 27/491 'IGF Report 1904' p 35.
became the designated cavalry divisional commander and trained the division.\textsuperscript{102}

**Doctrine and Organisations**

Doctrine includes organisational issues. The adverse results of uncohesive, poorly structured organisations in 1899 have been examined above. Contrastingly in 1914 brigades and divisions deployed with their peacetime units, staffs and the commanders under whom they had trained. There were defects including the improvised nature of II and III Corps and the Cavalry Division HQs, while infantry divisional staffs were undermanned, but the effects of more cohesion were great. Furthermore far more commanders and staff officers were psc than in 1899.\textsuperscript{103}

Consequently they were more likely to know each other and to be aware of common procedures. Here it is worth reiterating that settled structures, commanders who know and are known to their units and who have trained together have a powerful cohesive effect. This is not a substitute for doctrine but forces lacking structural cohesion are less able to use doctrine effectively.

The Army's organisation in 1899 for major war was based on the corps-level, with resources, particularly artillery, centralised there. In consequence infantry divisions were under-gunned. That they had only two brigades meant that they were unbalanced as generating a divisional reserve meant splitting a brigade. Divisions were seen as too clumsy in Tirah, after 1899 the corps-based organisation was condemned as inflexible.\textsuperscript{104} A corps moving on a single road took some 6-7 hours to deploy into a fighting formation.\textsuperscript{105} Roberts recommended that the main formation should be the infantry division or cavalry brigade, though he saw corps as useful

\textsuperscript{102} WO 163/10 pp 343-4; WO 163/11 p 157. The Cavalry Committee's minutes do not survive; this conclusion is based therefore on negative reasoning. In 1899 the IGC did not command; in 1914 Allenby did. WO 163/10 pp 21.167-8. Baden Powell stated that the old committee had functioned poorly, WO 27/509 'Summary of Results of Winter Training' p 3.

\textsuperscript{103} EDPs 3/7/1 p 4; Tables 2&3.

\textsuperscript{104} 'Centurion' 'Shall We Get A Sensible Army?' NR XXXVII (1901).

\textsuperscript{105} 'Army Organisation' BA 82 (1908), p 659.
administratively. Colvile was convinced that divisions were the correct formation as corps could not be controlled effectively. Repington argued that the army corps organisation had failed; triangular infantry divisions were more suitable for expeditionary warfare.\textsuperscript{106}

South African criticisms of the corps-based organisation partly caused the adoption of the large, triangular infantry division in 1907.\textsuperscript{107} As a result British infantry divisions in 1914 were better structured than their French or German equivalents. Their organisation into 3 brigades allowed greater flexibility than either the French or German divisions which were primarily divided into two brigades. The British division had one less level of command so that it could react faster. It had more artillery, with greater flexibility due to its mixture of howitzers, heavy and field guns, and more engineers than continental divisions. The British had fewer corps-level resources, but their delegation to divisions enhanced manoeuvrability; time was saved as weapons were available at the manoeuvre-level. But there was a price; delegation diminishes the senior commander’s ability to control as assets are lost to him.\textsuperscript{108} This weakens overall combat power, particularly in attrition.\textsuperscript{109} This purposeful recasting of formations to emphasise the divisional-level suggests both a more doctrinal approach and greater stress on manoeuvre.

But British organisations were imperfect. The Cavalry Division was too large with its 4 brigades and overstretched contemporary C3. That it did not exist in peacetime exacerbated this problem, which, in view of its key role, was a very substantial weakness. But the Germans also improvised their cavalry formations on

\textsuperscript{106}RCWSA Evidence I p 453; Ibid II Q17077-8; ‘Suggestions from the Front’ 19C XLVIII (1900), pp 86.
\textsuperscript{107}WO 163/11 77th Meeting 21/6/06. Divisions had been similarly criticised in Tirah; AO 282/07.
\textsuperscript{108}Liddell-Hart stressed that there should be an odd number of subordinate entities. One notes criticisms of Buller’s disruption of the chain of command, see Chapter 3, Glossary, Table 30. It was proposed that GHQ would command divisions directly thus eliminating the corps-level. As with the experiment with task forces in the late 1970s, this was proved to be unsound.
\textsuperscript{109}Maj Gen Bailey Field Artillery and Firepower (Annapolis 2004), p 345.
mobilisation.¹¹⁰

The growth of unit-types suggests the increase in complexity. In 1899 the Army deployed with few types of unit. In 1914 the categories of unit that had to be mobilised were listed over 3 pages and extended from GHQ (1st Echelon) to an Aircraft Park.¹¹¹ This increased complexity had implications for staffwork, making doctrine and training more necessary.

The Doctrinal Works

Introduction

This section analyses the key tactical works issued between 1902 and 1909. Essentially there are 3: CTrg 1902, CTrg 1905 and FSRs 1909, the latter foreshadowed by MAT 1908. That they were not titled 'drillbooks' suggests more scope for initiative and less rigidity. The Esher Committee saw the manuals as having an important relationship with the GS system.¹¹²

The Key Works

CTrg 1902 was the Army's first modern all-arms manual. Roberts emphasised that the: 'general principles on which the Army is to fight in war will be authoritatively laid down in a work [CT 1902] which will concern all branches of the service.'¹¹³ His introduction stressed:

In this manual are enumerated certain principles which have been evolved by experience as generally applicable to the leading of troops in war. These principles, however, are not to be taken as infallible guides. They demand respect, for their violation is often followed by mishap... and they should be thoroughly impressed on the mind of every officer, that whenever he comes to give a decision in the field, he instinctively gives them their full weight. But they are to be regarded as pointing out the dangers involved rather than as precepts to be blindly obeyed. An officer before the enemy, after carefully reviewing the situation, should put into practice those measures which commend themselves to his common-sense, providing always that [they] are in accordance with the spirit of the orders that he has received, that they are

¹¹⁰ 'Mr Haldane and the Army' QR 206 (1907), pp 470-1; ED Brose The Kaiser's Army (Oxford 2001), pp 155-6.
¹¹¹ WES 1898; Regulations for Mobilization 1914 pp 9-12.
¹¹² RWORC (Part II) (1904), p 23.
¹¹³ Eps 8704-35 'AG/GOC Aldershot letter 31/10/01;' 'Memorandum to AG 29/8/01.'
calculated to ensure cooperation in the attainment of the [aim], and that good reason can be given for their adoption... [T]his manual is ... authoritative on every subject with which it deals.\textsuperscript{114}

This preface is undogmatic, starkly contrasting with \textit{IDB 1896}'s emphasis on control. Though doctrine is not mentioned directly, \textit{CT 1902}'s emphasis on thought, principles and cooperation clearly suggest it. "[T]hat good reason can be given for their adoption' and 'carefully reviewing the situation' both suggest the need for logical analysis. Unsurprisingly the Army developed the skill of writing appreciations in this period.\textsuperscript{115} \textit{CTrg 1902} is stated to be authoritative as doctrine must be. \textit{IDB 1896}'s Part V did not mention 'principles' or logical analysis, made little reference to initiative and emphasised control.

\textit{CTrg 1902}'s Sections 1-7 outline a series of principles analysing the arms, though curiously engineers were omitted, particularly view of the 1900 amendment to \textit{IDB 1896}. It stressed all-arms cooperation, firepower, including cavalry's weaponry, QF artillery and the use of ground.\textsuperscript{116} \textit{CTrg 1902} was written principally by Henderson and expanded by Ellison who consulted the German, Major Balck, accepting his amendments, mainly involving frontal attack.\textsuperscript{117}

\textit{CTrg 1905} was similar to \textit{CTrg 1902}, though without Roberts' introduction, and its order was different. There are however shades of difference between the two editions. Both recommended flanking attack where possible, though \textit{CTrg 1905} stressed later deployment, giving more emphasis to covering fire and Infantry/Artillery cooperation.\textsuperscript{118} Both emphasised Independent Cavalry. Both stressed reconnaissance more than \textit{IDB 1896}. Both envisaged lengthy battles with

\textsuperscript{114} \textit{CTrg 1902} pp 3-4.
\textsuperscript{115} Glossary; Lt Col Henderson 'Strategy and Its Teaching '\textit{JRUSI} XLII (1898), Appx II; Maj Cadell 'On Writing an Appreciation of a Military Situation' \textit{PRAI} XXXI (1904-5).
\textsuperscript{116} \textit{IDB 1896} had been amended to include them, Chapter 6.
\textsuperscript{117} EPs 8704-35-34 'Proposed contents of General Service Manual Part I &II'; EPs 8704-35-818 pp56, 58. It is possible that Wilson and Rawlinson were involved. Professor Jeffrey suggests that Wilson's involvement was small, Lecture NAM 19/9/07.
\textsuperscript{118} \textit{CT 1905} p100. But \textit{CTrg 1902} stressed fire superiority, pp33-4.
methodical progress from locality to locality, consolidating captured positions.\textsuperscript{119} These tactics may have been derived from Buller’s relief of Ladysmith or possibly the siege of Paardeberg. \textit{CTrg 1905} had more on artillery than \textit{CT 1902} and described the tasks of each category of artillery. Both stressed counter-attacks, noting that increased firepower allowed more defenders to be reserved for them. Both had a ‘Night Operations’ section. Tactically the works were similar; the principal difference was one of structure with \textit{CTrg 1905} being better organised.

Both \textit{CTrg 1902} \& \textit{1905} recommended careful training, that it was designed for war, and that it was to be systematic, progressive, combining practical and theoretical instruction for all ranks; privates were to be taught so that:

\begin{quote}
[they] may be able to comprehend the meaning and object of every movement… [Their] individual intelligence will thus be called into play.\textsuperscript{120}
\end{quote}

The training section is long and stresses realism, thus suggesting the degree of change since 1899. \textit{IDB 1896}, \textit{CDB 1898} and \textit{FAD 1896} were far less emphatic on training. This reinforces the link, made earlier, between doctrine and training.

\textit{MATs 1908\&1909}

The next substantial doctrinal documents were the \textit{MATs}, issued from 1908 to report on and influence training. \textit{MAT 1908} explained the basic principles of the forthcoming \textit{FSRs}:

the British Army is…small… and it may conceivably be called upon to face opponents to whom it is numerically inferior. For this reason it is desired to instil … certain fundamental principles. Perhaps the most important of these principles are the necessity to develop … the maximum of mobility, to cultivate in the highest degree the art of manoeuvre, and to foster initiative and the offensive spirit. …[T]he best chance of victory for the numerically weaker combatant, when acting against an enemy who is not inferior in \textit{moral} (sic), arms and training, lies in seeking, by manoeuvre, to cause the enemy to blunder, in order to create and seize a favourable opportunity to attack him.\textsuperscript{121}

\textsuperscript{119} \textit{CTrg 1905} p 110; Chapter 5.
\textsuperscript{120} \textit{CTrg 1902} covered training in a separate section published in 1903; \textit{CTrg 1905} p 157; Chapter 7.
\textsuperscript{121} \textit{MAT 1908} p 2.
This extract is of great doctrinal importance, accepting that combat’s mathematics favour greater numbers, firepower alone could not solve the British tactical problem. Manoeuvre had to redress numerical inferiority. The British had emphasised mobility after South Africa, but, as continental war became more likely, it became more critical in view of their likely numerical inferiority. Haking, a Camberley DS had already stressed at the 1905 GS Conference that:

There is only one course open to the weaker army. It must manoeuvre, draw the enemy into an unfavourable position and then attack simultaneously with all its forces.\(^\text{122}\)

Haking by implication advocated doctrine by emphasising that:

our junior officers should thoroughly understand both the theory and practice of such detachments, so they can act intelligently, ably and without fear …of doing …wrong.

Also Haking’s very title ‘The Application of the Principles of Strategy and Tactics’ suggests doctrine was being developed. Haking’s lecture links Manchuria to FSRs.

*MAT 1908* discarded CTrg 1902 and 1905’s emphasis on methodical operations. It analysed the training needed to support manoeuvre-based combat, emphasising encounter actions, naturally more likely in mobile warfare. But *MAT 1908*’s endorsement of manoeuvre was not new. Chesney’ analysis of mobility had been developed by Henderson’s *Stonewall Jackson* as well as South African and Manchurian experience.\(^\text{123}\) *MAT 1908* also stressed principles, effectively doctrine, emphasised training, its relationship to doctrine and the need for dynamic manoeuvre against an enemy able to react. *MAT 1909* continued the stress on meeting engagements and developing tempo by rapid deployment from the line of march and swift decision-making by commanders who, it stressed, must seize the initiative from the unready. This emphasis on achieving superior tempo is key.

\(^{122}\) WO 33/2747 p 35, Chapter 8.

\(^{123}\) Chapter 5.
in modern manoeuvre theory. 124

**FSRs 1909**

*FSRs 1909* remained the Army’s most significant doctrinal work in 1914. The

Operations volume began similarly to *CTrg 1902*:

The principles given in [FSRs] have been evolved by experience as generally applicable... They are to be regarded by all ranks as authoritative... They should be so thoroughly impressed on the mind of every commander, that whenever he has to come to a decision in the field, he instinctively gives them their full weight. 125

There was no doubt of *FSRs*’ doctrinal nature. They stressed initiative similarly to *CTrg*. 126 *FSRs* contain more general principles than *CTrg 1902& 1905* and are more logically structured. Most chapters begin with ‘general principles,’ indeed some sub-chapters start so, thus suggesting their greater doctrinal emphasis. 127 *FSRs* have chapters on ‘Intercommunication and Orders’; a natural combination as communications are necessary for orders’ dissemination, this further suggests staffwork’s new importance, while ‘Movements’ was logically placed at the start of *FSRs* and much expanded from *CTrg 1905*. This was a natural consequence of basing doctrine on manoeuvre. Generally *FSRs 1909* emphasise offensive action more than *CTrg 1902& 1905*, but, compared to French doctrine, their tone is restrained. 128 This suggests that, though the British were looking more to France; senior officers had made several visits to French establishments, but it was not overwhelming. 129 The British envisaged defending, though they stressed activity Similarly withdrawal was not ignored; Robertson stressed it at Camberley. He also emphasised attack, but this was not to be a blind rush. 130 4 Division did two

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124 BA 84 (1910), p104; DMO pp 43, 48.
125 FSRs 1909 p 1.
126 Para 13 iii p27 states similarly to *CTrg 1902* the duty to disobey inappropriate orders.
127 Eg Chapter 5 S 64 ‘General principles’, while ‘Protection ... at Rest’ has its own S 75 on principles.
128 Combat starts with orders, movement then follows.
130 Maj Gen Robertson ‘Final Address Staff College’ *AR V* (1913), pp 334-5.
withdrawal exercises in 1913 and it seems likely that other formations practiced them in view of Camberley’s emphasis. *FSR’s* contained details of meeting engagements. These were not included in *CTrg 1905*, suggesting that more mobile, less positional warfare was expected.\textsuperscript{131} In such operations, skill and training had greater opportunities than in attrition. Training was shaped to support this with manoeuvre and meeting engagements, again accentuated in 1909.\textsuperscript{132}

*FSR’s* outlined German versus French tactics. This was stimulated by official visits to France and the GS’s translation of *German Tendencies with regard to the Preparation and Development of an Action*.\textsuperscript{133} This work compared French tactics based on manoeuvre of a large reserve behind a strong advance guard with the more rigid German system of envelopment with fewer reserves. Some soldiers had reservations on cut and dried imitation; JE Gough reemphasised the need to:

> see our Army trained to a proper understanding of war, with a knowledge of the advantages and disadvantages of the different methods, and ...to know how and when to apply this knowledge.\textsuperscript{134}

Again one notes the stress on principles. Gough’s analysis of initiative, orders and the aim in relation to *FSR’s* and principles was farsighted. Essentially the difference between the French and Germans involved manoeuvre. The Germans emphasised envelopment, essentially aiming to exploit superior numbers and the strategic initiative.\textsuperscript{135} They stressed constant attack and subordinate initiative but had few reserves. In consequence senior German commanders had less ability to influence events. In contrast the French emphasised manoeuvre behind a strong general advance guard, strong reserves, greater control by the CinC and consequently rather less subordinate initiative. Thus poised they would exploit enemy mistakes.\textsuperscript{136} There

\textsuperscript{131}WO 279/535 p 7; positional warfare was being deprecated from 1907; *BA LXXIX* (1907), p 175.

\textsuperscript{132} ‘Army Training 1909’ *BA 84* (1910), p 104.

\textsuperscript{133} Trans GS Capt Culmann (1908). He was a French GS officer.

\textsuperscript{134} ‘Peace Training for Command’ *AR I* (1911), pp 242,244-5.

\textsuperscript{135} Envelopment featured in Japanese Manchurian tactics being rooted in German doctrine.

\textsuperscript{136} Brig Gen Wilson ‘Initiative and the Power of Manoeuvre’ (AMS 1910), pp 1-3.
were sound reasons for the British recommending the French system, rather than just imitating an ally. They were numerically inferior but a regular force might hope to offset this:

[s]uperior numbers on the battlefield are an undoubted advantage, but skill, better organization and training, and above all a firmer determination in all ranks to conquer at any cost, are the chief factors of success.137

The British stress on human factors was based on Manchuria, British failures in South Africa and partly on the requirements of manoeuvre warfare. Professor Travers has criticised this stress on morale, but manoeuvre demands such qualities and morale remains a principle of war.138

Reactive tactics also suited an Army which would be strategically defending, even though its tactics emphasised attack. Unsurprisingly many, including Kiggell, later Commandant Camberley, and JE Gough stressed counterattacks. There was considerable contemporary interest in the battle of Salamanca and counterattacks featured in training.139 Counterattacks are a distinctive feature of manoeuvrist doctrine as they enable the initiative to be regained. However there were substantial differences between later French teaching which emphasised attack from the outset, the British saw the need for greater cunning. Robertson outlined how:

The situation may be such that we may be compelled to await a ... better opportunity of dealing with an enemy. For this we may have to march rapidly, lie hidden, deploy very quickly, strike with our whole weight suddenly before the enemy can bring up his, and then perhaps withdraw and avoid the return blow. There is no more difficult operation in war... [It] calls for constant practice.

Here Robertson suggests the importance of mobility and training for manoeuvre
warfare, as well as by implication the importance of C3. These tactics were practiced in training.\textsuperscript{140}

Implicit in British doctrine and Wilson's analysis was manoeuvre. Wilson emphasised that Germans, widely deployed, had: 'no general reserve, and no power to alter plans, and therefore, no power of manoeuvre.' Here it is important to distinguish between mobility and manoeuvre. Wilson stressed:

\begin{quote}
[i]f... we find ourselves with no superior mobility, unaccustomed to long and tedious marches, ... ignorant of how to requisition, ignorant of how to billet, still served by horse ..., instead of motor traction ... then I am in favour of ... having a Slogging Match (sic).\textsuperscript{141}
\end{quote}

Wilson saw how attrition would harm a small professional army fighting a more numerous conscript force which would suffer less qualitatively. Here it is possible to extend his argument to suggest that a small, firepower-heavy army, with consequently less mobility, would have been unsuitable for the type of combat anticipated before 1914. Heavy artillery columns were long, slow and its ammunition ponderous. The pieces were deployed far back in the order of march and would consequently find it hard to engage the enemy in a timely fashion. Clausewitz had also anticipated the danger:

An excess of artillery is bound to cause operations to partake more and more of a defensive and passive character. A shortage of artillery will on the contrary enable us to let the offensive, mobility and manoeuvring predominate.\textsuperscript{142}

Professor Travers has criticised the British for downplaying firepower from 1910 when \textit{IT} was altered from: 'the decision is obtained by fire alone' to 'fire superiority makes the decision possible.' His argument is mistaken, both tactically

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\textsuperscript{140}WS Lind \textit{Maneuver Warfare Handbook} (Boulder 1985),p 21; ROBP\#s 1/3/6 'War' 19/9/13; D Porch \textit{The March to the Marne} (1981),pp 213-5 argues that the French were so divided that they were unable to formulate realistic doctrine, hence opting for all-out attack. The British and French fought very differently in August 1914. The British fought defensively, the French attacked, bands playing and officers in white gloves, Clayton \textit{Paths} pp 20,28-9. Robertson's remarks clearly echo Henderson's ideas for defeating more numerous foes, WO 27/504 'Strategy' p 1; WO 27/508 'IGF Report 1912' p 78 for an exercise involving withdrawal in contact set by the IGHF; Ibid '1913 Report' p 8.
\textsuperscript{141}Wilson 'Initiative' pp 2,7.
\textsuperscript{142}FSPB 1908 pp 29-30; a cavalry unit occupied 600 yds, an RFA one 2380. Since a key dimension of columnar movement is time past a point, column length is critical: Clausewitz \textit{War} p 341.
\end{flushright}

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and mathematically, as Chapter 1 and the Glossary argue. Furthermore the British were not notably inferior to other European armies in their proportion of firepower to troops. Indeed at the divisional level, key for manoeuvre, they were superior. The British continued to emphasise the qualitative aspects of firepower: Infantry marksmanship, covering fire and artillery support of other arms down to 1914. 143

Wilson perceptively analysed command, arguing that the German system weakened their CinC’s ability to control. Whether the Germans deliberately downplayed signals cannot be determined here; arguably they felt that doctrine and the Schlieffen Plan would compensate for inadequate communications. In 1914 poor signals capability hurt Germany, despite its advanced electrical industry. In contrast the British, relying on 1899-1902 experience, had invested heavily in communications and had the only separate Signals Service in Europe. 144

Enhanced logistics, motorization and requisitioning improved British manoeuvrability strikingly. Several billeting exercises were held. Despite Professor van Creveld’s view that many saw requisitioning as impossible in future European warfare, the British certainly planned to do so to improve mobility. 145 Mobile field kitchens, based on Manchurian reports, were introduced to save time, improve feeding and hence marching. The British emphasised mobility staffwork and march-discipline in the period. 146

143 T Travers Killing Ground (1993), p 67; Bidwell & Graham Firepower p 27; Table 15. The SMLE with its box magazine was superior to the French rifle’s tubular magazine. The Vickers was better than the St Etienne machinegun, A Clayton Paths of Glory (2003), p 77. British cavalry carried the SMLE rather than a ‘pop-gun’ carbine. Divisions were the key firepower level in manoeuvre. Corps-level assets were too far back for prompt action. But had British pieces in each division been doubled, they would have naturally been inferior to the Germans in absolute terms. The importance of the divisional level in manoeuvre is that it represents a compromise between coordination, best achieved at higher levels, and responsiveness which is swifter when assets are further forward. WO 27/508 'IGF Report 1911' p 44, Ibid 'IGHF Report 1912' p 10.


145 Table 16; BA LXXVII (1906), p 586; Creveld Command, pp 154-5 and Supplying War (1977), p 123; SIULRs 1911 discussed at the 1911 GS Conference; WO 279/38 ‘Report Billeting Scheme 1910.’ This included using local supplies.

146 Capt Davidson ‘Staffwork with a Division on the March’ AR II (1912), p 397; the West Yorkshires pioneered march-discipline, EDPs 3/7/1 p 5.
The Continuing Demand for Doctrine

FSRs 1909 were not the last word on doctrine. From 1912 the IGHF’s reports include a paragraph entitled: ‘doctrine.’ Nicholson, the CIGS, stated that:

[the GS’s] influence on the Army is especially marked by its having brought to the front certain broad principles relating to training, war organization, the performance of staff duties, higher leading and command...This REVIEW (sic) is the natural outcome of the creation of our [GS] and it will aim at amplifying and elucidating the general principles.147

Here, though Nicholson did not mention doctrine directly, it is implicit in his emphasis on principles. He also highlighted the need for study and professionalism; indeed the magazine’s establishment suggests the greater importance accorded to theoretical training and disseminating doctrine. Nicholson’s links between principles and factors such as organisation confirms the theoretical analysis made earlier in this Chapter.

Nicholson’s emphasis on doctrine was continued in two complementary, influential anonymous articles. The first stressed:

A sound, comprehensive, all-pervading doctrine of war is as important to an army as its organisation...[I]n this vital respect the British Army of 1899-like the Russian Army [in Manchuria]... was completely lacking... It is among the first duties of the [GS] ... to indoctrinate [its army] with a clear conception of the basic principles of war.

Both articles were compulsory reading for the Senior Division at Quetta. This being the case, Camberley probably stressed them equally.148 It is probably more than coincidental that both appeared about the time of The Army Review’s foundation. Senior serving soldiers probably wrote both, their professional tone and relevance to an important military issue suggest this conclusion. The articles stimulated some debate including an article: ‘The Doctrine of a “Doctrine”’ which criticised the current emphasis on doctrine. However French, after taking over as CIGS, reaffirmed

148 The British Army and Modern Conceptions of War’ ER CCXIII (1911), p 324; ‘The Place of Doctrine in War’ ER CCXV (1912). Having checked with NLS, it has been impossible to establish the authors; MMPs 4/1 ‘Quetta Orders’ 19/7/12.
assuming that our doctrine is only approximately sound, it is of incalculable benefit to the Army that all its leaders, and especially its higher leaders, should act on the same inspiration, should be guided by identical principles, and should thus feel confident that their comrades ... are inspired by the same governing considerations and seek to attain by common action a common end.

As argued earlier, the want of cooperation between higher commanders in South Africa had damaged performance. French continued:

we must still be catholic enough to encourage the expression of independent and original thought, and we must be ever ready to enfold all that is sound and useful in these new ideas within ... our accepted doctrine ... Between doctrine and dogma there is a wide gulf.\textsuperscript{149}

It is a formidable analysis of doctrine's importance from an officer heavily criticised for lack of intellectual ability.\textsuperscript{150} That successive CIGS stressed doctrine suggests its contemporary importance; that they made the case in the Army's new review suggests the change towards greater intellectual effort and professionalism.

The RN illuminates the Army's interest in doctrine. Corbett outlined the need for doctrine, while progressive naval officers were deeply interested in doctrine and staffwork. They cited the value of doctrine to the Japanese Army in Manchuria and were influenced by Henderson's work, the Army's problems in South Africa and the subsequent changes. That Corbett's key work was entitled \textit{Some Principles of Maritime Strategy} suggests how keen the British were to develop them. In it Corbett suggests the importance of doctrine:

It is not enough that a leader should have the ability to decide rightly; his subordinates must seize at once the full meaning of his decision... For this every man must have been trained to think in the same plane: the chief's order must awaken in every brain the same process of thought.

Dr Gordon analyses Beatty's stress on general principles.\textsuperscript{151} That Beatty commanded...
the Battle Cruiser Fleet, the fastest part of the Grand Fleet and the one in which the most initiative was needed again suggests the link between doctrine and initiative. This thesis cannot examine the links between the Army and Navy, but that the two Services were both advocating doctrine at roughly the same time shows its importance.

Kiggell, the DSD, gave a backbearing in 1913 on doctrine and its relationship with the manuals:

We know the problems of war cannot be solved by rules, but by judgement based on knowledge of general principles. To lay down rules rather than general principles ... would tend to cramp judgement, not to educate and strengthen it. For that reason our manuals aim at giving principles but avoiding laying down methods.\(^\text{152}\)

Here Kiggell, occupying a key post for the development of doctrine, confirms this thesis' identification of the relationship between principles, judgement and doctrine.

**Control, Doctrine and the Differences between Military and Civil Methods**

At this point it is illuminating to compare the Army's changed methods of command with alterations in industrial control. But caveats must be made as there are deep divisions between the two. First any military force is faced with a number of C2 dilemmas. They must prepare for a state of activity, war, which is profoundly different from their normal peacetime existence as Wavell argued:

In acquiring proficiency the [industrialist] has many advantages... he is "always in the field" while the soldier ...may be compared to a man learning to be an MFH by practice on an electric hare in a riding school.

Here it must be further emphasised that armies are generically less exposed to friction in peacetime than the active elements of navies and air forces.\(^\text{153}\) In peacetime administration tends to predominate in the military and, as Chapter 2...
argues, the late Victorian Army was tangled in red tape.

Industry is always in action, although the conditions under which it operates are inherently more benign than combat. Executives are not summarily killed, factories are not liable to destruction and communications, telephones, telegraphs and mail, generally stable state monopolies of growing technical efficiency, were, relative to their military equivalents, invulnerable. Beniger argues that commerce was in the period becoming more centralised with more means of control becoming available. He argues that there was a: 'smooth transition from control crisis to Control Revolution' in industry. One symptom of this change was the creation of large firms: Krupp's, Vickers-Armstrong etc with their horizontal and vertical integration and resulting economies of scale. Another symptom of the change to a more structured system which exerted greater low-level control was the use of time and motion experts, who drained initiative from the coalface employees.¹⁵⁴ This was not the case in the Army which indeed saw the reverse, initiative being delegated downward.

Armies were also experiencing the effects of technical change, though this, in the shape of enhanced firepower, promoted decentralisation and initiative at least when manoeuvre was the desired outcome. Here Chapter 1's analysis of attrition and firepower must be remembered. Contrastingly attrition-based massed firepower, subject to similar forces as industry, economy of scale, or in artillery's case the fact that concentrated fire is more effective than dispersed. Improved communications, less vulnerable for the RA than for other arms, saw, like Industry, control being centralised and therefore pushed up the chain of command in artillery and in

¹⁵⁴ Beniger Control, p 291. The control crisis in armies caused by the growth of firepower was not technically solved until the widespread use of RT in the 1940s; Chapter 7.
positional warfare. Interestingly in the Infantry and Cavalry, both slanted towards manoeuvre, the tactical unit emphasised after South Africa was the company or squadron. In both low-level initiative was emphasised from 1902.

Here it is worth emphasising that armies particularly have a control dilemma. Manoeuvre demands initiative, delegation and creativity with imposed downward control relaxed, albeit with command direction maintained. Attritional warfare emphasises control and centralisation with command exercised at the highest possible level. Furthermore administration which promotes system, centralisation and uniformity, tends to predominate in peacetime. This further complicates the process of developing the attributes needed for manoeuvre. Also large parts of an army, the logistic corps, have administration as their raison d'être. For many logistic personnel, say a clerk in a supply depot, the qualities that are required of them by the Army are essentially civilian and not martial.

Transition between manoeuvre and attrition may be fast. One notes Haig’s comment in 1918 that it was a commander’s duty to take risks which a month before would have been criminal. Perhaps the dilemma was most acute for navies in the period. Jutland demanded that captains adapted from rigid control by Jellicoe to having to show great initiative within a few hours.

RA forward communications were equally exposed. But the critical RA higher communication cables, dug in 6 feet of earth, were far less vulnerable. It was these links in static warfare which enabled massive firepower to be applied to areas, even if much fire was misdirected. Gen Fardale History of the Royal Regiment of Artillery. Western Front 1914-18 Woolwich 1986), pp 143-4,156. Artillery centralisation has been taken further in the late 20th Century. There is an interesting analysis to be done between the RN and RAF, both relatively centralised Services and the Army whose teeth were decentralised into a regimental system. Theoretically this should have promoted initiative. In practical terms the results have been less impressive.

Caveats are needed here. Infantry is generically split between the tactical functions of firepower, mobility and for that matter protection, but relative to artillery it has greater mobility on the battlefield. It must also be emphasised that in manoeuvre artillery is decentralised to provide responsiveness at the expense of concentration. Chapters 5, 4 and 7. It should also be noted that the RA continued to allow considerable scope to young officers. Bidwell argues that the gunner system was better at developing initiative than the other arms. Here the Sappers form a possible exception.

Undirected manoeuvre is risky. Ludendorff’s failure to control the March 1918 offensive led to exploitation in a direction without strategic value. C Barnett The Sword-Bearers (1963),pp 314-6.


Conclusions

Adoption of doctrine from 1902 reflects combat’s greater complexity and the imperatives of balancing initiative and control. The process suggests a more intellectual and theoretical emphasis by an Army whose general attitude has been described as: ‘complacent anti-intellectualism.’ There were problems; some were confused and gave different meanings to doctrine; an example being the stress on French versus German tactics rather than on examining the underlying principles. But despite these errors, there is no doubt that there had been a considerable advance in thinking about war’s fundamentals. The enhancement of the staff was critical for this and for developing and disseminating doctrine.

Doctrine was instilled in a number of ways, organisational, through manuals in professional literature and by changes to training. The variety of means suggests both the strength of demand for doctrine and that systemic change was occurring. Inculcating initiative was one objective of doctrine but the advantage of having standard procedures, organisations and tactics should not be underestimated. Training was transformed; this encompassed improvements at Camberley, the opening of the Indian staff college, more frequent manoeuvres, changes to basic training, development of training establishments and introduction of new manuals.

The doctrine promulgated in 1908-9 emphasised manoeuvre and mobility, complementing the changes analysed in Chapter 5. It is argued that there were sound military reasons for this and not reactionary social forces. The latter undoubtedly existed in the Army, however. Similar forces caused the adoption of manoeuvrist doctrine in the 1980s.

160 Clausewitz War p 42.
Chapter 10 Conclusions

Things have transpired which made me learn.
The size and meaning of the game.
I don’t know when the change began.
I finished as a thinking man.

Introduction

Hindsight is the prerogative of historians and senior officers; in contrast this thesis has tried to work forward towards 1914 to understand why British tactical doctrine developed in the way that it did. Many mistakes were made judging by the dour, attritional battles fought between 1915-1917, but overemphasising them obscures prewar reasoning. Bloch’s forecasts were not of prolonged, attritional warfare but its impossibility. Most experts assumed that any major European war would be short as otherwise nations could not stand the financial or social strains. Thus manoeuvre rather than firepower-dominated attrition predominated across Europe.

The start date of this thesis simplifies complexity. Tactics had begun to alter before 1897, though the rate of change increased from Tirah, further accelerating in 1899. Often the discontinuity in the trend is more significant than the exact point of origin. The process of change was complex, the evidence, slanted towards change, distorts. By weight of evidence this thesis suggests that the reformers’ views were reasonably representative, but it may be justly criticised for an attritional approach. Similarly its termination is simplified. FSRs 1909 were not the last significant doctrinal work; Indirect Fire, pregnant with significance for 1914-18, was not confirmed as the RA’s normal means of engagement until 1914.

1902-1914’s contexts are important when assessing tactical changes; static budgets from 1904, eroded by inflation, pay increases and costly new equipments.¹

¹ D Stevenson Armaments and the Coming of War (Oxford 1997), Table 8; Statement on the Army Estimates 1914-15 (1914), p 2.
Britain faced a wide array of threats. Diplomacy resolved some, others received little attention, but all potentially distracted from tactical development. The Army had global, expensive commitments, while weapons had to work on the Frontier and in Flanders. The great organisational reforms are another context which diverted attention from tactics.

**The Change 1897-1909**

The most significant change was that the British adopted a more intellectually coherent system which placed more emphasis on the operational level of war. This was based on doctrine as it would be understood today. There were flaws; failure to list the principles of war officially was one, while the system had little time to bed-in before 1914. But for an Army till then largely driven by the heroic improvisations demanded by colonial warfare and an empirical national intellectual tradition, this switch towards doctrine was highly significant. The Army's training, education and staff systems altered radically; the relationship between these, tactical change, emphasis on the operational level and doctrine was symbiotic. The GS was needed to create and articulate doctrine; training developed and validated doctrine, whilst combat's complexities, which demanded doctrine, in turn meant that training and the GS were vital. The GS was a strong force for spreading doctrine, vitalising intellectual development and supervising training. Improved soldier and officer education underpinned the whole system.

British doctrine was based on manoeuvre and mobility rather than firepower and attrition. This emphasis, natural in an expeditionary army with a likely semi-independent role, meant that it could thus hope to defeat superior numbers. Conscription, the only means of redressing numerical inferiority, was practically and

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2 Ji Alger *The Quest for Victory. The Quest for the Principles of War* (Westport 1982), pp 100-2 notes that neither the French nor Germans defined them before 1914.
politically impossible. Doctrine emphasised mobile forces, principally cavalry. The British developed their logistics to improve manoeuvrability and were the most motorised army in 1914. All these suggest an attempt to resort to operational level manoeuvre. Greater firepower at the divisional level, key for manoeuvre, supported this.

Modern firepower forced dispersion and thus required increased initiative and ultimately doctrine. Here the contrast between *IDB 1896*’s qualified endorsement of initiative and *CTrg 1902*’s advocacy of it is stark. Firepower made close control impossible, complexity made initiative essential and doctrine steered the latter. Improved administration, education and basic training promoted initiative. That soldier education certificates doubled and that they became mandatory for Service Pay, suggests a major shift in the Army’s priorities. Now in dispersed combat soldiers had to read maps. Emphasis on this skill suggests the switch from top-down to delegated tactics. Tactically the stress on skirmishing, scouting and detached duties from 1897 made individual initiative vital. Professor Travers has criticised the Army for over-emphasising human factors, particularly after Manchuria. But the changing conditions of combat with soldiers self-dependent rather than being physically led by their officers, demanded attention to morale and motivation. Now officers had to lead more subtly; one notes the post-South African stress on professionalism and officer responsibility for training. Enforcement altered from the externally imposed towards self-discipline. That courts-martials halved while education certificates doubled suggests that human factors had altered substantially.

**The 3 Tactical Factors**

The Army’s firepower was greatly strengthened; from having the lowest proportion of artillery of the major powers in 1897, the British had almost the...
greatest in 1914. Firepower had also improved qualitatively. There were more howitzers, while Indirect Fire and inter-arm coordination had improved. The weight of shells had increased while the new weapons had longer-ranges. Institutionally the RA had altered, it now stressed divisional artilleries and units rather than batteries as it had in 1897. From 1899 the RA began developing its communications. Scholars have criticised the slow adoption of Indirect Fire. But it was accepted as the normal means of engagement in 1914, while the new QF weapons were developed doctrinally. Both suggest greater analytical effort.

Infantry firepower improved with the introduction of the SMLE and the doubling of unit machine guns. It has been suggested that machine guns were devalued after South Africa; this was not the case. But the most significant change was the replacement of volleys by independent fire. This demanded individual initiative. The Army stressed rapid independent fire at medium ranges to maximise firepower.

The Army strengthened its mobility and manoeuvrability from 1899. There were the raw lessons of South Africa, but the change was also impelled by European warfare’s expected conditions and Manchuria’s perceived lessons. MAT 1908 and FSRs 1909 increased the doctrinal stress on manoeuvre. The development of marching, motorization, animalmastership, requisitioning and billeting shows mobility’s importance. But perhaps the most significant change was in the Cavalry. Historically the British Cavalry has been substantially criticised; one notes Wellington’s irascible comments, and for a colonially-oriented army, massed cavalry was largely a luxury. From 1902 cavalry training, armament and tactics were thoroughly overhauled. These changes represented increased emphasis on European warfare. The focus of scholarship, the shock versus fire controversy has somewhat obscured the fact that the arm’s importance increased in the Army and that the BEF
in 1914 was exceptionally cavalry-heavy. Furthermore these cavalrymen had rifles, thus having greater firepower than their French or German equivalents, and marched. Both enhanced mobility; both were eccentric by European standards.

The Army gave far greater attention to fieldcraft, extension, protective duties and engineering from 1899. The British infantry’s fieldcraft led Europe; in 1914 British infantry divisions had more engineers of a higher quality than those in continental formations. Similarly the British were not technologically backward; their Signals Service was the first such European arm. Protection is a less visible factor, if the pun may be excused, than either mobility or firepower. But it was firepower’s growth, principally modern magazine rifles, which enforced fieldcraft.

The above paragraphs briefly summarise the 3 tactical factors. In the period of this thesis all increased. Due to the differing characteristics of each it is hard to correlate their relative importance. It is impossible to equate the purchase of motor vehicles with introducing fieldcraft training. The QF programme was a firepower enhancement, yet theory suggests that this would also have increased the Army’s mobility. Probably mobility was the factor which increased the most. The emphasis on manoeuvre doctrine and march discipline, the long marches on prewar manoeuvres, the cavalry-heavy composition of the BEF and the development of initiative support this conclusion. But these efforts did not translate into an equivalent increase in the Army’s ability to manoeuvre in 1914. Firepower saw the largest equipment programme, the new QFs, while the BEF’s shooting shocked the Germans. British tactical protection was generally good in 1914, though there were problems at Le Cateau.

There were tensions between the 3 factors in 1914; protection, particularly entrenchment, could not have been developed much further without damaging mobility; much the same applied to firepower, while had the British enhanced mobility further, firepower and protection would have declined. In general the three were roughly balanced in 1914, though there was a slight bias towards mobility.

The Wars

Three wars dominate this thesis, Tirah, Manchuria and South Africa, with the latter undoubtedly the formative experience for the senior commanders of 1914-18. All posed analytical problems. Two were fought against irregular though formidable foes on terrain atypical of Western Europe, while Manchuria saw a backward army fighting in adverse terrain at the far end of the Trans-Siberian railway against an enemy with unique qualities. The British effort to analyse Manchuria was considerable, though it probably over-emphasised manoeuvre. The lessons, subsequently perceived as heavy artillery, entrenchment, positional warfare and attrition, have been seen as being at variance with South Africa’s mobility and manoeuvre. Historians have criticised the British failure to implement what they have deduced as Manchuria’s lessons. But for the British, faced with numerical inferiority, mobility and manoeuvre seemed to provide a solution to defeating superior numbers that entrenchment and firepower-dominated attrition could not. Furthermore the discontinuities between South Africa and Manchuria were more visible after 1918 than they were before 1914. Professor Holden Reid has noted that the American Civil War has been reinterpreted at various times as a paradigm of manoeuvre and a precursor of trench warfare. It is argued that Manchuria has been similarly assessed and then reassessed. Furthermore armies inevitably have to interpret lessons in the light of their own strategy and situation and rather than

6 Table 5. Analysis of the annex to the ALs listing operational service supports this.
7 Professor Holden Reid ‘The American Civil War’ Lecture IHR 2006.
adapting them uncritically.

The three wars showed many common lessons, firepower, mobility, protection. the enhanced need for doctrine and initiative. The divergences between the wars’ lessons were more apparent in hindsight.

The Wider Implications

In the broader historical field this thesis suggests that an organisation which has been seen as anti-technology, anti-intellectual and socially static was in fact altering. The Army’s stress on soldier initiative, education and that it planned to commission 2000 soldiers on mobilisation shows that it was less socially rigid than scholars have assessed. The Army’s recruitment of graduates, its attempts to improve civilian education and its switch towards doctrine demonstrate a more intellectual response to problems. Similarly the official promotion of academic research into aeronautics and motorization has implications for understanding Edwardian attitudes towards technology.

However the most significant feature of this thesis is that it illuminates the ideas which influenced the commanders who fought the First World War. Professor Sheffield argues that 1918 on the Western Front saw the birth of operational level combat. This thesis maintains that many of the concepts required for this were developed between 1897-1909. Furthermore Allenby, who served as IGC from 1910-14, fought two of the British Army’s most successful manoeuvre battles; Beersheba in 1917 and Armageddon in 1918. The latter, based on surprise, deception, mobility, risk-taking and a commander’s concept of striking boldness mounted at the operational level of war, overwhelmed the Turkish Army in Palestine. Horsed cavalry advanced faster and further than the Israeli tanks in 1973, while animal casualties, despite days without water, were minute compared to those sustained

\[ WO\ 163/15\ 21/3/10\ pp\ 1-2. \]

336
during the relief of Kimberley.  

**Last Post**

A ship's compass shows the vessel's heading but not the distance sailed over ground. Similarly this thesis does not attempt to measure how far the Army progressed in implementing its new tactics. It is tempting to suggest that the changes constituted a tactical revolution; it is more correct to argue that, between 1897 and 1909 the British switched from tactics rooted in the 18th Century to those which modern soldiers find not unfamiliar. There were precursors, the LI pioneers, whose ideas, analysed by Verner and Henderson, influenced the Army. Strikingly the changes were not just tactical; the Army overhauled its disciplinary, training, educational as well as its command, staff and administrative systems partly to support the altered tactical conditions. Here caveats must be made; society-wide forces were present which would have required adjustments particularly in the fields of pay, discipline and education. This thesis has largely ignored these social pressures. The Army's development after 1900 of education, initiative, doctrine, and fieldcraft had similarities with the LI system. The tactical changes described in this thesis were important but perhaps the most significant was the impact on the Army's culture, the development of professionalism, the combination of and stress on leadership, initiative, education and training, rather than relying, as hitherto, on status and rigid discipline. The effects of this combination were synergistic.

British tactical doctrine matched the expected short war, the Army's strength as a professional force and mitigated numerical inferiority. It could even be argued that manoeuvre were not carried far enough. The last possibility for victory before entrenchment, physical and mental, meant prolonged attrition was on the Marne. Just

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9G Sheffield *Forgotten Victory* (2001), pp 245-6; Capt Falls *Military Operations Egypt and Palestine* II (1930), pp 448-452, 641-2. The contrast between the animal casualties in 1900 and 1918 suggests the attention given to animalmastership after 1900, though by 1918 the animals of Allenby's force were acclimatised.
conceivably more vigorous action by the BEF might have led to decisive victory over von Kluck’s Army.¹⁰

The British trained for a mobile, short war; they would exploit technology and be supported by considerable firepower. The other European powers equally expected a short war.¹¹ The Germans had more heavy artillery but could anticipate having to assault permanent fortifications. The British hoped to outmanoeuvre their enemies. Criticism of this doctrine may be legitimate for the serving soldier, but demands understanding of contemporary conditions and an attempt not to apply modern mental attitudes anachronistically; here this author may be deemed guilty as charged. For scholars it is no doubt gratifying to castigate Roberts, French, Haig et al for failure to foresee the future. But the legitimate question is whether British tactical doctrine matched the expected type of war? Broadly it did; whether prolonged firepower-dominated attrition should have been anticipated is another question which this thesis does not attempt to answer. All, however, that can be said here is that few contemporaries regarded the results of 4 years of attrition in 1918 as eminently satisfactory. But then as now the future is obscure. Had in 1980 an officer forecast that the equivalent of an infantry division and most of the RN would sail to the South Atlantic, he would have been deemed more suitable for psychiatry than promotion. In 1990 a senior British official categorically stated that in no circumstance would an armoured division be sent to the Gulf. In 2000 anyone predicting that the Army would be soon be engaged in protracted combat in Afghanistan would have been accused of incurable nostalgia for the ‘Great Game.’ And the rest is history.

¹¹ LL Farrar The Short-War Illusion (Santa Barbara 1973), p 6.
BIBLIOGRAPHIES, INDEXES, GLOSSARIES AND TABLES

A great and glorious thing it is,
To learn, for seven years or so,
The Lord knows what of this and that,
Ere reckoned fit to face the foe.
Table of Contents and Notes

Bibliographies

Bibliography of Primary Books
Bibliography of Secondary Books
Bibliography of Regimental, Unit, Arm and Service Histories
Bibliography of Military and Official Works
Bibliography of Training Manuals pre-1899
Bibliography of Training Manuals 1899-1906
Bibliography of Training Manuals post-1906
Bibliography of Indian Military Publications
Bibliography of Official Translations
Other Records
Bibliography of Military Societies’ Lectures and Articles
Bibliography of Web Articles

Indexes

Civilian, Academic and Service Magazines and Newspapers Consulted
Private Papers Consulted
National Archives and India Office Library Files Consulted
Thesis Consulted
Contemporary Maps Consulted
Biographies

Glossaries

Military Terms
Operation Titles
Abbreviations

Tables

1. British units Tirah and South Africa.
2. pscs South Africa.
3. pscs 1914 BEF
6. South Africa Reports.
7. Disciplinary Offences 1898-1912.
8. Certificates of Education 1903-1912.
9. Cavalry as a proportion of Orders of Battle Western Front, Britain, France and Germany 1914.
10. Mobility versus Staffwork
11. Views on Machineguns South Africa
13. Cavalry Views of Carbine Accuracy 1900.
16. MT Compared to Other Transport
17. Trained Soldiers Rangework 1898-1903
18. Comparison in use of Cover in Rangework 1898-1903
19. Comparison in Ranges 1898-1903.
22. Ranges in Action 1896.
25. The Age of Selected Commanders 1900.
26. OXLI Recruit Education Statistics.
27. Educational Attainments Recruit Sappers after dismissal from Drill 1910-11
28. MAs and Observers Manchuria
29. Commanders and Staff 1st Army Corps 1899
30. Recruit Education on Enlistment 1895-1908
31. Divisional Organisations Britain, Germany, France
32. Staff Rides 1893-1899.
33. Staff Rides 1902-1914.
34. Subsequent Careers Staff College DS.
35. Major manoeuvres in Britain.
37. Artillery South Africa
38. To show the Ratio of Field to Heavy Artillery South Africa
39. Frontage of an Infantry Division 1898.
40. To Show Relative Proportion Cavalry/Infantry between Britain and other Powers 1901.
41. Relative Strengths to Perimeter Length Ladysmith, Kimberley, Mafeking.
42. Logistic Calculation Forage and Artillery Ammunition Expended South Africa.
43. The SMLE and Martini-Henry Compared.
44. MT in the BEF 1914.
45. Distances and Areas in South Africa.

Annexes

A. Areas for Further Research.

Notes

There are peculiarities in the bibliography of primary books; the most significant being that many works that are historically secondary are, for this thesis, primary as they give direct views on contemporary opinions. Some books on weapons technology outlining scientific principles are treated as primary material. An array of acronyms has been unleashed upon the hapless reader for which the author apologises. A glossary of abbreviations is provided, though some regimental titles may not be included. All books are published at London unless otherwise specified. In citing works by officers in footnotes, the rank held when the work was written has been used rather than the author's initials. The correlation between seniority and sense is inexact, but generally the more senior the individual the greater the influence. Rank therefore provides military context which naturally alters as individuals are promoted. The bibliographies give initials so individual officers are traceable. An exception has been made for officers with the same surname who are cited in close proximity. Official works whose titles include their date of publication eg FSRs 1909 do not have their date of publication included in chapter citations unless this is different from the title date. Magazine references are sometimes
non-standard as some editors did not include volume numbers and sometimes duplicated page numbers. No index is provided of individual magazine articles consulted for reasons of space. Thesis cited have the university at which they were undertaken listed. Lectures given at the Aldershot Military Society and at the Military Society of Ireland are referred to in the footnotes thus (AMS) or (MSI).

This thesis includes some anachronisms; staff college professors have been entitled DS and brigadier generals commanding brigades are referred to as brigadiers in the text. Cavalry privates are generally called troopers, though this did not become their formal designation until later. Article titles of the Duncan Medal essays in the PRAIs have been curtailed to ‘Duncan Medal.’ As they are sentences long, the change makes citation simpler. Web references are listed in a separate index and are identified by a unique serial number as are contemporary maps.
Bibliography Primary Books

Lt C Abbott-Brown *A Manual of Battalion and Brigade Drill including Duties in Camp or Barracks* (Foster Groom 1902)
JHM Abbott *Tommy Cornstalk* (Longmans, Green 1902)
JHM Abbott *Plain and Veldt* (Methuen 1903)
JEED Acton *Cambridge Modern History XII* (Cambridge CUP 1912)
Maj CJ Addison *Ambulance Organisation of an English Army Corps in the Field* (Balliere, Tindall & Cox 1902)
‘An Adjutant’ *The New Service Pay* (G&P 1903)
‘An Adjutant’ *Hints to Young Officers* (G&P 1898)
‘An Adjutant’ *Aids to Manoeuvre Duties* (G&P 1900)
‘An Adjutant’ *Extended Order Drill and the Company in Battle* (G&P 1911)
An Adjutant *Section & Company Drill Made Easy* (G&P 1911)
‘An Adjutant’ *Aids to Skirmishing* (G&P 1903)
‘An Adjutant’ *Aids to Manoeuvre Duties* (G&P 1903)
‘An Adjutant’ *Catch Questions in Infantry Training* (G&P 1903)
‘Aldebaran’ (Maj ECL Berger) *Ideas and Suggestions on Army Reform* (Longmans Green 1905)
Lt Col EAH Alderson *With The Mounted Infantry and the Mashonaland Field Force* (Methuen 1898)
Lt Col EAH Alderson *Pink and Scarlet* (Heinemann 1900)
Maj Gen EAH Alderson *One Hundred Notes Made in Peace and War* (G&P 1908)
Maj Gen EAH Alderson *Pink and Scarlet* ( Hodder & Stoughton 1913)
W Allan *History of the Campaign of Gen TJ (Stonewall) Jackson in the Shenandoah Valley of Virginia from November 4, 1861 to June 17, 1862* (Philadelphia 1880)
DF Allsop & MA Toomey *Small Arms* (Brasseys 1999)
Maj Gen EA Altham *The Principles of War* (Macmillan 1914)
LS Amery *The Problem of the Army* (E Arnold 1903)
LS Amery ed *The Times History of the War in South Africa 1899-1902* II (Sampson Low Marston 1902)
LS Amery ed *The Times History of the War in South Africa 1899-1902* III (Sampson Low Marston 1905)
LS Amery ed *The Times History of the War in South Africa 1899-1902* VI (Sampson Low, Marston 1909)
JH Anderson *Notes on the Life of Stonewall Jackson* (H Rees 1904)
JH Anderson *The Spanish Campaign of Sir John Moore* (H Rees 1905)
JH Anderson *Grant’s Campaign in Virginia* (H Rees 1908)
JH Anderson *The Battle of Liao-Yang* (H Rees 1910)
JH Anderson *The Russo-Japanese War on Land* (H Rees 1909)
JH Anderson *Russo-Turkish War in Europe 1877-8* (H Rees 1910)
JH Anderson *The Austro-Prussian War in Bohemia* (H Rees 1908)
JH Anderson *The Franco-German War* (H Rees 1911)
Capt CH Anderson-Pelham *Questions and Answers for Cavalry, Yeomanry and MI* (G&P 1905 & 1907)
Capt CH Anderson-Pelham *Questions and Answers for the Imperial Yeomanry* (G&P 1904)
Maj AW Andrew *Cavalry Tactics of To-day* (Bombay Thacker 1903)
Maj AW Andrew *Rifle Fire and the Higher Individual Training of the Soldier* (Bombay Thacker 1906)
N Angell *Europe’s Optical Illusion* (Simpkin, Marshall, Hamilton, Kent nd)

*Contains Maj FB Maurice’s chapter ‘The Russo-Japanese War.’
The Great Illusion (Heinemann 1912)

Practical Hints for Mounted Infantrymen (G&P 1901)

‘An Officer on the Active List’ The Boer Plan of Campaign (Beresford 1899)

Alasdair Murray (np 1901)

Practical Hints for Mounted Infantrymen (G&P 1901)

The Armies of To-Day (Osgood McIlvaine 1893)

Arthur Heneker (Humphreys 1912)

The Attack for a Company, Battalion or a Brigade (Chester 1889)

The Boer War: Ladysmith and Mafeking (HMSO 1999)

Brian Alt (np 1900)

The British Army on the Present System of Education for Officers (Simpkin Marshall 1884)

Catch Questions in Infantry Training (G&P 1903)

The Cavalry Roll Book (Chatham G&P 1892)

Colonel The Hon. Milo George Talbot (np nd)

The Cossack Post (Junior Army and Navy Stores 1901)

Evidence of General the Right Hon Sir Redvers Buller (Longmans, Green 1904)

Field Service Pocket Book (Harrison’s nd)

From Portsmouth to Peking via Ladysmith with a Naval Brigade (Hong Kong Daily Press Office 1901)


The Happy Warrior. A Short Account of the Life of David, 9th Earl of Airlie (Winchester Jacob and Johnson 1901)

Military and National Practicality (Bombay Times of India 1902)

On Outpost Duty (G&P 1902)

Operations of General Hutton’s Force (np nd)

Lectures on Land Warfare (Clowes 1922)

Notes on Army Signalling (G&P nd)

A Pottery Man’s Journal of the Siege of Kimberley (Kimberley JC Looney 1900)

Protection (G&P 1910)

A Private Memoir of Sir Thomas Fowler (private nd)

The Queenslanders at Elands River (Hertford Austin nd)

Report of the War Office (Reconstitution) Committee (W Clowes 1904)

The RSO’s Notebook (Capetown Argus 1901)

The Risings on The North-West Frontier (Allahabad Pioneer Press 1898)

The Russo-Japanese War (NY Collier 1905)

Siege of Kimberley (np nd)

Sketch Map to Illustrate the Russo-Japanese War (Foster Groom nd)

The Soldier’s Life (Fortrey nd)

A Subaltern’s Letters to His Wife (Longmans Green 1901)

“Telling Off” and “Posting” A Picquet (G&P 1903)

The Territorial Year Book and Directory 1909 (Hodder and Stoughton 1909)

The Territorial Year Book and Directory 1910 (Hodder and Stoughton 1910)

True History of the War. Part I Being the Official Despatches and Enclosures from the General Officer Commanding-in-Chief... November 9th 1898 to December 28th 1899 (Harrisons nd)

True History if the War. Part II Being the Official Despatches and Enclosures from the General Officer Commanding-in-Chief... (Harrisons nd)

With the Sirdar to Khartoum (Allahabad Pioneer 1898)

RH Anstic The “Decisive” Campaign of Torres Vedras (Aberdeen Cornwall 1905)
Capt RV Applin *Machine Gun Tactics* (H Rees 1910)
Capt CH Armitage and Lt Col AF Montanaro *The Ashanti Campaign of 1900* (Sands 1901)
HO Arnold Forster *Army Letters 1898* (E Arnold 1898)
HO Arnold Forster *The War Office, The Army and the Empire* (Cassell 1900)
HO Arnold Forster *The Army in 1906* (J Murray 1906)
HO Arnold Forster *Military Needs and Military Policy* (Smith Elder 1909)
EO Ashe *Besieged by the Boers* (Hutchinson 1900)
E Ashmead-Bartlett *Port Arthur* (Edinburgh Blackwood 1907)
‘Asiaticus’ trans Lt Montgomery *Reconnaissance in the Russo-Japanese War* (H Rees 1908)
Brig Gen GG Aston *Letters on Amphibious Wars* (J Murray 1911)
Brig Gen GG Aston *The Defence of United South Africa* (CT Cape Times 1910)
Maj Gen GG Aston *War Lessons, New and Old* (J Murray 1919)
Brig Gen GG Aston *Staff Duties and Other Subjects* (H Rees 1913)
Maj Gen GG Aston *Sea, Land and Air Strategy* (J Murray 1914)
Capt J Atkinson *ABC of the Army* (Aldershot G&P 1910)
Maj HH Austin *A Scamper Through the Far East* (E Arnold 1909)
‘Average Observer’ *The Burden of Proof* (G Richards 1902)
Maj Gen FJ Aylmer *Protection in War* (H Rees 1912)
‘Backsight Forethought’ (Capt ED Swinton) *The Defence of Duffer’s Drift* (W Clowes 1904)
Ed Maj BFS Baden-Powell *War in Practice* (Ibister 1903)
Ed Maj BFS Baden-Powell *The Army Annual 1908* (The Army Press nd)
Ed Maj BFS Baden-Powell *The Army Annual 1909* (The Army Press nd)
Ed Maj BFS Baden-Powell and Lt Col HME Brunker *The Army Annual 1910* (W Clowes nd)
Capt RSS Baden-Powell *Cavalry Instruction* (W Clowes 1884)
Capt RSS Baden-Powell *Reconnaissance and Scouting* (W Clowes 1884)
Lt Col RSS Baden-Powell *Aids to Scouting for NCOs and Men* (G&P Aldershot nd)
Maj Gen RSS Baden-Powell *Sport in War* (Heinemann 1900)
Lt Gen RSS Baden-Powell *Scouting for Boys* (OUP 2004)
Maj Gen RSS Baden-Powell *The Matabele Campaign* (Methuen 1901)
Maj E Baker *Preliminary Tactics* (Woolwich RAI 1888)
Capt Balck *Modern European Tactics* (Sands 1899)
Lt Col TS Baldock *Cromwell as A Soldier* (Kegan Paul, Trench, Trubner 1899)
A Bailey and SG Murray *Explosives, Propellants and Pyrotechnics* (Brassey’s 1989)
Maj FD Baillie *Mafeking A Diary of a Siege* (Constable 1900)
Lt Col ST Banning *Tactics Made Easy* (Aldershot G&P 1912)
Maj ST Banning *The Soldier’s Pocket Manual* (Aldershot G&P 1903)
M Baring *With The Russians in Manchuria* (Methuen 1905)
Capt AAS Barnes *On Active Service with The Chinese Regiment* (Grant Richards 1902)
Lt Col EG Barrow *Infantry Fire Tactics* (Hong Kong Noronha 1895)
Lt EG Barrow revised Lt MS Hewett *The Sepoy Officer’s Manual* (Calcutta Thacker Spink 1908)
EO Bartlet *Battalion and Brigade Drill in Savage Warfare* (W Clowes 1904)
J Barnes *The Great War Trek* (D Appleton 1901)
Maj SL Barry *Notes for Territorial Yeomen* (5th Edn Rees nd)
Capt C Battine *The Crisis of the Confederacy* (Longmans, Green 1905)
Lt A Baudry *The Naval Battle* (H Rees 1914)
Lt AM Beatson *The Motor Bus in War* (Fisher Unwin 1918)
Col Beca *A Study of the Development of Infantry Tactics* (Swan Sonnenschein 1911)
Capt AF Becke *Introduction to the History of Tactics* (H Rees 1910)
Capt AF Becke *What to Apply in Tactical Problems* (Kegan Paul, Trench, Trubner 1909)

1 Reprint of original.
Surgeon Maj W Beevor With the Central Column (Office of the King his Navy and Army 1903)
H Begbie The Story of Baden Powell (Grant Richards 1900)
CA Bell Knight Dear Tom (Bath British Nostalgia Publications 1987)³
Maj Gen HM Bengough Thoughts on Modern Tactics (G&P 1896)
Maj Gen HM Bengough Preparatory Battle Formations (G&P nd)
Maj Gen HM Bengough Notes and Reflections on the Boer War (W Clowes 1900)
Bennet Burleigh The Natal Campaign (Chapman & Hall 1900)
B Burleigh Khartoum Campaign 1898 (Chapman and Hall 1898)
EN Bennett The Downfall of the Dervishes (Methuen 1898)
Gen F von Bernhardi On War of Today (H Rees 1912)
Gen F von Bernhardi trans Maj GTM Bridges Cavalry (Hodder 1914)
Gen F von Bernhardi trans Maj GTM Bridges Cavalry in War and Peace (H Rees 1910)
Gen F von Bernhardi Cavalry in Future Wars (J Murray 1906)
Gen F von Bernhardi Germany and the Next War (E Arnold 1914)
Gen F von Bernhardi Cavalry (Hodder & Stoughton 1914)
Lt AL Bethell Outpost Duties as Learnt in South Africa (W Clowes 1903)
Maj HA Bethell Modern Guns and Gunnery (Woolwich FJ Cattermole 1905)
Maj HA Bethell Questions and Answers on the 15 pr QF Gun (Woolwich FJ Cattermole 1900)
Lt Col HA Bethell Modern Guns and Gunnery (Woolwich FJ Cattermole 1907)
Col HA Bethell Modern Artillery in the Field (Macmillan 1911)
RC Billington A Mule Driver at the Front (Chapman and Hall 1901)
The Biographical Press Agency Major WAJ O'Meara (The Biographical Press Agency 1904)
Maj N Birch Modern Riding (Hutchinson 1909)
Bvt Maj WD Bird Some Principles of Mountain Warfare (H Rees 1909)
Bvt Maj WD Bird Lectures on the Strategy of the Franco-German War (H Rees 1909)
Bvt Lt Col WD Bird A Précis of Strategy (H Rees 1910)
Maj Gen WD Bird The Direction of War (Cambridge CUP 1925)
The Biographical Press Agency Major WAJ O'Meara (The Biographical Press Agency 1904)
HO Blaker The Principles of Warfare (Leadenhall 1900)
RM Blackwood The Battles of the British Army (Simpkin, Marshall, Hamilton, Kent nd)
T Blair Epaulettes (Bousfield nd)
Col JYF Blake A West Pointer with The Boers (Boston Angel Guardian Press 1903)
Lt E Blake-Knox Buller’s Campaign (Brimley Johnson 1902)
HO Blaker The Principles of Warfare (Leadenhall Press 1900)
HJ Blanch A Century of Guns (J Blanch 1909)
J De Bloch The Transvaal War and Its Problems (H Marshall 1900)
J De Bloch Is War Now Impossible? (Grant Richards 1899)
LS Bloch Modern Weapons and Modern War (Grant Richards 1900)
Gen A v Boguslawski Tactical Deductions from the War of 1870-71 (Henry King 1872)
Gen H Bonnal trans CF Atkinson Sadowa (H Rees 1907)
QMSI J Bostock The Machine Gunner’s Handbook (WH Smith nd)
M Bovill & GR Askwith Roddy Owen A Memoir (Constable 1897)
Capt FF Boyd Strategy in a Nutshell (G&P 1910)
Col CB Brackenbury Field Works (Keegan Paul Trench Trubner 1888)
Capt H Brackenbury The Ashanti War. A Narrative I (Edinburgh Blackwood 1874)
Lt CA Bradbrooke Some Hints to Brigade and Battalion Machine Gun Officers (Hythe Paine nd)
Lt MV Brett Précis of the Campaigns of 1866 and 1870 (H Rees 1909)
Lt MV Brett Maxims of War (H Rees 1905)

³ Contemporary diary published later.
MV Brett Journals and Letters of Reginald Viscount Esher I (Nicholson 1934)
EC Briggs The Staff Work of the Anglo-Boer War 1899-1901 (Grant Richards 1901)
Brigadier General "B" A General and His Duties (G&P 1892)
E Brindle With Russian Japanese and Chunchuse (Murray 1905)
"British Officer" (Capt WE Cairnes) Social Life in the British Army (J Long 1900)
"British Officer" (Capt WE Cairnes) A Common-sense Army (J Milne 1901)
"British Officer" (Capt WE Cairnes) An Absent Minded War 1899-1902 (J Milne 1900)
"British Officer" (Capt WE Cairnes) The Army from Within (Sands 1901)
"British Officer" The Army Board Fiasco (G Allen 1909)
British Field Officer The Army and the Press in 1900 (FE Robinson 1901)
Ed J Brodie The Muster-Roll of Angus. South African War (Arbroath Brodie and Salmond 1903)
Bvt Lt Col AF Brooke The Evolution of Artillery in the Great War (np nd)
Lord Brooke An Eye-witness in Manchuria (Eveleigh Nash 1905)
H Brown War with the Boers I,II,III (Virtue 1899-1905)
H Brown & E Sharpe Grew War with the Boers IV-V (Virtue 1899-1905)
O Browning Wars of the Century and the Development of Military Science (Linscott 1901)
FM CH Brownlow Stray Notes on Military Training and Khaki Warfare (Women’s Printing Society 1913)
Lt Col HME Brunker Chart of an Army Corps and a Cavalry Brigade with notes (W Clowes 1899)
Lt Col HME Brunker Formation for Attack Night Operations Adopted in South Africa (Portsmouth Holbrook 1900)
Lt Col HME Brunker Notes on Maps and Map-reading (W Clowes 1902)
Lt Col HME Brunker Questions on Military History (G&P nd)
Lt Col HME Brunker Story of the Russo-Japanese War I and II (Forster Groom 1909, 1911)
Lt Col HME Brunker Hints on Solving Tactical Problems (Portsmouth Holbrook 1909)
Ed Lt Col HME Brunker The Army Annual 1911 (W Clowes 1911)
Ed Lt Col HME Brunker The Army Annual 1912 (W Clowes 1912)
Ed Lt Col HME Brunker The Army Annual 1913 (W Clowes 1913)
L Brunton Collected Papers on Physical and Military Training (private nd)
J Butfon Tasmanians in the Transvaal War (Hobart SG Loone 1905)
J Burde Problems in Applied Tactics (E Stanford 1897)
J Burde Tactical Problems (private nd)
J Burde Problems in Applied Tactics (E Stanford 1899)
J Burde Tactical Principles (H Rees 1908)
Lt Burne RN With the Naval Brigade in Natal (E Arnold 1902)
Lt Col RG Burton From Boulogne to Austerlitz (Allen 1912)
Lt Col RG Burton Napoleon’s Campaigns in Italy (Allen 1912)
Capt L Butler Wellington’s Operations in the Peninsula (Unwin 1904)
Gen RFC von Caemmerer The Development of Strategic Science during the 19th Century (H Rees 1905)
Capt WE Cairnes The Coming Waterloo (Constable 1901)
Capt WE Cairnes Lord Roberts as A Soldier in Peace and War (Hodder and Stoughton 1901)
Maj CE Callwell The Effect of Maritime Command on Land Campaigns Since Waterloo (Edinburgh Blackwood 1897)
Maj CE Callwell The Tactics of To-Day (Blackwood 1900)
Col CE Callwell The Tactics of To-Day (Edinburgh Blackwood 1909)
Col CE Callwell The Tactics of Home Defence (Edinburgh Blackwood 1908)
Col CE Callwell Military Operations and Maritime Preponderance (Edinburgh Blackwood 1905)
Col CE Callwell Tirah 1897 (Constable 1911)
Brig Gen JP Du Cane *The Campaign in Alsace* (H Rees 1913)
C/Sgt J Carnegie *Musketry and Fire Discipline* (London Scottish Gazette nd)
‘Carolus’ *The Soldier’s Pay* (Clowes 1907)
*Cassell’s History of the Boer War* (Cassell 1903)
*Cassell’s History of the Russo-Japanese War* I, II, III (Cassell nd)
*Cassell’s Battles of the Nineteenth Century* (Cassell 1902)
Capt G Casserley *The Land of the Boxers or China under the Allies* (Longmans Green 1903)
‘Cavalry Officer’ *Cavalry Tactics* (Stanford 1897)
Maj JE Caunter *The Campaign in the Free State and its Lessons* (G&P 1901)
G Chambers *A Soldier’s Diary* (Bishop Auckland Pentland 1999) 4
Lt Col GL Chambers *Bussaco* (Swan Sonnenschein 1910)
Maj Gen Chennevix *Trench Cavalry in Modern War* (Keegan Paul Trench Trubner 1884)
Col CC Chesney *Waterloo Lectures* (Longmans Green 1907)
Dvr E Childers *In the Ranks of the CIV* (Smith Elder 1900)
E Childers ed *The Times History of the War in South Africa 1899-1902* V (Sampson Low, Marston 1906)
E Childers *War and the Arme Blanche* (E Arnold 1910)
E Childers *German Influences on British Cavalry* (E Arnold 1911)
RS Churchill *Winston S Churchill Companion* 1 Part 2 1896-1900 (Heinemann 1967)
WS Churchill ed F Wood *Young Winston’s Wars* (Cooper 1972) 5
WS Churchill *Frontiers and Wars* (Penguin 1972) 6
WS Churchill *London to Ladysmith* (Longmans Green 1900)
WS Churchill *Ian Hamilton’s March* (Longmans Green 1900)
WS Churchill *The River War* (Longmans Green 1899)
WS Churchill *The Story of the Malakand Field Force* (Longmans Green 1899)
WS Churchill *Mr Brodrick’s Army* (Humphreys 1903)
Adapted Lt Col GS Clarke from AW Kinglake *The Invasion of the Crimea* (Edinburgh Blackwood 1899)
Col GS Clarke *Fortification* (J Murray 1907)
Maj S Clarke *A Sketch of the Waterloo Campaign* (G&P 1903)
Gen C von Clausewitz *On War* (Kegan Paul, Trench, Trubner 1908)
Eds ME Howard, P Paret Gen C von Clausewitz *On War* (Campbell 1993)
Lt Col Clery *Minor Tactics* (Keegan Paul, Trench Trubner 1883)
WG Clifford *The British Army* (Keith, Prowse &Co nd)
Capt H Clutterbuck *Musketry Lectures* (Rees 1913)
Lt Col HS Coldicott *The Scout’s ‘Aide Memoire’ in Rhyme* (G&P 1904)
Capt EH Collen *Diary and Sketches of the South African War* (Calcutta Military Department Press 1901)
‘A Colonel in Business’ *The Army Business and Its London Office* (Cassell 1901)
Maj Gen HE Colvile *The Work of the Ninth Division in South Africa* (E Arnold 1901)
Maj Gen H Colvile *The Allies* (Hutchinson 1907)
Cdt J Colin *The Transformations of War* (H Rees 1912)
Col J Colin *The Great Battles of History* (H Rees 1915)
A Conan Doyle *The Great Boer War* (Smith Elder 1900)
A Conan Doyle *The War in South Africa* (Smith Elder 1902)
Maj B Congreve *Armageddon Road* (Kimber 1982) 7
‘Constitutionalist’ *Army Administration in Three Centuries* (Stanford 1901)

4 Contemporary diary published later.
5 Contemporary work reorganised.
6 Contemporary work reorganised.
7 Contemporary diary.
T Cook & Co Cook's Tourists Handbook to Peking, Tientsin Shant-hai-kwan, Mukden, Dalny, Port Arthur and Seoul (T Cook 1910)

JS Corbett Some Principles of Maritime Strategy (Longmans, Green 1911)

JS Corbett and HJ Edwards Naval and Military Essays (CUP Cambridge 1914)

Col ELV Cordonnier trans Capt CF Atkinson The Japanese in Manchuria I (H Rees 1912)

FTW Cornish Letters and Sketches of Francis T Warre Cornish (Eton Spottiswood 1902)

The Corporal' 'I.Y.' (Elliot Stock 1901)

CG Coulton A Strong Army in a Free State (Simpkin, Marshall, Hamilton Kent nd)

T Cowan The Russo-Japanese War (E Arnold 1904)

HS Cowper The Art of Attack (Ulverston W Holmes 1906)

A Crawfurd General Crawfurd and His Light Division (Griffith, Farran, Okeden and Welsh nd)

Maj HJ Crawfurd The Field Training of a Company of Infantry (E Arnold 1902)

Maj JHV Crowe Problems in Manoeuvre Tactics (Smith Elder 1905)

JG Crowther & R Whiddington Science at War (HMSO 1947)

J Cromb and DL Cromb The Highland Brigade (Stirling Mackay 1902)

Ed J Cromb The Majuba Disaster. A Story of Highland Heroism told by the Officers of the 92nd Regiment (Dundee J Leng Edinburgh J Menzies London Simpkin, Marshall, Hamilton Kent 1891)

Capt WGFC Cumming The Use of the Telescope and Scouting (G&P 1903)

' Cyclist Commander' The Scouts' Alphabet (G&P 1903)

Capt J Dalby Questions and Answers on the Management and Care of the Horse (Illustrated) A Manual for Mounted Soldiers (Woolwich Cattermole 1903)

P Danby The Red Army Book (Blackie 1904)

Col WH Daniel The Military Forces of the Crown (Cassell 1901)

Capt D'Arcy-Evans Field Training Made Easy (G&P 1898)

Cpl G Darling A Volunteer's Letters (Wishaw W Pumphrey 1902)

Capt L Davidson Catechism on Field Training (G&P 1898)

Capt L Davidson Company Drill Made Easy (Aldershot G&P 1902)

Capt L Davidson ed Maj ST Banning Catechism on Field Training (G&P 1902)

RH Davis With Both Armies in South Africa (NY Scribner's 1902)

Col CT Dawkins Night Operations for Infantry (G&P 1910)

'Defender' Sir Charles Warren and Spion Kop (Smith Elder 1902)

'Democritus' The Great Army Scandal (Manchester A Heywood nd)

Col GT Denison A History of Cavalry (Macmillan's 1913)

Gen FO De Negrier Lessons of the Russo Japanese War (H Rees 1906)

Lt Col C Delme-Radc1iffe and JW Lewis A Territorial Army in Being (J Murray 1908)

Capt JC Demangel Vade-Mecum of Organization and Equipment (Yorktown Webb 1899 and 1903)

Capt JC Demangel Questions and Answers on Tactics (Yorktown Webb 1899 & 1903)

Capt JC Demangel Applied Tactics (Yorktown Webb 1897)

Maj CG Dennison A Fight To the Finish (Longmans, Green 1904)

C De Wet Three Years War (Constable 1902)

N Devitt Galloping Jack (H F &G Witherby nd)

WKL Dickson The Biograph in Battle (Fisher Unwin 1901)

CW Dilke Army Reform (Service& Patton 1898)

WK-L Dickson The Biograph in Battle (Fisher Unwin 1901)

Capt CM Dixon The Leaguer of Ladysmith (Eyre &Spottiswoode nd)
Capt JWE Donaldson *The Application of Military History to Modern Warfare* (Calcutta Thacker Spink 1905)

Capt JWE Donaldson and Capt AF Becke *Military History Applied to Modern Warfare* (H Rees 1907)

Capt JWE Donaldson and Capt AF Becke *Waterloo* (H Rees 1907)

R Donajowski *A Soldier’s Aid to Scouting* (E Donajowski nd)

Col WT Dooner *The Infantry of Our Army and Mr Arnold Forster’s Proposals* (Simpkin, Marshall Hamilton & Kent 1905)

Lt Col FH Dyke *Lectures on Tactics* (W Clowes 1912)

Lt Col FH Dyke “A” to “O” of the Military Synopsis (Harrison nd)

CW Earle *Last Letters of Capt Sydney Earle* (Smith Elder 1903)

‘Editor The Review of the Week’ *The Scapegoat* (Bickers 1901)

SSM R Edmondson *John Bull’s Army from Within* (Arnold 1907)

Maj FM Edwards *The Defence and Defensive Positions* (W Clowes 1902)

Lt Col FM Edwards *Notes on the Training, Equipment, and Organisation of Cavalry for War* (W Clowes 1910)

Majs L Edye & E Rhodes *Catechism of the Manual of Instruction on Army Signalling* (G&P 1894)

Brig Gen CC Egerton *Hill Warfare on the North-West Frontier of India* (Allahabad Pioneer Press 1898)

Col GGA Egerton *Miniature Range Shooting* (H Rees 1909)

A Egmont-Hake *Soldiers of the Queen Library* (London Publishing Co nd)

Maj Gen GF Ellison *Lecture History of Military Administration* (LSE 18/1/21)

Capt GF Ellison *Home Defence* (Stanford 1898)

Capt G Elsmie *Sudden Attacks and How They may be Met* (Lahore Civil and Military Gazette 1897)

Viscount Esher *The Committee of Imperial Defence* (Murray 1913)

Capt HC Evans *Company Training Made Easy* (G&P 1902)

Capt HC Evans *Notes on Writing Orders in the Field and Reports in the Field* (G&P 1902)

Maj HC Evans & Capt RF Legge *Company Training Made Easy* (G&P 1905)

Maj W Evans-Gordon *The Cabinet and War* (Constable 1904)

Surgeon Maj GJH Evatt *The ‘Death March’ through the Khyber Pass in the Afghan Campaign 1878-79* (Calcutta Thacker Spink 1891)

Surgeon-General GJH Evatt *Our Songless Army* (Curwen nd)

Maj W Ewbank *Tactical Studies* (Bombay Thacker 1905)


Col J Farquharson *The Principles of Army Organisation as Applied to English Army Service* (Stanford 1898)

Lt Viscount Fincastle & Lt PC Elliot-Lockhart *A Frontier Campaign* (Methuen 1898)

M Fitzgibbon *Arms under Arts* (Longmans Green 1901)

Capt FP Fletcher Vane *Pax Britannica in South Africa* (Constable 1905)

‘Fleur De Lis’ *The Scouts’ Alphabet* (G&P 1905)

Marshal Foch *The Principles of War* (Chapman and Hall 1918)

J Formby *The First Two Battles of Plevna* (W Clowes 1910)

A Forbes *The Afghan Wars* (Seeley 1892)

G Forrest *Wellington to Roberts* (Edinburgh 1901)

G Forrest *Life of Lord Roberts, VC* (Cassell 1914)

JW Fortescue *The British Army 1783-1802* (Macmillan 1905)

JW Fortescue *Military History Lectures delivered at Trinity College Cambridge* (Cambridge CUP 1914)

Col H Foster *Organization* (H Rees 1911)
Col H Foster *Staff Work* (H Rees 1912)
Col H Foster *War and the Empire* (Williams & Norgate 1914)
Maj TE Fowle *Notes on Staff Rides and Regimental and Tactical Tours for Beginners* (G&P 1908)
JS Fowler *Extracts from the Diary of John S Fowler RE. Chitral 1895* (Dublin np 1897)
J Fox *Following the Sun-Flag* (Constable 1905)
Capt TB Franklin *Tactics and the Landscape* (G&P 1914)
Capt TB Franklin *Tactical Essays for Certificate “A” Candidates* (G&P 1913)
D Fraser *A Modern Campaign* (Methuen 1905)
FE Freemantle *Impressions of a Doctor in Khaki* (Murray 1901)
FM JPD French *Deductions from the World War* (Constable 1919)
Lt Gen von Freytag-Loringhoven *Frontier Warfare* (Bombay Thacker nd)
Capt JFC Fuller *Hints on Training Territorial Infantry* (G&P 1913)
Capt JFC Fuller *Training Soldiers for War* (H Rees 1914)
Col GA Furse *Scouting* (W Clowes 1902)
Col GA Furse *The Art of Marching* (W Clowes 1901)
Col GA Furse *Information in War* (W Clowes 1895)
Capt HR Gall *Modern Tactics* (WH Allen 1897)
Capt HR Gall *Supplement to Modern Tactics* (WH Allen 1897)
Capt HR Gall *Questions and Answers on Combined Training 1902* (H Rees 1903 and 1904)
Capt HR Gall *Questions and Answers on Combined Training 1905* (H Rees 1906)
Capt HR Gall *Tactical Questions and Answers on Cavalry Training* (Foster Groom 1908)
Lt S Galvayne *War Horses Present and Future* (Everett 1902)
Col G Gawler *The Essentials of Good Skirmishing* (Parker, Furnival 1852)
trans Capt Gawne *A Summer Night’s Dream* (Kansas City np nd)\(^8\)
Maj JM Gawne and S Wilkinson *The Order of Service of the German Army* (Manchester 1893)
EL George *National Defence and Army Reform* (W Clowes 1913)
The German GS Trans Col WHH Waters *The German Official Account of the War in South Africa I* (J Murray 1904)
The German GS Trans Col H Du Cane *The German Official Account of the War in South Africa II* (J Murray 1906)
The German GS Trans K von Donat *The Russo-Japanese War: The Yalu* (H Rees 1908)
‘A German Staff Officer’ trans F Bolton *The Greco-Turkish War of 1897* (Swan Sonnenschein 1898)
Lt Gen MG Gerrard *Leaves from the Diary of A Soldier and Sportsman* (J Murray 1903)
‘GJY’ (Lt Col Younghusband) *Two Lectures to the Guides in 1908* (Poona Scottish Mission Industries 1908)
Lt Giffard *Memorials of a Young Soldier* (Clowes 1898)
Maj G Gilbert *The Evolution of Tactics* (H Rees 1907)
SH Gilbert *Rhodesia and After* (Simpkin Marshall, Hamilton Kent 1901)
W Gilbey *Small Horses in Warfare* (Vinton 1900)
W Gilbey *Horse-Breeding in England and India and Army Horses Abroad* (Vinton 1901)
R Gillham-Thomsett *Kohat, Kuram and Khost* (Remington 1884)
HE Graham *The Defence of Bowler Bridge* (W Clowes 1929)
Maj Gen Gleichen *A Brigade of the Old Army* (Blackwood 1917)
CS Goldman *With General French and the Cavalry in South Africa* (NY Macmillan 1902)
W Gordon *Skirmishing Attack & Defence for a Company, Battalion & Brigade* (Chatham G&P 1889)

\(^8\) Attributed to Col Meckel but he is not cited on the title.
Sgt Maj W Gordon revised Sgt Maj FS Speed *Hints for Young Soldiers* (G&P nd)
L Gordon Duff *With The Gordon Highlanders* (Staplehurst Spellmount 2000)9
Surgeon General AA Gore *A Medical Statistical Sketch of the Operations on the North-West Frontier of India 19th June 1897, to 8th April 1898* (Dublin Falconer 1899)
Col JE Gough *Frederickburg and Chancellorsville* (H Rees 1913)
Maj SC Gough *Notes & Schemes...For “Q”* (Allahabad Pioneer Press 1901)
Maj C Grant *The XYZ of Musketry* (Lahore Civil and Military Gazette 1897)
J Grant *Recent British Battles on Land and Sea* (Cassell 1904)
Lt Col SHP Graves *Notes on Mobilization of a Native Infantry Regiment* (Allahabad Pioneer Press 1898)
WW Greener *The Gun and Its Development* (Cassell 1899 &1907)
Lt Col WH Greenly *Notes on Billeting for Cavalry* (H Rees 1913)
Maj OFWT Griepenkerl *Letters on Applied Tactics* (H Rees 1897)
Col OFWT Griepenkerl *Letters on Applied Tactics* (H Rees 1905)
Col JM Grierson *Scarlet into Khaki* (Sampson Low 1899)
Maj WA Griesbach *Observations on Cavalry Duties* (May 1914)
H Grosser *Field-Marshall Lord Roberts* (Melrose 1900)
Capt CM De Gruyther *Tactics for Beginners* (G&P 1899,1902 & 1904)
HM Guest *With Lord Methuen and the 1st Division* (Klerksdorp HM Guest 1902)
HM Guest *Vicissitudes of a Transvaal Dorp* (Klerksdorp HM Guest 1901)
Lt Col E Gunter. *Outlines of Modern Tactics* (W Clowes 1899)
HA Gwynne *The Army on Itself* (Warne 1904)
Maj A Haggard *The Social Status of the Soldier in Connection with Recruiting* (United Service Gazette 1906)
Maj Gen D Haig *Cavalry Studies* (H Rees 1907)
Col RCB Haking *Staff Rides and Regimental Tours* (H Rees 1908)
Brig Gen RCB Haking *Company Training* (H Rees 1913)
Maj Gen H Hallam Parr *The Further Training &Employment of Mounted Infantry and Yeomanry* (G&P 1900)
Capt A Haldane *How We Escaped from Pretoria* (Edinburgh Blackwood 1901)
AG Hales *Campaign Pictures of the War in South Africa* (Cassell 1900)
Lord Haliburton *Army Organization* (E Arnold 1905)
FS Hallowes *The Wedge of War* (Elliot Stock 1900)
Col HJ Hallowes *Drill and Working of the Three Arms* (W Clowes 1890)
Lt L Halsey *Letters from Ladysmith* (Berkhamsted Dacorum Trust 1995)11
A Hamilton *In Abor Jungles* (Everleigh Nash 1912)
E Hamilton *Soldier and Aviator* (CW Daniel 1912)
Gen I Hamilton *The Commander* (Hollis and Carter 1957)12
Gen I Hamilton *National Life and National Training* (PS King 1913)
Gen I Hamilton *Compulsory Service* (J Murray 1911)
Capt I Hamilton *The Fighting of the Future* (Keegan, Paul, Trench 1885)
Lt Gen I Hamilton *A Staff Officer's Scrapbook* I& II (E Arnold 1905, 1907)
Gen I Hamilton *The Body and Soul of an Army* (E Arnold 1921)

1 Contemporary diary published later.
2 Letters and Diary.
3 Contemporary work.
4 Written in the thesis' period, published later.

352
JA Hamilton The Siege of Mafeking (Methuen 1900)
Capt RS Hamilton-Grace Finance and War (H Rees 1910)
Col Hamley Staff College Exercises 1874 (Edinburgh Blackwood 1875)
Gen EB Hamley The Operations of War (Edinburgh Blackwood 1900)
Gen EB Hamley and Col LE Kiggell The Operations of War (Edinburgh Blackwood 1907)
CE Hands Souvenir of the Siege of Mafeking (The Smith Premier Typewriter Co nd)
Lt Gen GM Harper Notes on Infantry Tactics & Training (Sifton, Praed 1919)
H Harper The Handy Man in China (Hong Kong Walsh and Kelly nd)
P Harrington & FA Sharf Omdurman 1898 The Eye-Witnesses Speak (Greenhill 1998)
F Harris How to Beat the Boer. A Conversation in Hades (Heinemann 1900)
JJ Hart Incidents of the South African Campaign (St John’s Telegraph Press 1901)
W Hart-McHarg From Quebec to Pretoria (Toronto W Briggs 1902)
Maj Gen RC Hart Reflections on the Art of War (W Clowes 1897 & 1901)
Col CL Harvey The Organization and Tactical Use of Cavalry, Artillery and Infantry (Chatham G,P & 1893)
Lt Col CO Head The Art of Generalship (G&P nd)
Maj EC Heath Examinations in Combined Training (Christopher’s 1906)
Lt Col P Hehir The March: its Mechanism, Effects and Hygiene (Calcutta Thacker Spink 1912)
K Helfferich Der Weltkrieg II (Berlin 1919)
Col D Henderson Art of Reconnaissance (Murray 1907 & 1914)
Bvt Maj GFR Henderson The Campaign of Fredericksburg (G&P nd)
Bvt Maj GFR Henderson The Battle of Spicheren (G&P nd)
Col GFR Henderson ed Capt N Malcolm The Science of War (Longmans 1905)
Col GFR Henderson ed J Luvaas The Civil War (NY Da Capo 1996)
Col GFR Henderson Stonewall Jackson and the American Civil War (Longmans 1898 & 1899)
Lt Col WCG Heneker Bush Warfare (H Rees 1907)
H Hensman The Afghan War of 1879-80 (WH Allen 1881)
Pte JE Hill The Diary of a South Notts Imperial Yeoman (Titchfield Adams 2000)
A Hilliard Atteridge The Wars of the Nineties (Cassell 1899)
A Hilliard Atteridge Famous Land Fights (Methuen 1914)
HC Hillegas With the Boer Forces (Methuen 1900)
Lt Col HWL Hime Stray Military Papers (Longmans Green 1896)
Lt Col HWL Hime Army Reform (Stanford 1898)
Historical Manuscripts Commission National Register of Archives Report on the Papers of FM Wolseley in Hove Central Library (np nd)
Maj EAP Hobday Sketches on Service (J Bowden 1898)
Col TH Holdich The Indian Borderland (Methuen 1901)
Maj P Holland Infantry Tactics and Modern Weapons (Allahabad Pioneer Press 1903)
Gen A Horsetzky trans Lt KB Ferguson A Short History of the Campaigns in Europe since 1792 (Murray 1909)
Maj H De B Hovell A Soldier’s Training and Other Notes (G&P 1900)
C Hovey Stonewall Jackson (Boston Small Maynard 1900)
Maj P Howell The Campaign in Thrace 1912 (H Rees 1913)
Col HD Hutchinson The Campaign in Tirah 1898 (Macmillan 1898)
Col HD Hutchinson Military Sketching Made Easy and Military Maps Explained (G&P 1891)
Col HD Hutchinson Tactics Made Easy for NCOs and Men (G&P 1902)
Maj Gen HD Hutchinson Field Fortifications (G&P 1897 & 1904)
Maj Gen HD Hutchinson Operations in the Peninsula 1808-1809 (H Rees 1905)

13 Contemporary material published afterwards.
* Contemporary work.
E Hutton *A Manual of Light Drill* (Dublin E Ponsonby 1876)
Lt Gen E Hutton *Colonel Henry Bouquet* (Winchester G & P 1911)
Capt EA Innes *Guide for Infantry Officers (Auxiliary Forces)* (Aldershot G & P 1907)
Lt HA Ironside *The Machine Gun* (Rees 1914)
Lt VA Jackson *Machine Guns* (Foster Groom 1910)
DH James *The Siege of Port Arthur* (T Fisher Unwin 1905)
L James *The Indian Frontier War 1897* (W Heinemann 1898)
Chasseur (L James) *A Study of the Russo-Japanese War* (Edinburgh Blackwood 1905)
Capt WH James *Handbook of Tactics* (G & P 1895)
ed Capt WH James Gen J von Verdy du Vernois *With The Royal Headquarters in 1870-71* (Kegan Paul, Trench, Trubner 1897)
ed Capt WH James Count Yorck von Wartenburg *Napoleon as a General I, II* (Kegan Paul, Trench, Trubner 1902)
ed Capt WH James Lt Gen von der Goltz *The Conduct of War* (Kegan Paul, Trench, Trubner 1899)
ed Capt WH James Gen Kraft zu Hohenlohe–Ingelfingen *Letters on Strategy I, II* (Kegan Paul, Trench, Trubner 1898)
ed Capt WH James Col Epauchin *General Gurko’s Advance Guard 1877* (Kegan Paul, Trench, Trubner 1900)
Lt Col WH James *Modern Strategy* (Edinburgh Blackwood 1903, 1904 1908)
Surgeon TT Jeans RN *Naval Brigades in the South African War* (Sampson Low Marston 1901)
Maj H Jennings-Bramly *The Execution of Infantry Entrenchments* (H Rees 1908)
H Jerningham *From West to East. Notes by the Way* (J Murray 1907)
CS Jerram *The Armies of the World* (Lawrence and Bullen 1899)
Capt HME Johnstone *A History of Tactics* (H Rees 1906)
Capt HME Johnstone *Tactics and Training* (Edinburgh Oliver & Boyd 1908)
H Josling *The Autobiography of a Military Great Coat* (Jarrold 1907)
Maj A Keene *Memoria Technica for Cavalry Officers* (Allahabad Pioneer Press 1899)
Maj A Keene *Memoria Technica for Infantry Officers* (Allahabad Pioneer Press 1899)
C/Sgt RE Kemp *Khaki Letters from My Colleagues in South Africa* (Postal Telegraph Service nd)
Lt Col RJ Kentish *The Maxims of the Late Field Marshal Viscount Wolseley and the Addresses on Leadership, Espirit de Corps & Moral* (Aldershot G & P 1916)
Maj ER Kenyon *Notes on Land and Coast Fortification* (Chatham REI 1894)
C Kernahan *An Author in the Territorials* (Arthur Pearson 1908)
JD Kestell *Through Shot and Flame* (Methuen 1903)
J Kinahan *From the Front* (Marshall 1900)
M Kinai *The Russo-Japanese War (Official Reports) I, II* (Tokyo The Shimbashido nd)
A Kinnear *To Modder River with Methuen* (Bristol Arrowsmith 1900)
R Kipling *Verse Definitive Edition* (Hodder and Stoughton 1977)
Maj E Kirkpatrick *The Training of an Infantry Company* (G & P 1913)
H von Koenigsmarck *A German Staff Officer in India* (Kegan Paul, Trench, Trubner 1910)
Maj Gen WG Knox *The Flaw in Our Armour* (H Jenkins 1914)
Gen PH Kritzinger and RD McDonald *In The Shadow of Death* (Private 1904)
Gen Kuropatkin trans Capt AB Lindsay ed Maj ED Swinton *The Russian Army and the Japanese War* (Murray 1909)
FW Lanchester *Aircraft in War* (Constable 1916)
Ed W Lane *The War Diary of Burgher Jack Lane* (Capetown Van Riebeck Society 2001) 
Gen H Langlois *The British Army in A European War* (Rees 1910)

*Contemporary work published later.*
Lt Col J Layland Needham *The Solution of Tactical Problems* (H Rees 1905)
Lt Col J Layland Needham *Mistakes in the Solving of Tactical Problems* (H Rees 1909)
Lt Col Layriz *Mechanical Traction in War* (Sampson Low 1900)
Col H de B de Lisle *The Training of the Remount* (Bombay Thacker 1909)
H Lea *The Valor of Ignorance* (NY Harper 1909)
Capt J Learmonth *Notes on Horsemastership with hints on Various Subjects connected with the Maintenance of Discipline* (Penrith Herald 1912)
Capt RF Legge *Mainly About Shooting* (G&P 1904)
Maj RF Legge *Mainly About Discipline* (G&P 1914)
Maj AB Letts *The ABC of Minor Tactics* (W Clowes 1885)
Maj RC Lewis & F Morton *On the Veldt* (Hobart J Walch 1902)
GW Lines *The Ladysmith Siege* (Maritzburg P Davis 1900)
‘Linesman’ (Capt MH Grant) *Words by an Eyewitness* (Edinburgh Blackwood 1901)
‘Linesman’ (Capt MH Grant) *The Mechanism of War* (Edinburgh Blackwood 1902)
Lt FM Livingstone-James *Notes on Scouting and Reconnaissance* (W Clowes 1911)
Col EM Lloyd *A Review of the History of Infantry* (Longmans Green 1908)
Cdr EW Lloyd RN and AG Haddock *Artillery Its Progress and Present Position* (Portsmouth J Griffin 1893)
Maj FV Longstaff & Capt A Hilliard Atteridge *The Book of the Machine Gun* (H Rees 1917)
CR Lowe *Battles of the British Army* (Routledge 1908)
CR Lowe *Our Greatest Living Soldiers* (Chatto and Windus 1900)
JL Low *FG Tait* (J Nisbet 1900)
EP Lowry *With the Guards’ Brigade from Bloemfontein to Koomati Poort and Back* (Marshall 1902)
Capt HT Lukin *Questions and Answers on the Maxim Machine Gun* (G&P nd)
Capt CP Lynden-Bell *A Primer of Tactics, Fortification...* (Edinburgh W Blackwood 1899)
Col J Macartney *The Development of Tactics Since 1740* (H Rees 1906)
D Macdonald *How We Kept the Flag Flying* (Ward Lock 1900)
Brig Gen JHA MacDonald *Fifty Years of It* (Edinburgh Blackwood 1909)
Lt Col JHA MacDonald *On Tactics* (Edinburgh Blackwood 1873)
JCO Mack *Tactics for the Rank and File* (G&P 1895)
HV Mackinnon *War Sketches* (Charlottetown Examiner Office 1900)
Col W Mackinnon *The Volley and The Instruction of Recruits and Trained Soldiers. Being Two Lectures being delivered at the School of Musketry* (Clowes 1897)
AHH Maclean *Public Schools and the War in South Africa 1899-1902* (E Stanton 1903)
Maj H Maclear *Night-Marching by the Stars* (Bedford Hockliffe 1915)
Maj G MacMunn *The Armies of India* (Crecy 1984)
Capt CEK MacQuoid *Strategy Illustrated by British Campaigns* (Cassell 1904)
TM Maguire *Notes on the Outlines of Strategy* (Simpkin, Marshall, Hamilton, Kent 1902)
TM Maguire *The Development of Tactics* (H Rees 1904)
TM Maguire *The Development of Tactics Since 1866* (H Rees 1904)
TM Maguire *Strategy and Tactics in Mountain Ranges* (W Clowes 1904)
TM Maguire *The Campaign of 1805* (W Clowes 1912)
TM Maguire *The Campaign of 1806* (W Clowes 1913)
TM Maguire *The Campaign in Virginia May and June 1864* (W Clowes 1908)
TM Maguire *The British Army under Wellington 1813-1814* (W Clowes 1907)
TM Maguire *Cavalry Actions in Virginia* (Harmsworth 1903)
TM Maguire *Elements of Strategy* (Simpkin, Marshall, Hamilton, Kent 1902)

*Printed originally in 1911.*
T M Maguire and Capt WV Herbert *The Campaign Between the Prussians and the Austrians in 1866* (G Harmsworth 1897)

Capt AT Mahan USN *Story of the War in South Africa* (Sampson, Low, Marston 1900)


GH Makins *Surgical Experiences in South Africa* (Smith Elder 1901)

Lt Col N Malcolm *Bohemia 1866* (Constable 1912)

Col MP Manson *Guns, Rockets & Mortars* (Brassey’s 1997)

L March Phillips *With Rimington* (E Arnold 1901)

Capt AH Marindin *The Salamanca Campaign* (H Rees 1906)

Capt AH Marindin *Staff Rides* (H Rees 1905)

Capt AH Marindin *Staff Rides* (H Rees 1907)

ECR Marks *The Evolution of Modern Small Arms and Ammunition* (Marks & Clerk 1898)

W Marriott *The War and Its Cost* (Argus 1901)

D Martin *Duellng With Long Toms* (Ilford D Martin 1988)

Lt Col AR Martin *Mountain and Savage Warfare* (Allahabad Pioneer Press 1899)

Capt R Martin *The Officer’s Vade Mecum* (Foster Groom 1906)

Capt R Martin *The NCO’s Pocket Book* (Foster Groom 1907)

Lt LEL Maton *Some Notes on the Formula and Calculations required for Indirect Fire with Particular Reference to the Maxim Machine Gun* (np 1911)

*** (Lt Col FN Maude) *The New Battle of Dorking* (Grant Richards 1900)

Lt Col FN Maude *Notes on the Evolution of Infantry Tactics* (W Clowes 1905)

Lt Col FN Maude *Cavalry: its past and future* (W Clowes 1903)

Lt Col FN Maude *The Evolution of Modern Strategy* (W Clowes 1905)

Capt FN Maude *Military Letters and Essays* (Kansas City nd)

Col FN Maude *War and the World’s Life* (Smith Elder 1907)

Capt FN Maude *Cavalry versus Infantry* (Kansas City Hudson Kimberley 1896)

Lt Col FN Maude *The Science of Organisation and the Art of War* (1912)

Capt FN Maude *Attack or Defence* (Kelihier 1896)


Col FN Maude *1813 The Leipzig Campaign* (Swan Sonnenschein 1908)

Maj F Maurice *The Russo-Turkish War 1877* (Swan Sonnenschein 1903)

Maj Gen F Maurice *British Strategy* (Constable 1929)

Col JF Maurice *War* (Macmillan 1891)

Lt F Maurice *The Wellington Prize Essay* (Edinburgh Blackwood 1872)

Capt FL Maxse *Our Military Problem* (JM Dent nd)

Col FL Maxse *Seymour Vandaleur* (National Review 1905)

W Maxwell *From the Yalu to Port Arthur* (Hutchinson 1906)

Capt CB Mayne *The Late Battles in the Soudan and Modern Tactics, A Reply* (Chatham G&P nd)

Lt Col CB Mayne *The Infantry Weapon and Its Use in War* (Smith Elder 1903)

Maj CB Mayne *Review Herbert’s Defence of Plevna* (Chatham REI 1896)

Lt Col ES May *A Retrospect of the South African War* (Sampson Low Marston 1901)

Maj ES May *Guns and Cavalry* (Boston Roberts 1896)

Maj ES May *Achievements of Field Artillery* (Woolwich RAI 1893)

Col ES May *Geography in Relation to War* (H Rees 1907)

Lt Col ES May *Imperial Defence* (Swan Sonnenschein 1903)

Maj ES May *Field Artillery with the Other Arms* (Sampson, Low Marston 1898)

---

* Contemporarv diary published later.
* Contemporarv work reprinted.
‘A Mounted Black’ Campaigning in South Africa 1900-1901 (private nd)
‘MPP’ Brief Notes on Small Defensive Posts (Simpkin Ward Marshall 1903)
Maj AM Murray Imperial Outposts (Murray 1907)
Maj SL Murray The Reality of War (H Rees 1909)
Maj SL Murray The Future Peace of the Anglo-Saxons (Watts 1905)
GC Musgrave In South Africa with Buller (Gay & Bird 1900)
Capt E Nash Jackson’s Strategy (Keegan Paul, Trench, Trubner 1904)
Capt E Nash Principles of Strategy (Keegan Paul, Trench, Trubner 1905)
Lt Col P Neville Cavalry Armament (np nd)
Capt HL Nevill Campaigns on the North-West Frontier (Murray 1912)
HW Nevinson Ladysmith: Diary of A Siege (Methuen 1900)
JE Neilly Besieged with B-P (Pearson 1900)
Capt HI Nicholl A South African Journal (Private 1908)
Maj WA Nicholson Artillery Fire The Battery (Stanford 1907)
I Nitobe Bushido (NY Puttnam’s 1905)
Capt JE Nixon Tactical Notes (Lahore Civil & Military Gazette Press 1894)
Lt Col JE Nixon Notes for Staff Officers on Indian Field Service (Lahore Civil & Military Gazette Press 1898)
A Noble Artillery and Explosives (Murray 1906)
L Noble Letters Home (Private 1900)
Lt Col E Noel Gustaf Adolf (Bale and Dennison 1905)
EK Nojine trans and ed Capt AB Lindsay & Maj ED Swinton The Truth about Port Arthur (J Murray 1908)
Maj SL Norris The South African War (J Murray 1900)
Col WW Norman Cavalry Reconnaissance (Rees 1911)
‘Notrefe’ Cavalry Taught By Experience (H Rees 1910)²²
Maj G Nugent Lectures on Company, Battalion and Brigade Drill (W Clowes 1902)
C Ogden The British Army: As It Is And How It Should Be (W Byles 1901)
Col H O'Donnell Catechism on field training (Infantry) (G&P 1912)
'An Officer' Sudan Campaign (Chapman and Hall 1899)
Capt G Ogilvie Notes on the 4.7-in QF Gun on Travelling Carriage (Woolwich Cattermole 1904)
DWS Ogilvy The Happy Warrior (Winchester Jacob and Johnson 1901)
‘An Old Adjutant’ Home Defence (Edinburgh W Blackwood 1900)
The Organisation Society Rules and Constitution. (np nd)
Maj FC Ormsby-Johnson Occasional Papers of a Military Correspondent (Plymouth Western Morning News nd)
Lt SB Orton Details of Infantry Scouting (Allahabad Pioneer 1905)
Maj RM Ovens Military Lectures (Lichfield AC Lomax’s Successors 1908)
F Palmer With Kuroki in Manchuria (Methuen 1904)
Maj de Pardieu A Critical Study of German Tactics and the New German Regulations (H Rees 1912)
Lt Col CW Park Letters from Ladysmith (W Bishop nd)
Capt ED Parker An Outline of Reconnaissance (Stanford 1898)
Lt A Patterson Mobilization (Simpkin Marshall 1897)
V Peach By Jingo Letters from the Veldt (Totnes Community Archive 1987)²³
HHS Pearse Four Months Besieged (Macmillan 1900)
Gen Von Pelet-Narbonne Cavalry on Service (H Rees 1906)

²² Various authors have been suggested including Haig, the most likely is an IA officer, EF Orton.
²³ Contemporary letters.
Maj HO Perceval Wright Practical Tactics (Chichester Knight 1898)
Capt E Peterkin Minor Tactics for NCOs (np 1898)
FL Petre Napoleon’s Conquest of Prussia (Arms & Armour Press 1972) 24
FL Petre Napoleon’s Campaign in Poland 1806-7 (W Clowes 1901)
Capt GPA Philips Guide to Military History Part I Peninsular War 1808-10 (G&P 1905)
Capt GPA Philips Guide to Military History Part II Peninsular War 1811-13 (G&P 1907)
Capt GPA Philips Guide to Military History Part III Peninsular War 1813-14 (G&P 1906)
Capt TD Pilcher Manoeuvre Block (np 1895)
Col TD Pilcher Some Lessons from the Boer War 1899-1902 (Ibister 1903)
Brig Gen TD Pilcher Fire Problems (H Rees 1912)
Capt W Plomer The Officer’s Pocket Book (G&P 1900)
Capt W Plomer Changes in the Infantry Drill (G&P nd)
Lt Col FH Plowden The Battalion on the Frontier (Lahore Civil & Military Gazette 1899)
A Pollen The Navy in Battle (Chatto & Windus 1919)
Capt GPA Pollock Simple Lectures for Company Field Training. (G&P 1896)
Capt GPA Pollock Simple Lectures for Company Field Training. (W Clowes 1900 & 1902)
Capt GPA Pollock With Seven Generals in the Boer War (Skeffington 1900)
Lt Col GPA Pollock Elementary Military Training (W Clowes 1908)
Lt Col GPA Pollock Lord Roastem’s Campaign in the North East of France (H Rees 1911)
Lt Col JA Pollock Notes on Hill Warfare (Simla USII 1899)
LD Powles The Khaki Alphabet (Arnold 1901)
Lt Col SC Pratt Saarbruck to Paris (Swan Sonnenschein 1904)
Lt Col SC Pratt The Waterloo Campaign (Swan Sonnenschein 1907)
Lt Col SC Pratt revised Lt Col E Baker Field Artillery (Kegan Paul, Trench, Trubner 1896, 1900, 1902)
HF Prevost Battersby In the Web of A War (Methuen 1900)
Capt FD Price The Great Boer War (Newcastle A Reid 1901)
Maj BHL Prior The Military Cyclist (Norwich F Goose 1907)
Capt HL Pritchard Army Organisation and Administration (W Clowes 1910)
‘Promptus’ The Principles of Home Defence (H Rees 1904)
Capts Pryce and Webb Transport Training Notes (Allahabad Pioneer 1904)
‘PS’ Cavalry in Action in the Wars of the Future (H Rees 1905)
Maj OC Radford Notes for Panjab Probationers (Lahore Civil and Military Gazette Press 1894)
Lt Col R Rankin The Inner History of the Balkan Wars (Constable 1914)
W Ransley On Service; or Barracks, Bivouacs and Battles (np nd) 25
Bvt Maj G Ray Echoes from A Regimental Paper (Dover Grigg nd)
Capt HS Rawlinson The Officer’s Note-Book (Stanford 1898)
‘R’ (probably Col Chester Master) Notes on Reconnoitring in South Africa (CT Cape Times 1900)
‘RCM’ (probably Col Chester Master) Notes on Reconnoitring in South Africa (Longmans, Green 1901)
Maj GW Redway Fredericksburg (Swan Sonnenschein 1906)
RHW The Scout in War (Dublin Sealy, Bryers and Walker 1908)
Lt Col CaC Repington Imperial Strategy (J Murray 1906)
Lt Col CaC Repington The Foundations of Reform (Simpkin 1908)
Lt Col CaC Repington Essays and Criticism (Constable 1911)
Lt Col CaC Repington War in the Far East (J Murray 1905)
Ed N Riall Boer War (Brassey’s 2000)26

24 Contemporary work reprinted.
25 Listed under Archives 7208-73 at the NAM.
26 Contemporaneous S African diary.

359
Col WD Richardson With the Army Service Corps in South Africa (Richardson 1903)
W Richmond Smith The Siege and the Fall of Port Arthur (Eveleigh Nash 1905)
Brig Gen MF Rimington Hints on Stable Management (Aldershot G&P 1905)
Maj Gen MF Rimington Our Cavalry (Macmillan 1912)
Gen FS Roberts The Rise of Wellington ( Sampson Low, Marston 1895)
FM FS Roberts Defence of the Empire (Spottiswoode 1905)
FM FS Roberts A Nation in Arms (J Murray 1907)
FM FS Roberts Earl Roberts KG on Imperial Defence (Simpkin, Marshall, Hamilton Kent 1906)
ed B Robson Roberts in India (Stroud ARS 1993)
Maj Gen CW Robinson Wellington’s Campaigns 1808–1815 I-3 (H Rees 1905-6)
Capt RAD Rowley Simple Notes on Outpost, Reconnaissance and Fire Discipline (W Clowes 1896)
Lt Col HD Robson A Series of Five Lectures on the Russo-Japanese War (G&P 1904)
Maj EH Rodwell Notes and Questions on Organization and Equipment (Lahore Civil and Military Press 1898)
Maj EH Rodwell Four Bangalore Lectures (Lahore Civil and Military Press 1899)
Maj EH Rodwell Reflections on the Boer War (Lahore Civil and Military Press 1901)
Lt Col EH Rodwell Tactical Lectures (Lahore Civil and Military Press 1903)
Lt Col L Rolleston Yeomanry Cavalry or Infantry (Smith Elder 1901)
M Rolleston Yeoman Service (Smith Elder 1901)
Maj W Roper-Caldbeck The Nation and the Army (Grant Richards 1910)
G Roquerol Trans P de B Radcliffe The Tactical Employment of Quick Firing Field Artillery (H Rees 1903)
Col C Ross An Outline of the Russo Japanese War I (Macmillan 1911)
Maj C Ross Notes on the Development of Tactics (H Rees 1908)
Maj C Ross The Problem of National Defence (Hutchinson 1907)
Capt C Ross Representative Government and War (Hutchinson 1903)
Capt J Ross The Boers (Toronto Imrie Graham 1900)
Capt PT Ross A Yeoman’s Letters (Simpkin, Marshall, Hamilton Kent 1901)
Earl Rosslyn Twice Captured (W Blackwood 1900)
Ed G Royon Massacre of the Innocents. The Crofton Diaries (Stroud Sutton 2004)
Sgt Maj Rowat A Soldier Who Did His Duty (Stirling Drummond’s Tract Depot nd)
Maj H Rowan-Robinson The Campaign of Liao-Yang (Constable 1914)
Maj Gen H Rowan-Robinson The Infantry Experiment (W Clowes 1934)
Lt Col GRT Rundle Practical Questions and Answers on the 18-Pr QF Gun & Equipment (Allahabad Pioneer Press 1907)
Bvt Maj AVFV Russell Letters from South Africa (Keliher 1909)
Capt HT Russell Practical Gunnery (G&P 1903)
Capt HT Russell The Employment of Artillery with Other Arms (H Rees 1902)
Capt HT Russell Notes on Strategy and Military History (G&P 1901)
JW Ryan Guns, Rockets and Mortars (Oxford Brassey’s 1982)
Lt GES Salt Letters and Diary of Lt GES Salt (J Murray 1902)
Capt L Saunderson Notes on Mounted Infantrymen (Aldershot G&P 1904)
A Scaife The War to Date (Fisher Unwin 1900)
Maj RI Scallon Notes on Part V Infantry Drill 1893 (Ludhiana Civil and Military News Press 1896)
Lt Col RI Scallon Notes on Part V Infantry Drill 1896 (Bombay Thacker 1899)
Maj GK Scott-Moncrieff The RE's Field Service Pocketbook (Chatham WJ Mackay 1894)

* Reprint of contemporary letters.
* Contemporary work reprinted.
Capt P Scott & AH Limpus RN Mountings of the Naval Guns and Their Subsequent Use with the Ladysmith Relief Column (Hong Kong Daily Press 1900)
Col H Schaw The Attack and Defence of Localities (Keegan Paul Trench Trubner 1884)
Capt WK Scharlieb A Précis of Military Engineering (Allahabad Pioneer Press 1903)
Capt FR Sedgwick The Russo-Japanese War on Land (Foster Groom 1906 & 1908)
Capt FR Sedgwick The Russo-Japanese War First Period The Concentration (Swan Sonnenschein 1909)
Capt FR Sedgwick The Russo-Japanese War Second Period The Decisive Battles (G Allen 1912)
Gen v Seeckt Thoughts of a Soldier (Benn 1930)
Commander W Semenoff Rasplata (The Reckoning) (Murray 1909)
The Senior Major’ The Young Officer’s Guide to Knowledge (Harrisons 1913)
H Sessions Two Years with Remount Commissions (Chapman and Hall 1903)
H Seton-Karr The Call to Arms (Longmans, Green 1902)
AW Sharpe Catechism on Field Engineering (Foster Groom 1911)
Capt LJ Shadwell Key to Military Sketching Made Easy and Military Maps Explained (G&P 1899)
Maj LJ Shadwell North West Frontier Warfare (Thacker Spink 1902)
Capt LJ Shadwell Lockhart’s Advance Through Tirah (Thacker 1902)
Lt Col W Shaw Tactical Operations for Field Officers (Keegan Paul, Trench Trubner 1903)
Lt Col W Shaw The Elements of Modern Tactics (Keegan Paul, Trench Trubner 1899)
Capt J Sherston Tactics as applied to Schemes (G&P 1894)
Maj J Sherston and Maj LJ Shadwell Tactics as applied to Schemes (Thacker 1902)
Maj J Sherston and Maj LJ Shadwell Tactics as applied to Schemes (Longmans Green 1905)
Dr E Shippen Memoir of Henry Bouquet (np 1900)
P Sidney Abou-Hamed (Leadenhall Press nd)
‘Signalling Officer’ Signalling Messages (G&P 1910)
Col CN Simpson The Eyes and Ears of the Artillery (H Rees 1905)
JA Simpson and ESC Weiner The Oxford English Dictionary (Oxford Clarendon 2001)
Capt C Slack Handbook of Brigade Drill (W Clowes 1893)
Capt JL Sleeman First Principles of Tactics and Organisation (G&P 1914)
S Smiles Duty with Illustrations of Courage, Patience and Endurance (Murray 1880).
‘A Soldier’ True Stories of South Africa (Burleigh 1899)
Mrs Soole Ready for Either (Simpkin, Marshall, Hamilton, Kent nd)
Lt JCD Spedding Questions and Answers on Musketry (Hythe Paine 1902)
‘Sphinx’ Company Training For Beginners (W Clowes 1911)
Capt LC Sprague Guide for Militia Officers for Company Field Training During the Annual Training (Speaight nd)
‘A Staff Officer’ The Territorial Sham and the Army (Everett nd)
J Stuart Pictures of War (Constable 1901)
Capt St GL Steele Cavalry on Outpost Duty (Aldershot G&P nd)
Count Sternberg My Experiences of the Boer War (Longmans Green 1901)
GW Steeves From Cape Town to Ladysmith (Edinburgh W Blackwood 1900)
GW Steeves With Kitchener to Khartum (Edinburgh Blackwood 1898)
Lt EJ Stevens Field Telephones for Army Use (Crosby Lockwood 1908)
Lt B Stewart Active Service Pocket Book (G&P 1908)
Capt SE St Leger War Sketches in Colour (A&C Black 1903)
Capt CH Stigand War Sketches in Colour and Reconnaissance in Savage Countries (H Rees 1907)


Col FG Stone, *The Employment of Heavy Artillery in the Field* (Woolwich RAI 1909)

CH Stott, *The Boer Invasion of Natal* (SW Partridge 1900)

Col TG Sturry Cave and Capt TL Tebbutt, *The British Army and the Business of War* (G&P 1896)

Col TG Sturry Cave and Capt TL Tebbutt, *Mobilization for War* (G&P 1900)

Col LV Swaine & Capt Willoughby Vernon, *Advanced Guard and Outpost Duties for Riflemen* (WH Allen 1889)

Maj Gen ED Swinton, *The Green Curve Omnibus* (Faber 1942)

Sydenham of Combe (Col GS Clarke), *Studies of an Imperialist* (Chapman and Hall 1927)

J Sykes, *Sidelights on the War* (Fisher Unwin 1900)


R Temperley and Capt FC Garnett, *The Infantry Vade Mecum* (W Clowes 1906)

Maj WA Tilney, *Rapid Night-Marching Made Easy* (Stanford 1909)


A Thompson, *Memorials of Charles Dixon Kimber* (np 1902)

Lt Col RG Thomsett, *With The Peshawar Column* (Digby 1899)

Capt GGC Thomson, *The Spirit of Discipline* (G&P nd)

HC Thomson, *The Chitral Campaign* (W Heinemann 1895)

Capt RR Thompson, *Aid the Imperial Yeomanry Training* (Eden Fisher 1902)

Capt HF Thuillier, *The Principles of Land Defence* (Longmans Green 1902)

*The Times* *The German Army Manoeuvres* (The Times 1911)


Col CVF Townshend, *Further Notes to Combined Training Part II Operation Orders* (Madras LA Press 1908)

Lt Col Tovey and T Miller Maguire, *The Elements of Strategy* (H Rees 1904)

Lt Col F Trench, *Manoeuvre Orders* (W Clowes 1899 & 1903)

Lt Gen NA Tretyakov, trans Lt AC Alford, *My Experiences at Nan Shan and Port Arthur* (H Rees 1911)

Bvt Maj AB Thruston, *African Incidents* (J Murray 1900)

H St J Tugman and H Kisch, *The Siege of Ladysmith in 120 Pictures* (Newnes 1900)


'Two Officers of the Dorsetshire Regiment' *Recruit Training Infantry* (Harrisons 1914)

S Tyler, *The Japan Russia War* (Philadelphia: Ziegler 1905)

'Ubique' (Capt Guggisberg), *Modern Warfare or How Our Soldiers Fight* (T Nelson 1903)

Maj RF Uniacke, *Bohemian Campaign of 1866* (Rees 1914)

Capt CF Vander Byl, *Patrolling in South Africa* (G&P 1902)

Lt Col HB Vaughan, *St George and the Chinese Dragon* (Pearson 1902)

Ed Col W Verner, Maj G Simmonds, *A British Rifle Man* (Black 1899)

Col W Verner, *Map Reading and Field Sketching* (Bale 1906)

Col J Vial, trans Lt R Hamilton, *The War In Portugal 1810* (Simla: Thacker Spink 1906)


\^ Contemporary work reprinted.

\_ Contemporary work reprinted.

\* Reprint of contemporary articles.

\* Contemporary work reprinted.
DSV Warmelo On Commando (Methuen 1902)
Col R Warburton Eighteen Years in the Khyber (J Murray 1900)
Maj BR Ward Notes on Fortification (Murray 1902)
Col BR Ward Standardization in Education (The Knowledge Organisation Bureau nd)
Lt Col ED Ward Army Service Corps Duties (Kegan Paul, Trench, Trubner 1897)
Maj D Warren The Motor Car in India (Bombay Bennett, Coleman 1906)
TH Warren Christian Victor (J Murray 1903)
Capt RS Waters Simple Tactical Schemes (H Rees 1913)
QS Watkins Soldiers and Preachers Too (CH Kelly 1906)
FM A Wavell The Good Soldier (Macmillan 1948)
CJ Weir The Boer War. A Journal of the Siege of Mafeking (Edinburgh Spence and Phimister 1900)
A Weiss Leading Events of Modern Warfare (Hachette 1899)
Ed A Wessels Lord Roberts and the War in South Africa (Stroud Sutton 2000)
Ed A Wessels Lord Kitchener and the War in South Africa 1899-1902 (Stroud Sutton 2006)
J Westlake The Transvaal War (J Clay 1899)
Capt O Wheeler The War Office Past and Present (Methuen 1914)
Capt O Wheeler The Story of Our Army (Newnes 1902)
HJ Whigham Manchuria and Korea (Ibister 1904)
Whitaker's Almanac 1906 (Whitaker's 1906)
F Wilkinson Australian Cavalry (Sydney Angus and Robertson 1901)
F Wilkinson Australia at the Front (J Long 1901)
S Wilkinson Lessons of the War (Constable 1900)
S Wilkinson War and Policy (Constable 1900)
S Wilkinson Britain at Bay (Constable 1909)
S Wilkinson The Brain of an Army (Constable 1895)
B Williams ed The Times History of the War in South Africa 1899-1902 IV (Sampson Low Marston 1906)
C Williams The Life of Lieutenant General Sir Henry Wood (Sampson Low Marston 1892)
Col JG Williams Picquet Exercises (Lincoln Lincolnshire Press 1900)
Capt CH Wilson Offence not Defence or Armies and Fleets (G Allen 1907)
HW Wilson With the Flag to Pretoria (Harmsworth 1900)
Capt G Windsor-Clive, Maj Farmar, Capt RJ Drake Shafer’s Expedition to Cuba 1898 (np nd)
Maj B Witherby Skirmishing Made Easy (G&P 1900)
Gen Wolseley The Soldier’s Pocket Book for Field Service (Macmillan 1886)
Gen E Wood The Achievements of Cavalry (G Bell 1900)
Col OE Wood The Yalu to Port Arthur (Kansas Franklin Hudson 1905)
H Woosnam Mills The Tirah Campaign (Lahore Civil and Military Gazette Press 1898)
H Woosnam Mills The Pathan Revolt in North-West India (Lahore Civil and Military Gazette Press 1897)
G Wrangel trans Lt J Montgomery Cavalry in the Russo-Japanese War (H Rees 1907)
Sgt Maj S Wright The Non Commissioned Officer’s Examiner (W Clowes 1895)
Sgt Maj S Wright The Non-commissioned Officer’s Guide to Promotion (W Clowes 1904)
Col HC Wyllie From the Black Mountain to Waziristan (Macmillan 1912)
Col HC Wyllie Magenta and Solferino (Swan Sonnenschein 1907)
Col C Wyndham Questions and Answers for Cavalry Non-Commissioned Officers (Kegan Paul, Trench Trubner 1904)

The work is a collection of original documents produced for the Army Records Society.
A collection of original documents produced for the Army Records Society.
H Wyndham *Soldiers of the Queen* (Sands 1897)
H Wyndham *Following the Drum* (Melrose 1912)
‘XXX and LIX’ (Col JE Goodwyn) *Unfounded Attacks on British Officers-A Refutation.* (Skeffington 1901)
F Young *The Relief of Mafeking* (Methuen 1900)
Capts GJ and FE Younghusband *The Relief of Chitral* (Macmillan 1895)
Maj GJ Younghusband *Indian Frontier Warfare* (Kegan Paul, Trench, Trubner 1898)
Secondary Books Bibliography

Maj WA Adam Whither? Or the British Dreyfus Case (Routledge 1920)
LH Addington The Blitzkrieg Era and the German General Staff 1865-1941 (New Brunswick Rutgers UP 1971)
LH Addington The Patterns of War since the Eighteenth Century (Bloomington Indiana University Press 1984)
RH Ahrenfeldt Psychiatry in the British Army in the Second World War (Routledge & Kegan Paul 1958)
Maj Gen J Adye Soldiers and Others I have Known (H Jenkins 1925)
Jl Alger The Quest for Victory. The Quest for the Principles of War (Westport Greenwood 1982)
C Allen Duel in the Snow (Murray 2004)
LS Amery eds J Barnes and D Nicholson The Leo Amery Diaries (Hutchinson 1980)
LS Amery My Political Life I (Hutchinson 1953)
Maj Gen WH Anderson The Outline of the Development of the British Army (H Rees 1920)
GJ Andreopoulos and HE Selesky The Aftermath of Defeat (New Haven Yale UP 1994)
Marquis of Anglesey A History of the British Cavalry 1816-1919 III 1872-1898 (Leo Cooper 1982)
Marquis of Anglesey A History of the British Cavalry 1816-1919 IV 1899-1913 (Leo Cooper 1986)
Marquis of Anglesey A History of the British Cavalry 1816-1919 V 1914-1919 Egypt, Palestine and Syria (Leo Cooper 1994)
Marquis of Anglesey A History of the British Cavalry 1816-1919 VII The Curragh Incident and the Western Front 1914-1919 (Leo Cooper 1996)
Anon Australia's Boer War (Melbourne OUP & Australian War Memorial 2002)
Anon Call to Arms (Tavistock Focus 2001)
Anon Encyclopaedia Americana (NY Americana 1977)
Anon Life and Campaigns of Sir Redvers H Buller (Newnes nd)
Anon (C Maxwell) I am Ready (Hazell Watson and Viney 1955)
G Arthur The Letters of Lord and Lady Wolseley (Heinemann 1922)
G Arthur From Wellington to Wavell (Hutchinson nd)
G Arthur General Sir John Maxwell (Murray 1932)
G Arthur Not Worth Reading (Longmans Green 1938)
B Ash Lost Dictator (Cassell 1968)
Maj Gen GG Aston Secret Service (Faber 1930)
Maj Gen GG Aston Memories of a Marine (J Murray 1919)
Maj Gen GG Aston HRH The Duke of Connaught and Strathearn (Harrap 1929)
JB Atlay Lord Haliburton (Smith Elder 1909)
Brig Gen HH Austin Some Rambles of A Sapper (E Arnold 1928)
DD Avant Political Institutions and Military Change (Ithaca Cornell UP 1994)
Li Gen RSS Baden-Powell Indian Memories (H Jenkins 1915)
W Baird General Wauchope (Edinburgh Oliphant, Anderson & Ferrier 1904)
A Baker Battles and Battlefields of the Anglo Boer War 1899-1902 (Milton Keynes Military Press 1999)
Brig Gen CD Baker-Cart From Chauffeur to Brigadier General (Benn 1930)
Brig Gen C Ballard *Smith Dorrien* (Constable 1931)
W Baring Pemberton *Battles of the Boer War* (Batsford 1964)
AJ Barker *Townshend of Kut* (Cassell 1967)
HC Barnard *A History of English Education from 1760* (University of London Press 1969)
C Barnett *Britain and Her Army 1509-1970* (Allen Lane 1970)
C Barnett, Brig RGS Bidwell, B Bond, J Harding, J Terraine *Old Battles and New Defences* (Brassey's 1986)
Gen G de S Barrow *The Fire of Life* (Hutchinson 1942)
Gen G de S Barrow *The Life of Gen Sir Charles Carmicheal Monro* (Hutchinson 1931)
C Bassford *Clausewitz in English* (NY OUP 1994)
Col J Baynes *Far from A Donkey* (Brassey's 1995)
Col J Baynes *Morale* (NY Avery 1988)
R Beaumont *War, Chaos and History* (Westport Praeger 1994)
IFW Beckett *Johnnie Gough VC* (Donovan 1989)
IFW Beckett *Riflemen Form* (Aldershot Ogilby Trusts 1982)
IFW Beckett *The Army and the Curragh Incident* (Bodley Head for the ARS 1986)
IFW Beckett *The Victorians at War* (Hambledon and London 2003)
IFW Beckett and K Simpson *A Nation in Arms* (Donovan 1990)
Ed IFW Beckett *Victorians at War: New Perspectives* (Society for Army Historical Research 2007)
E Belfield *The Boer War* (Leo Cooper 1975)
C Bellamy *Red God of War* (Brassey's 1986)
C Bellamy *The Evolution of Modern Land Warfare* (Routledge 1990)
C Bellamy *Absolute War* (Macmillan 2007)
Maj Gen HM Bengough *Memories of a Soldier's Life* (E Arnold 1913)
J R Beniger *The Control Revolution* (Cambridge Harvard 1986)
W Bennett *Absent-Minded Beggars* (L Cooper 1999)
ed G Best and A Wheatcroft *War, Economy and the Military Mind* (Croom Helm 1976)
R Bester *Boer rifles and carbines of the Anglo-Boer War* (Bloemfontein War Museum of the Boer Republics 1994)
Brig RGS Bidwell *Modern Warfare* (Allen Lane 1973)
Brig RGS Bidwell *Gunners at War* (Arms and Armour Press 1970)
Brig RGS Bidwell and D Graham *Firepower* (Allen and Unwin 1982)
A Bird *The Motor Car 1765-1914* (Batsford 1960)
FM Birdwood *Khaki and Gown* (Ward, Lock 1941)
FM Birdwood *In My Time* (Skeffington nd)
J Black *Western Warfare 1775-1882* (Chesham Acumen 2001)
J Black *Warfare in the Western World* (Chesham Acumen 2002)
J Black *Rethinking Military History* (Routledge 2004)
Gen B Blood *Four Score Years and Ten* (G Bell 1933)
BJ Bond *Victorian Military Campaigns* (Hutchinson 1967)
BJ Bond *The Victorian Army and the Staff College* (Eyre Methuen 1972)
Ed BJ Bond *The First Wold War and British Military History* (Oxford Clarendon 1991)
V Bonham-Carter *Soldier True* (F Muller 1963)
SB Bourquin & G Torlage *The Battle of Colenso* (Randsburg Ravan Press 1999)
J Bourke *Dismembering the Male* (Reaktion Books 1996)
A Boyle *Trenchard* (Collins 1962)
Gen H Brackenbury *Some Memories of My Spare Time* (Edinburgh Blackwood 1909)
JM Brereton *The British Soldier* (Bodley Head 1986)
Lt Gen T Bridges *Alarms and Excursions* (Longmans Green 1938)

366
T Bridgland Field Gun Jack versus the Boers (L Cooper 1998)
ED Brose The Kaiser’s Army (Oxford OUP 2001)
IM Brown British Logistics on the Western Front (Westport Praeger 1998)
APC Bruce An Annotated Bibliography of the British Army 1660-1914 (Garland 1975)
Lt Col AH Burne The Liao-Yang Campaign (Clowes 1936)
Maj FR Burnham Scouting on Two Continents (Heinemann 1926)
L Butler Sir Redvers Buller (Smith, Elder 1909)
Lt Gen WF Butler An Autobiography (Constable 1911)
B Callinan Sir John Monash (Melbourne Melbourne UP 1981)
Col CE Callwell Service Yarns and Memories (Blackwell 1912)
Maj Gen CE Callwell Stray Recollections (Arnold 1923)
Maj Gen CE Callwell The Life of Sir Stanley Maude (Constable 1920)
Maj Gen CE Callwell Field Marshal Sir Henry Wilson I (Cassell 1927).
Ed Maj Gen CE Callwell The Memoirs of Major-General Sir Hugh McCalmont (Hutchinson 1924)
C Carrington Soldier from the Wars Returning (Hutchinson 1965)
FM M Carver The Seven Ages of the British Army (Weidenfeld and Nicolson 1984)
FM M Carver Britain’s Army in the 20th Century (Macmillan & IWM 1998)
FM M Carver The National Army Book of the Boer War (Sidgwick & Jackson 1999)
FM M Carver Apostles of Mobility (Weidenfeld and Nicolson 1979)
FM M Carver Tobruk (Batsford 1964)
GH Cassar Kitchener Architect of Victory (Kimber 1977)
GH Cassar The Tragedy of Sir John French (Newark University of Delaware Press 1985)
M Cassidy The Inniskilling Diaries (Cooper 2001)
HG Castle Spion Kop (Almark 1976)
H Cecil and PH Liddle Facing Armageddon (Cooper 1996)
D Chapman Houston and O Rutter General Sir John Cowans (Hutchinson 1924)
L Changuion Silence of the Guns (Pretoria Protea 2001)
Air Commodore LEO Charlton Charlton (Faber & Faber 1931)
Brig Gen J Charteris Field-Marshal Earl Haig (Cassell 1929)
P Chasseaud Artillery’s Astrologers (Lewes Mapbooks 1999)
C Chennexv Trench The Indian Army (Thames and Hudson 1988)
R Chickering and S Forster Great War, Total War (Washington & Cambridge German Historical Institute, CUP 2000)
L Childs Ladysmith (Cooper 1998)
L Childs Kimberley (Cooper 2001)
Maj Gen W Childs Episodes and Reflections (Cassell 1930)
Viscount Chilton Chief Whip (Routledge & Keegan Paul 1961)
C Chisholm Sir John French (H Jenkins 1915)
R Chisholm Ladysmith (Osprey 1979)
WS Churchill My Early Life (Fontana 1972)
RM Citino Quest for Decisive Victory (Lawrence University Press of Kansas 2002)
RM Citino Blitzkrieg to Desert Storm (Lawrence University Press of Kansas 2004)
RM Citino The German Way of War (Lawrence University Press of Kansas 2005)
Col KH Cima Reflections from the Bridge (Baron Birch/REI 1994)
Maj R Clark First Queensland Mounted Infantry Contingent in the South African War (Military Historical Society of Australia nd)
Col GS Clarke My Working Life (J Murray 1927)

1 BL catalogue suggests Canberra 1971.
A Clayton *Paths of Glory* (Cassell 2003)

Claver *Under the Lash* (Torchstream 1954)


TG Coates *Sir George White VC* (Grant Richards 1900)


EA Cohen and J Gooch *Military Misfortunes* (NY Free Press 1990)


‘A Colonial Officer’ *Twenty Five Years Soldiering in Africa* (Melrose 1909)

CN Colvin *The Life of General Dyer* (Edinburgh Blackwood 1929)

Eds B Condell, DT Zabecki *On the German Art of War Truppenfuhrung* (Boulder Reinner 2001)

J Connell *Wavell. Scholar and Soldier* (Collins 1964)

Col R Connaughton *Rising Sun and Tumbling Bear* (Cassell 2003)

D Cooper *Haig* (Faber 1935)

AP Corbett *Service Through Six Reigns* (Private 1953)

JS Corum *The Roots of Blitzkrieg* (Lawrence Kansas UP 1992)

JM Craster *Fifteen Rounds a Minute* (Macmillan 1976)

Ed J Crawford and I McGibbon *One Flag One Queen One Tongue* (Auckland Auckland UP 2003)

L Creswicke *South Africa and the Transvaal War II* (Blackwood, Le Bas nd)

M van Creveld *Supplying War* (Cambridge CUP 1977)

M van Creveld *Fighting Power* (USA War College 1983)

M van Creveld *Command in War* (Cambridge Harvard UP 1985)

M van Creveld *Technology and War* (NY Free Press 1989)

M van Creveld, KS Brower & S Canby *Air Power and Maneuver Warfare* (Honolulu UP of the Pacific 2002)

HCron *Imperial German Army 1914-18* (Solihull Helion 2002)

Brig Gen FP Crozier *Angels on Horseback* (J Cape 1932)

Brig Gen FP Crozier *Impressions and Recollections* (T Werner Lawrie 1930)

Maj FM Crum *With Riflemen, Scouts, and Snipers* (Oxford private 1921)

R Dallas Brett *History of British Aviation 1908-1914* (Hamilton 1933)

BL Dastrup *The Field Artillery History and Sourcebook* (Westport Greenwood 1994)

A Davey *The Defence of Ladysmith and Mafeking* (Houghton SA Brenthurst Press 1983)

FDavies and G Maddocks *Bloody Red Tabs* (Cooper 1995),

P Davis *A Child at Arms* (Buchan and Enright 1985)

GJ De Groot *Douglas Haig* (Unwin Hyman 1988)

Col GT Denison *Soldiering in Canada* (Macmillan 1900)

Brig EF Dillon *Memories of Three Wars* (Allan Wingate 1951)

N D’Ombrain *War Machinery and High Policy* (OUP 1973)


M Dooner *The Last Post* (Polstead Hayward 1980)

RD Downie *Learning from Conflict* (Westport Praeger 1998)

RA Doughty *Pyrrhic Victory* (Cambridge Belknap 2005)

DH Doolittle *A Soldier’s Hero* (Narrangassett Anawan 1991)

GDouglas *The Life of Major-General Wauchope* (Hodder& Stoughton 1904)

H Driver *The Birth of Military Aviation* (Woodbridge RHS 1997)

Ed RWF Droogleever *From the Front* (Sydney Macmillan 2000)


Lord Dunalty *Khaki and Rifle Green* (Hutchinson 1940)

LG Gen Dundonald *My Army Life* (E Arnold 1926)

368
D French British Economic and Strategic Planning (Allen & Unwin 1982)
D French Raising Churchill’s Army (Oxford OUP 2000)
D French Military Identities (Oxford OUP 2005)
D French and B Holden Reid The British General Staff (Cassell 2002)
Maj G French Life of FM Sir John French (Cassell 1931)
Maj G French Some War Diaries...of FM French (H Jenkins 1937)
Maj G French Good-bye to Boot and Saddle (Hutchinson 1951)
Col JFC Fuller British Light Infantry in the Eighteenth Century (Hutchinson 1925)
Col JFC Fuller Sir John Moore’s System of Training (Hutchinson 1924)
Col JFC Fuller On Future Warfare (Sifton Praed 1928)
Maj Gen JFC Fuller Generalship. Its Diseases and their Cure (Harrisburg Military Service
Publishing Co 1936)
Maj Gen JFC Fuller Armoured Warfare (Eyre and Spottiswood 1943)
Maj Gen JFC Fuller The Army in My Time (Rich & Cowan 1934)
Maj Gen JFC Fuller The Last of the Gentlemen’s Wars (Faber 1937)
Maj Gen JFC Fuller Memoirs of an Unconventional Soldier (Nicholson & Watson 1936)
Maj Gen JFC Fuller Armament and History (Eyre and Spottiswood 1946)
Maj Gen JFC Fuller Machine Warfare (Hutchinson nd)
Maj Gen JFC Fuller The Conduct of War 1789-1961 (Eyre and Spottiswood 1961)
Maj Gen JFC Fuller The Decisive Battles of the Western World III (Eyre & Spottiswood
1956)
N Gardner Trial by Fire; Command and the British Expeditionary Force 1914 (Praeger
2003).
HS Gaskell With Lord Methuen in South Africa (HJ Drane 1906)
A Gat Development of Military Thought in the Nineteenth Century (Oxford OUP 1992)
A Gat A History of Military Thought (Oxford OUP 2001)
B Gatacre General Gatacre (J Murray 1910)
D Gates The British Light Infantry Arm (Batsford 1987)
D Gates Warfare in the Nineteenth Century (Basingstoke Palgrave 2001)
JC Gawler George Gawler (Derby Bemrose 1900)
K Gillings The Battle of the Thukela Heights 12-28 February 1900 (Randburg Ravan Press
1999)
Maj Gen Gleichen A Guardsman’s Memories (Blackwood 1932)
R Glossop Sunshine and Battle-Smoke (A Brown 1907)
Lt Col GJR Glunicke 1866 The Campaign in Bohemia (Swan Sonnenschein 1907)
K JW Goad and DHJ Halsey Ammunition (Oxford Brassey’s 1982)
Gen A Godley Life of an Irish Soldier (J Murray 1939)
Maj AR Godwin-Austen The Staff and the Staff College (Constable 1927)
A Gollin The Impact of Air Power on the British People and their Government, 1909-1914
(Macmillan/ KCL 1989)
J Gooch The Plans of War. The General Staff and Military Strategy (Routledge and
Keegan Paul 1974)
J Gooch The Prospect of War (F Cass 1981)
J Gooch ed The Boer War Direction, Experience and Image (F Cass 2000)
H Gordon The War Office (Putnam 1935)
Gen H Gough Soldiering On (A Barker 1954)
Gen H Gough The Fifth Army (Hodder and Stoughton 1931)
D Graham Against Odds (Macmillan 1999)
R Graves Goodbye to All That (Cape 1929)
C Gray Modern Strategy (Oxford 1999)
Gray Strategy for Chaos (Cass 2002)
A Green Writing the Great War (Cass 2003)
Brig Gen AFU Green Evening Tattoo (Paul 1941)
Lt Col H Green Famous Engagements and their Battlefields Today I,II (L Cooper 1969 & 1971)
FM FW Grenfell Memoirs of Field Marshal Lord Grenfell ( Hodder & Stoughton 1925)
EW Grew Field-Marshal Lord Kitchener (Gresham Publishing Co 1916)
P Griffith Battle Tactics of the Western Front (New Haven Yale University Press 1994)
Ed P Griffith British Fighting Methods in the Great War (F Cass 1996)
Ed P Griffith Wellington Commander (Chichester Anthony Bird/Wellington Museum)
Ed P Griffith A History of the Peninsular War IX Modern Studies of the War in Spain and Portugal, 1808-1814 (Greenhill 1999)
Eds PS Gupta and A Deshpande The British Raj and Its Indian Armed Forces (New Delhi OUP 2002)
Lt Gen JW Hackett The Profession of Arms (The Times 1963)
Gen J Hackett The Profession of Arms (Sidgwick and Jackson 1983)
RG Hackett South African War Books (private 1994)
Maj D Hall The Hall Handbook of the Boer War (Pietermaritzburg University of Natal Press 1999)
RC Hall The Balkan Wars 1912-1913 (Routledge 2000)
WS Hamer The British Army (Oxford Clarendon 1970)
Gen A Haldane A Soldier's Saga (Edinburgh Blackwood 1948)
Lt Gen A Haldane A Brigade of the Old Army (Arnold 1920)
Gen Sir I Hamilton Listening for the Drums (Faber 1944)
I Hamilton Happy Warrior. A Life of Gen Sir I Hamilton (Cassell 1966)
Ed WK Handcock and J van der Poel Selections from the Smuts Papers (Cambridge CUP 1966)
Lord Hankey The Supreme Command I (Allen and Unwin 1961)
WH Hannah Bobs (L Cooper 1972)
A Harfield The Life and Times of a Victorian Officer (Wincanton Wincanton Press 1986)
A Harfield The Heliograph (Royal Signals Museum 1986)
Gen C Harrington Plumer of Messines (J Murray 1935)
Gen R Harrison Recollections of a Life in the British Army (Smith Elder 1908)
BM Hart-Synott Letters of Maj Gen Fitzroy Hart-Synott (E Arnold 1912)
FR van Harteveldt The Boer War (Westport Greenwood 2000)
R Haycock and K Neilsen Men Machines and War (Waterloo W Laurier University Press 1988)
PJ Haythornthwaite The Boer War (Poole Arms and Armour Press 1987)
PJ Haythornthwaite The Colonial Wars Source Book (Arms and Armour Press 1987)
Lt Col CO Head No Great Shakes (Hale 1943)
Ed C Headlam The Milner Papers South Africa 1897-1899 (Cassell 1931)
Ed C Headlam The Milner Papers South Africa 1899-1905 (Cassell 1933)
TA Heathcote The Indian Army (Newton Abbot David & Charles 1974)
TA Heathcote The Military In British India (Manchester MUP 1995)
DM Henderson Highland Soldier (Edinburgh Donald 1989)
E Herbert Small Wars and Skirmishes 1902-18 (Nottingham Foundry Books 2003)
B Heuser Reading Clausewitz (Pimlico 2002)
ed R Higham A Guide to the Sources of British Military History (Berkley University of California Press 1971)
Gen G Higginson Seventy-one Years of a Guardsman's Life (Smith Elder 1916)
RJ Hill Chauvel of the Light Horse (Melbourne University Press 1978)
Brig Gen JD Hittle *The Military Staff* (Westport Greenwood 1961)
Maj FW Hobart *Pictorial History of the Machine Gun* (Allan 1971)
IV Hogg *Allied Artillery of World War I* (Ramsbury The Crowood Press 1998)
Brig OFG Hogg *Artillery* (C Hurst 1970)
F Holcroft *The Devil's Hill* (Wigan Wigan Heritage Service 1992)
B Holden Reid *JFC Fuller* (Macmillan 1990)
B Holden Reid *War Studies at the Staff College 1890-1930* (Camberley SCSI 1992)
B Holden Reid *Studies in British Military Thought* (Lincoln University of Nebraska Press 1998)
R Holmes *The Little Field Marshal* (J Cape 1981)
R Holmes *Firing Line* (Cape 1985)
R Holmes *Riding the Retreat* (Cape 1995)
R Holmes *Redcoat* (Harper Collins 2001)
R Holmes *Sahib. The British Soldier in India* (Harper Collins 2005)
A Horne *The Price of Glory* (Macmillan 1962),
A Horne *To Lose a Battle* (Macmillan 1969)
J Home *State, Society and Mobilization in Europe during the First World War* (Cambridge CUP 1997)
JA Houlding *Fit for Service* (Clarendon 1981)
Capt JM House *Towards Combined Arms Warfare* (Leavenworth Combat Studies Institute 1984)
JM House *Combined Arms Warfare in the Twentieth Century* (Lawrence University Press Kansas 2001)
Maj Gen F Howard *Reminiscences* (J Murray 1924)
M Howard *The Franco-Prussian War* (R Hart-Davis 1962)
M Howard *The Continental Commitment* (Temple Smith 1972)
M Howard *The Lessons of History* (Oxford OUP 1993)
M Howard *The British Way in Warfare. A Reappraisal* (Cape 1975)
M Howard *War and Peace in 1914* (QMAWC 1991)
Ed M Howard *The Theory and Practice of War* (Cassell 1965)
R Howell *Philip Howell* (Allen &Unwin 1942)
Maj Gen BP Hughes *Firepower* (Arms and Armour 1974)
Maj Gen BP Hughes *Open Fire* (Chichester 1983)
Ed DJ Hughes *Moltke on the Art of War* (Presidio Novato 1995)
M Hughes & WJ Philpott *Advances in Modern Military History* (Basingstoke Palgrave 2006)
A Hunter *Kitchener's Swordarm* (Staplehurst Spellmount 1996)
Lt Col GS Hutchinson *Machine Guns* (Macmillan 1938)
GT Hutchinson *Frank Rhodes* (Clowes 1908)
JR Innes *Flash Spotters and Sound Rangers* (Allen and Unwin 1935)
Gen H Ismay *Memoirs of Lord Ismay* (Heinemann 1960)
Maj D Jackson *India's Army* (Sampson Low, Marston nd)
Sgt MC Jackson *A Soldier's Diary* (M Goschen 1913)
Gen W Jackson and FM E Bramall *The Chiefs* (Brassey's 1992)
D James *Lord Roberts* (Hollis & Carter 1954)
Col L James *High Pressure* (J Murray 1929)
Col L James *Times of Stress* (J Murray 1929)
L James *Imperial Warrior Allenby* (Weidenfeld and Nicolson 1993)
M Janowitz *The Professional Soldier* (NY Free Press of Glencoe 1964)
T Jeal *Baden-Powell* (Hutchinson 1989)
K Jeffrey Field Marshal Sir Henry Wilson (Oxford OUP 2006)
Col W Jelf Hark Back (Murray 1935)
G Jensen & A Weist War in the Age of Technology (NY New York UP 2001)
W Jerrold Sir Redvers H Buller (Partridge 1900)
W Jerrold Sir Redvers H Buller (Dalton 1908)
W Jerrold Field Marshal Sir John French (Hammond 1915)
W Jerrold Field Marshal Earl Roberts VC (Hammond 1914)
HM and MGM Jones A Gazetteer of the Second Anglo Boer War (Milton Keynes Military Press 1999)
Lt Col W Jelf Ranging Memories (Oxford OUP nd)
Lt Col W Jelf The Natal Campaign 1899-1900 (Private 1948)
D Judd and K Surridge The Boer War (Murray 2002)
P Karsten The Military and Society (NY Garland 1998)
J Keegan The Face of Battle (J Cape 1976)
J Keegan The Mask of Command (J Cape 1987)
J Keegan The First World War (Hutchinson 1998)
J Keegan Intelligence in War (Pimlico 2003)
J Keegan and A Wheatcroft Who's Who in Military History (Hutchinson 1987)
Ed PM Kennedy The War Plans of the Great Powers (Boston Allan &Unwin 1985)
I Knight Colenso (Osprey 1995)
I Knight & G Embleton Boer Wars (2) 1898-1900 (Osprey 1996)
Maj Gen A Knox With The Russian Army 1914-1917 (Hutchinson 1921)
Eds M Knox & W Murray The Dynamics of Military Revolution 1300-2050 (Cambridge CUP 2001)
H Kochanski Sir Garnet Wolseley (Hambledon Press 1999)
R Kruger Good-bye Dolly Gray (Pan 1974)
Ladysmith Historical Society Diary of the Siege of Ladysmith (Ladysmith nd)
A Lambert The Foundations of Naval History (Chatham 1998)
J Lee A Soldier’s Life (Macmillan 2000)
Col RG Lee Introduction to Battlefield Weapons Systems and Technology (Brassey’s 1985)
J Lehmann All Sir Garnett (J Cape 1964)
J Lehmann The First Boer War (Buchan &Enright 1985)
R Leonhard The Art of Manoeuvre Warfare (Novato Presidio 1991)
Ed S Leslie Memoirs of Brigadier-General Gordon Sheppard (np 1924)
Capt BH Liddell Hart Foch. The Man of Orleans (Penguin 1937)
Capt BH Liddell Hart The British Way in Warfare (Faber & Faber 1932)
WS Lind Maneuver Warfare Handbook (Boulder Westview 1985)
Gen B De Lisle Reminiscences of Sport and War (Eyre & Spottiswood 1939)
RA Lloyd A Trooper in the ‘Tins’ (Hurston and Blackett 1938)
S Lone and P Towle Aspects of the Russo-Japanese War (LSE 1998)
J Lord Duty. Honour, Empire (Hutchinson 1970)
D Lowry The South African War reappraised (Manchester MUP 2000)
Lt Col HC Lowther From Pillar to Post (E Arnold 1911)
JF Lucy There’s A Devil in the Drum (Faber & Faber 1938)
S Lunderstedt From Belmont to Bloemfontein (Kimberly Diamond Fields Advertiser 2000)
Capt Lupfer The Dynamics of Doctrine (Leavenworth US Army 1991)
EN Luttwak Strategy (Cambridge Belknapp 1987)
J Luvaas The Military Legacy of the Civil War (Chicago University of Chicago Press 1959)
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>J Luvaas</td>
<td><em>The Education of An Army</em></td>
<td>(Cassell 1965)</td>
</tr>
<tr>
<td>Gen N Lyttelton</td>
<td><em>Eighty Years</em></td>
<td>(Hodder &amp; Stoughton nd)</td>
</tr>
<tr>
<td>N Macmillan</td>
<td><em>Sir Sefton Branchker</em></td>
<td>(W Heinemann 1935)</td>
</tr>
<tr>
<td>JW Mackail and G Wyndham</td>
<td><em>Life and Letters of George Wyndham</em></td>
<td>(Hutchinson nd)</td>
</tr>
<tr>
<td>Gen G MacMunn</td>
<td><em>Behind the Scenes in Many Wars</em></td>
<td>(J Murray 1930)</td>
</tr>
<tr>
<td>Gen G MacMunn</td>
<td><em>The Romance of the Indian Frontiers</em></td>
<td>(Cape 1936)</td>
</tr>
<tr>
<td>Lt Gen G Macready</td>
<td><em>In the Wake of the Great</em></td>
<td>(Clowes 1965)</td>
</tr>
<tr>
<td>Gen N Macready</td>
<td><em>Annals of an Active Life</em></td>
<td>(Hutchinson nd)</td>
</tr>
<tr>
<td>FH Maitland</td>
<td><em>Hussar of the Line</em></td>
<td>(Hurst and Blackett 1951)</td>
</tr>
<tr>
<td>Rev A Male</td>
<td><em>Scenes through the Battle Smoke</em></td>
<td>(Kelly 1901)</td>
</tr>
<tr>
<td>AH Male</td>
<td><em>Through Two Campaigns</em></td>
<td>(Kelly nd)</td>
</tr>
<tr>
<td>C Malkasian</td>
<td><em>Modern Wars of Attrition</em></td>
<td>(Westport Praeger 2002)</td>
</tr>
<tr>
<td>The Countess of Malmesbury</td>
<td><em>The Life of Major General Sir John Ardagh</em></td>
<td>(J Murray 1909)</td>
</tr>
<tr>
<td>FM E von Manstein</td>
<td><em>Lost Victories</em></td>
<td>(Methuen 1958)</td>
</tr>
<tr>
<td>Col P Marling</td>
<td><em>Rifleman and Hussar</em></td>
<td>(J Murray 1931)</td>
</tr>
<tr>
<td>Col SLA Marshall</td>
<td><em>The Soldier's Load and the Mobility of a Nation</em></td>
<td>(Quantico Marine Corps Publishing Association 1980)</td>
</tr>
<tr>
<td>Col SLA Marshall</td>
<td><em>Men against Fire</em></td>
<td>(NY W Morrow 1947)</td>
</tr>
<tr>
<td>SLA Marshall</td>
<td><em>Blitzkrieg</em></td>
<td>(Faber &amp; Faber 1942)</td>
</tr>
<tr>
<td>Gen J Marshall-Cornwall</td>
<td><em>Wars and Rumours of Wars</em></td>
<td>(Leo Cooper 1984)</td>
</tr>
<tr>
<td>Gen J Marshall-Cornwall</td>
<td><em>Haig as Military Commander</em></td>
<td>(Batsford 1973)</td>
</tr>
<tr>
<td>Lt Col J Masters</td>
<td><em>Bugles and a Tiger</em></td>
<td>(Michael Joseph 1956)</td>
</tr>
<tr>
<td>Ed Lt Col F Maurice</td>
<td><em>Sir Frederick Maurice</em></td>
<td>(E Arnold 1913)</td>
</tr>
<tr>
<td>Maj Gen Sir F Maurice</td>
<td><em>Life of General Lord Rawlinson of Trent</em></td>
<td>(Cassell 1928)</td>
</tr>
<tr>
<td>Maj Gen Sir F Maurice and Sir G Arthur</td>
<td><em>The Life of Lord Wolseley</em></td>
<td>(Heinemann 1924)</td>
</tr>
<tr>
<td>C Maxwell</td>
<td><em>Frank Maxwell</em></td>
<td>(Murray 1921)</td>
</tr>
<tr>
<td>RM Maxwell</td>
<td><em>Villiers Stuart on The Frontier</em></td>
<td>(Edinburgh Pentland Press 1989)</td>
</tr>
<tr>
<td>RM Maxwell</td>
<td><em>Villiers Stuart Goes to War</em></td>
<td>(Edinburgh Pentland Press 1990)</td>
</tr>
<tr>
<td>Maj JW Maxwell</td>
<td><em>Carroll Our Defence</em></td>
<td>(np nd)</td>
</tr>
<tr>
<td>Maj Gen ES May</td>
<td><em>Changes and Chances of a Soldier's Life</em></td>
<td>(P Allen 1925)</td>
</tr>
<tr>
<td>HJ May</td>
<td><em>Music of the Guns</em></td>
<td>(Jarrolds 1970)</td>
</tr>
<tr>
<td>E McCourt</td>
<td><em>Remember Butler</em></td>
<td>(Routledge, Keegan Paul 1967)</td>
</tr>
<tr>
<td>DS McDiarmid</td>
<td><em>Life of Lt Gen Sir James Moncrieff Grierson</em></td>
<td>(Constable 1923)</td>
</tr>
<tr>
<td>P McPadden</td>
<td><em>The Battle of Elandslaagte</em></td>
<td>(Randburg Ravan 1999)</td>
</tr>
<tr>
<td>TH McGuffie</td>
<td><em>Rank and File</em></td>
<td>(Hutchinsons 1964)</td>
</tr>
<tr>
<td>AD McIvor</td>
<td><em>Rethinking the Principles of War</em></td>
<td>(Annapolis 2005)</td>
</tr>
<tr>
<td>P Mead</td>
<td><em>Gunnners at War 1939-1945</em></td>
<td>(Allan 1982)</td>
</tr>
<tr>
<td>JI Mearsheimer</td>
<td><em>Conventional Deterrence</em></td>
<td>(Ithaca Cornell 1983)</td>
</tr>
<tr>
<td>Col Meiertzhagen</td>
<td><em>Army Diary 1896-1926</em></td>
<td>(Oliver &amp; Boyd 1960)</td>
</tr>
<tr>
<td>Col GH Melville</td>
<td><em>The Life of Gen Sir Redvers Buller I, II</em></td>
<td>(E Arnold 1923)</td>
</tr>
<tr>
<td>BW Menning</td>
<td><em>Bayonets before Bullets</em></td>
<td>(Bloomington Indiana UP 1992)</td>
</tr>
<tr>
<td>AC Menzies</td>
<td><em>Sir Stanley Maude and Other Memories</em></td>
<td>(Jenkins 1920)</td>
</tr>
<tr>
<td>Col P Mercer</td>
<td><em>Give Them a Volley and Charge</em></td>
<td>(Staplehurst Spellmount 1998)</td>
</tr>
<tr>
<td>J Meredith</td>
<td><em>Omdurman Diaries 1898</em></td>
<td>(Baronsley L Cooper 1998)</td>
</tr>
<tr>
<td>Earl of Middleton</td>
<td><em>Records &amp;Reactions</em></td>
<td>(J Murray 1939)</td>
</tr>
<tr>
<td>M Miller</td>
<td><em>A Captain of the Gordons</em></td>
<td>(Sampson Low, Marston nd)</td>
</tr>
</tbody>
</table>
SM Miller *Lord Methuen and the British Army* (F Cass 1999)
AR Millet and W Murray *Military Effectiveness I The First World War* (Boston Allan and Unwin 1988)
Maj R Money Barnes *The British Army of 1914* (Seely Service 1968)
FM BL Montgomery *Memoirs* (Collins 1958)
Col T Montgomery-Cuninghame *Dusty Measure* (J Murray 1939)
H de Montmorency *Sword and Stirrup* (Bell 1936)
G Moore *Pickman’s Progress* (Buckden G Moore nd)
G Moore *Burgin’s War* (Bedford Jacopy nd)
Lord Moran *The Anatomy of Courage* (Constable 1962)
D Morton *The Canadian General* (Toronto Hakket 1974)
N Moseley *Julian Grenfell* (Weidenfeld and Nicolson 1976)
R Muir *Tactics and the Experience of Battle in the Age of Napoleon* (New Haven Yale 1998)
Eds W Murray and RH Sinnerich *The Past as Prologue* (Cambridge CUP 2006)
W Murray *German Military Effectiveness* (Baltimore Nautical and Aviation Publishing Co 1992)
Ed N Murray-Philipson *Colonel Standfast* (M Russell 2001)
Maj F Myatt *The Soldier’s Trade* (Macdonald and Jane’s 1974)
Maj F Myatt *The British Infantry 1660-1945* (Poole Blandford Press 1983)
DB Nash *Imperial German Army Handbook 1914-1918* (Allan 1980)
Lord Newton *Lord Lansdowne* (Macmillan 1929)
E Neethling *Should We Forget?* (CT Holland nd)
P Newton *Sabre and Lance* (Poole Blandford 1987)
Col WN Nicholson *Behind the Lines* (Cape 1939)
N Nicolson *Alex* (Weidenfeld and Nicolson 1973)
H Nickerson *The Armed Horde* (NY Putnam 1940)
J Norris *Artillery A History* (Stroud Sutton 2000)
Ed S Nowell-Smith *Edwardian England* (OUP 1964)
Maj Gen D O’Callaghan *Guns, Gunners and Others* (Chapman &Hall 1925)
Lt Col F O’Connor *Things Mortal* (Hodder & Stoughton 1940)
Lt Col F O’Connor *On the Frontier and Beyond* (Murray 1931)
A Ogston *Reminiscences of Three Campaigns* (Hodder & Stoughton nd)
Lt Col WAJ O’Meara *Kekewich in Kimberley* (Medici Society 1926)
D Omissi *The Sepoy and the Raj* (Macmillan/KCL 1994)
CWC Oman *Column and Line in the Peninsular War* (OUP nd)
Gen Sir O’ Moore Creagh *Autobiography of Gen Sir O’ Moore Creagh* (Hutchinson nd)
L O’Shea *Three Campaigns* (Stockwell nd)
TPakenham *The Boer War* (Weidenfeld & Nicolson 1997)
Passingham *All the Kaiser’s Men* (Stroud Sutton 2003)

Pearton *The Knowledgeable State* (Burnett Books 1982)

Peden *Arms, Economics and British War Strategy* (Cambridge CUP 2007)

Penn *Targeting Schools* (Woburn 1999)

Perham *The Kimberley Flying Column* (Timaru Timaru Publishers and Printers nd)

Pick *War Machine* (New Haven Yale University Press 1993)

Piggott *Broken Thread* (Aldershot G&P 1950)

Pocock *One Hundred Years of the League of Frontiersmen* (Chichester Phillimore 004)

Pocock *A Dug Out in War and Before* (np nd)

Pollock *Kitchener: The Road to Omdurman* (Constable 1998)

Porch *Wars of Empire* (Cassell 2000)

Porch *The March to the Marne* (Cambridge CUP 1981)

Portway *Science and Mechanisation in Land Warfare* (Cambridge 1938)

Portway *Militant Don* (Hale 1964)

Poeseck *The German Cavalry in France and Belgium 1914* (Berlin Mittler 1923)

Preston and P Dennis *Swords and Covenants* (Croom Helm 1976)

Price *An Imperial War and the British Working Class* (Routledge and Keegan Paul 972)

Prior *Campaigns of a War Correspondent* (Arnold 1912)

Prior and T Wilson *Command on the Western Front* (Barnsley Pen and Sword 2004)


Prioux *Cavalry Before During and After the World War* (Fort Riley Cavalry School nd)

Quarrie *Firepower* (Apple 1988)

Ramsay *Command and Cohesion* (Westport Praeger 2002)

Ransford *The Battle of Spion Kop* (J Murray 1969)

Reagh *The Victorians at War* (Santa Barbara ABC Clio 2004)

Rawley *The American Civil War. An English View* (Mechanicsburg Stackpole 2002)

Reckitt *The Lindley Affair* (Hull Brown 1972)

Reed *Vestigia* (Constable 1919)

Repington *Thanks for the Memory* (Constable 1938)

Reitz *Commando* (Faber and Faber 1968)

EGB Reynolds *The Lee-Enfield Rifle* (H Jenkins 1960)

F Richards *Old Soldier Sahib* (Faber and Faber 1965)

FS Roberts *Forty One Years in India* (Bentley 1897)

W Robertson *Soldiers and Statesmen I* (Cassell 1926)

W Robertson *Soldiers and Statesmen II* (Cassell 1926)

Robbins *From Private to Field Marshal* (Constable 1921)

Robbins *British Generalship on the Western Front* (Palgrave 2005)

Robson *The Road to Kabul The Second Afghan War 1878-1881* (Arms and Armour 986)

Robson *Fuzzy-Wuzzy* (Tunbridge Wells Spellmount 1993)

J Robson Scott *My Life as a Soldier and Sportsman* (Grant Richards 1921)
A Temple and ID Skennerton *A Treatise on the British Military Martini* (Burbank Temple 1983).

*Terraine* *Douglas Haig: The Educated Soldier* (Hutchinsons 1963)

*Terraine* *The Smoke and the Fire* (L Cooper 1992)

*Terraine* *Mons* (Pan 1972)

*Major J Thompson* *The Lifeblood of War* (Brassey’s 1991)

*Brig Gen CB Thomson* *Smaranda* (Cape 1931)

*L Col LH Thornton and P Fraser* *The Congreves* (J Murray 1930)

*The Times* *The History of the Times The Twentieth Century Test* (The Times 1947)

*Professor J Torlage* *The Battle of Spioenkop* (Randburg Ravan 1999)

*Dr P Towle* *Estimating Foreign Military Power* (Croom Helm 1982)

*T Rev Travers* *The Killing Ground* (Routledge 1993)

*T Rev Travers* *How the War was Won* (Routledge 1992)

*T Rev Travers & C Archer* *Men at War* (Precedent Chicago 1982)

*L Trawin* *Early British Quick Firing Artillery* (Hemel Hempstead Nexus 1997)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)

*The Lifeblood of War* (Brassey’s 1991)

*Smaranda* (Cape 1931)

*The Congreves* (J Murray 1930)

*The History of the Times The Twentieth Century Test* (The Times 1947)

*The Battle of Spioenkop* (Randburg Ravan 1999)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)

*The Lifeblood of War* (Brassey’s 1991)

*Smaranda* (Cape 1931)

*The Congreves* (J Murray 1930)

*The History of the Times The Twentieth Century Test* (The Times 1947)

*The Battle of Spioenkop* (Randburg Ravan 1999)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)

*The Lifeblood of War* (Brassey’s 1991)

*Smaranda* (Cape 1931)

*The Congreves* (J Murray 1930)

*The History of the Times The Twentieth Century Test* (The Times 1947)

*The Battle of Spioenkop* (Randburg Ravan 1999)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)

*The Lifeblood of War* (Brassey’s 1991)

*Smaranda* (Cape 1931)

*The Congreves* (J Murray 1930)

*The History of the Times The Twentieth Century Test* (The Times 1947)

*The Battle of Spioenkop* (Randburg Ravan 1999)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)

*The Lifeblood of War* (Brassey’s 1991)

*Smaranda* (Cape 1931)

*The Congreves* (J Murray 1930)

*The History of the Times The Twentieth Century Test* (The Times 1947)

*The Battle of Spioenkop* (Randburg Ravan 1999)

*Estimating Foreign Military Power* (Croom Helm 1982)

*The Killing Ground* (Routledge 1993)

*How the War was Won* (Routledge 1992)

*Men at War* (Precedent Chicago 1982)
AP Wavell The Palestine Campaigns (Constable 1932)
D Welch Science and the British Officer (RUSI 1998)
D Welch Science in a Pickelhaube (RUSI 1999)
Weller Weapons and Tactics. Hastings to Berlin (N Vane 1966)
S D Wells and S Wilson The Russo-Japanese War in Cultural Perspective, 1904-05
Lasingstoke Macmillan 1999)
D Welchs Anglo Boer War Diary of Herbert Gwynne Howell (Pretoria Human Sciences
research Council 1986)
D Welchs The Phases of the Anglo-Boer War 1899-1902 (Bloemfontein War Museum of
Be Boer Republics 1998)
JSE Western Reminiscences of an Indian Cavalry Officer (Allen &Unwin 1922)
pr TC Wetton With Rundle's Eighth Division in South Africa (HJ Drane 1907)
Capt O Wheeler Lord Roberts (Ward, Lock 1915)
A White Efficiency and Empire (Brighton 1973)
Kds LG Wickham Legg & ET Williams The Dictionary of National Biography 1941-1950
OUP 1959)
J Wilkinson Thirty Five Years (Constable 1933)
Brig Gen J Willcocks Kabul to Kumassi (J Murray 1904)
Gen J Willcocks The Romance of Soldiering and Sport (Cassell 1925)
C Wilcox Australia's Boer War (Melbourne OUP & Australian War Memorial 2002)
J Wilcox The Romance of Soldiering and Sport (Cassell 1925)
N Williams The Life of General Sir Charles Warren (Oxford Blackwell 1942)
H Wilson Blue Bonnets Boers and Biscuits (H Wilson 1998)
FM Wolseley The Story of A Soldier's Life (Constable 1903)
FM E Wood From Midshipman to Field-Marshal (Methuen 1906)
FM E Wood Winnowed Memories (Cassell 1917)
Maj Gen E Wood Adventures in Peace and War (E Arnold 1924)
DR Woodhead Field Marshal Sir William Robertson (Westport Praeger 1998)
D Woodward Armies of the World (Sidgwick and Jackson 1978)
Maj Gen N Woodyatt Under Ten Viceroy's (Jenkins 1922)
T Wright The Life of Colonel Fred Burnaby (Everett 1908)
Capt Wynne If Germany Attacks (Faber 1940)
Maj AC Yate The Life of Lieutenant-Colonel John Haughton (J Murray 1900)
F Yeats-Brown Bengal Lancer (Gollancz 1930)
Maj Gen G Younghusband A Soldier's Memories (H Jenkins 1917)
Maj Gen G Younghusband Forty Years a Soldier (H Jenkins 1923)
DT Zabecki Steel Wind (Westport Praeger 1994)
P Ziegler Omdurman (Collins 1973)
T Zuber Inventing The Schlieffen Plan (Oxford OUP 2002)
T Zuber German War Planning (Woodbridge Boydell Press 2004)
Bibliography of Service, Regimental and Unit Histories

Maj W Adamson Notices of the Services of the 27th Northumberland Light Infantry Militia (Newcastle Reid 1914)
E Almack The History of the Second Dragoons “Royal Scots Greys” (Moring 1908)
Brig RCB Anderson History of the Argyll and Sutherland Highlanders (Edinburgh Constable 1954)
Anon The 1st Battalion the Cheshire Regiment (Quetta F Bremner 1902)
Anon The 1st Battalion Dorsetshire Regiment (Lahore F Bremner 1906)
Anon 1st Battalion the Loyal North Lancashire Regiment. South African War 1899-1902 (Devonport Swiss 1903)
Anon The 2nd Battalion Suffolk Regiment Illustrated (Quetta 1899)
Anon The Border Regiment in South Africa (Eyre and Spottiswoode nd)
Anon The City of London Imperial Volunteers Reports (Blades, East& Blades 1900)
Anon Diary of Services of the First Battalion The Royal Scots During the Boer War (Burt 1904)
Anon Extract Digest of Service...2 Bn The Prince of Wales’s Own...in South Africa (York Yorkshire Herald 1903)
Anon Historical Records of the Queen’s Own Cameron Highlanders (Edinburgh W Blackwood 1909)
Anon History of the Guides (Aldershot G&P 1938)
Anon History of the Regiment of Artillery Indian Army (Leo Cooper 1972)
Anon The History of the Corps of the King’s Shropshire Light Infantry (np nd)
Anon History of the 5th Royal Gurkha Rifles (Frontier Force) 1858-1928 (Aldershot G&P nd)
Anon Irish Guards The First Hundred Years (Staplehurst Spellmount 2000)
Anon 1st King’s Dragoon Guards (W Clowes 1913)
Anon Pamphlet on the 1st Bn the Leinster Regiment’s Competitions 1908 Aldershot (np nd)
Anon Memoirs and Services of the Eighty-Third Regiment...1793-1907 (H Rees 1908)
Anon A Militia Unit in the Field (Woodfall and Kimber nd)
Anon Natal Field Artillery Centenary 1862-1962 (Pietermaritzburg Natal Witness 1962)
Anon Official Records of the Guards’ Brigade in South Africa (Keliher 1904)
Anon On the Road from Mons with an Army Service Corps Train (Hurst and Blackett 1916)
Anon The Royal Artillery Commemoration Book (Bell 1950)
Anon Regimental Records of the Highland Light Infantry (Glasgow J Horn 1908)
Anon A Record of Northern Valour (Aberdeen Aberdeen Journal and Evening Express nd)
Anon The Royal Munster Fusiliers Regimental Annual (np nd)
Anon A Short Account of the Work Done by the 2nd Battalion Coldstream Guards in South Africa November 1899 to September 1902 (Private nd)
Anon A Short History of the 6th (Inniskilling) Dragoons (HMSO 1908)
Anon A Short Summary of the Services of the South Lancashire Regiment during the South African War (Warrington Mackie nd)
Anon South African War Record of 1st Battalion Sherwood Foresters (Hong Kong Noronha 1904)

The work is untitled but the above summary should enable it to be traced in the British Library catalogue.
Anon *The Story of the Bedfordshire and Hertfordshire Regiment* I (np nd)
Anon *The Thin Red Line Annual* (np nd)
Anon *The Work of the Royal Engineers in the European War 1914-19 Military Mining* (Chatham REI 1922)
Capt FM Appleton *The Volunteer Service Company (1st South Lancashire Regiment) in South Africa*... (Warrington Mackie 1901)
Capt Sir G Arthur *The Story of the Household Cavalry II* (Constable 1909)
CT Atkinson *Regimental History of the Royal Hampshire Regiment* (The Regiment 1950)
CT Atkinson *History of the Royal Dragoons* (R Dragoons nd)
CT Atkinson *The South Wales Borderers 24th Foot 1689-1937* (CUP 1937)
CT Atkinson *The Dorsetshire Regiment* I (Oxford OUP)
H Avary Tipping *The Story of The Royal Welch Fusiliers* (Country Life nd)
Brig Gen W Baker Brown *History of the Corps of Royal Engineers IV* (Chatham REI 1952)
CRB Barrett *History of the XIII Hussars II* (Edinburgh Blackwood 1911)
CRB Barrett *The 7th (Queen's Own) Hussars* (RUSI 1914)
CRB Barrett *The 85th Light Infantry* (Spottiswoode 1913)
Col RH Beadon *The Royal Army Service Corps I* (Cambridge CUP 1930)
Maj AF Becke *The Royal Regiment of Artillery at Le Cateau* (Woolwich RAI 1919)
RP Berrey *The Right o' The Line* (Nisbet 1903)
Col J Biddulph *The Nineteenth and their Times* (Murray 1899)
Lt Col RL Birkin *History of the 3rd Regiment Imperial Yeomanry* (Nottingham J&J Vice 1905)
H Bolitho *The Galloping Third* (J Murray 1963)
Col GE Boyle *The Rifle Brigade Century* (W Clowes 1905)
AM Brander *The Royal Scots* (L Cooper 1976)
JM Brereton *A History of the 4th/7th Dragoon Guards* (Catterick 4/7 DG 1982)
R Brett-Smith *11th Hussars* (L Cooper 1969)
J Bright *History of the Northumberland Hussars Yeomanry* (Newcastle Mawson, Swan &Morgan 1949)
Lt Col EC Broughton *Memoirs of the 65th Regiment 1st Batt The York and Lancaster Regt 1756 to 1913* (Clowes 1914)
Brig Gen CD Bruce *History of the Duke of Wellington's Regiment* (Medici Soc 1927)
J Buchan *The History of the Royal Scots Fusiliers* (Nelson 1925)
Capt H Bullock *A History of the Provost Marshal and the Provost Services* (Aberdeen Miles & Hutchison 1929)
Maj C Burnett *The 18th Hussars in South Africa* (Winchester Warren 1905)
Brig Gen C Burnett *Memories of the 18th (Queen Mary's Own) Royal Hussars* (Winchester Warren 1926)
J W Burrows *The Essex Regiment* (Southend Burrows 1931)
A Bryant *Jackets of Green* (Collins 1972)
Maj LH Caird *Talks About the Border Regiment* (Fisher Unwin 1903)
Maj Gen CE Callwell and Maj Gen J Headlam *The History of the RA from the Indian Mutiny to the Great War I* (Woolwich RAI nd)
Maj NDH Campbell, Capts WS Whetherly and JED Holland *With the Regiment in South Africa* (Liverpool Daily Post nd)
Ed Maj NG Cameron *South African War Record of the 1st Battalion Queen's Own Cameron Highlanders 1900-1-2* (Inverness Northern Counties Printing &Publishing Co 1903)
ADL Cary and Capt S McCance *Regimental Records of the Royal Welch Fusiliers* (Foster Groom 1923)

Brig Gen AEJ Cavendish *An Reisimeid Chataich. The 93rd Sutherland Highlanders* (Private 1928)

Capt EJ Chambers *The Canadian Militia* (Montreal Fresco 1907)

Capt EJ Chambers *The Queen's Own Rifles of Canada* (Toronto Ruddy 1901)

Lt Col HD Chaplin *The Queen’s Royal West Kent Regiment 1881-1914* (Maidstone Regt History Co 1959)

Maj DW Churcher *With the Irish Fusiliers from Alexandria to Natal* (np nd)

A Clayton *Forearmed* (Brassey’s 1993)

Lt Col FF Colvin and Capt ER Gordon *Diary of the 9th (QR) Lancers during the South African Campaign* (C Roy 1904)


JH Cooke *5,000 Miles with the Cheshire Yeomanry in South Africa* (Warrington Mackie 1913-14)

Col AH Courtenay *With the 4th Battalion The Cameronians (Scottish Rifles) in South Africa* (Edinburgh Brown 1905)

Col A Crookenden *Twenty-Second Footsteps 1849-1914* (Chester WH Evans 1956)

Lt Col MJPM Corbally *The Royal Ulster Rifles* (np 1960)

W Corner *The Story of the 34th Company (Middlesex) Imperial Yeomanry* (Fisher Unwin 1902)

EJ Courtenay *A Short History of the Royal Sussex Regiment from 1701 to 1905* (Waterlow 1905)

Lt Col LI Cowper *The King’s Own* (OUP 1939)

Capt JH Cuthbert *The 1st Battalion Scots Guards in South Africa 1899-1902* (Harrisons nd)

M Cunliffe *The Royal Irish Fusiliers* (Oxford OUP 1970)

Col PH Dabliac *History of the 45th Regiment* (Swan Sonnenschein 1902)

DS Daniell *Cap of Honour* (White Lion 1975)

DS Daniell *4th Hussars* (Aldershot G&P 1959)

Col J Davis, Sgt Maj J Woulds, Sgt HR Harrison *Some Notes on the Queen’s Royal West Surreys* (Guildford Lasham 1904)

Col J Davis *The History of the Second Queen’s Royal Regiment* (Eyre and Spottiswood 1906)

Maj H Davidson *The Seaforth Highlanders. South Africa* (Edinburgh Johnston nd)

Maj HM Davson *The Story of G Troop RHA* (Woolwich RAI 1914)

TF Dewar *With the Scottish Yeomanry* (Arbroath T Bungle 1901)

Lt Col GC Dowell *Records of No 6 Mountain Battery RGA* (Rawalpindi Commercial Union 1906)

Lt Col Du Moulin *Two Years on Trek* (Murray 1907)

Lt RP Dunn-Pattison *The History of the 91st Argyllshire Highlanders* (Edinburgh Blackwood 1910)

G Egerton *With the 72nd Highlanders in the Sudan Campaign* (Eden Fisher 1909)

Maj Gen R Evans *Story of the Fifth Royal Inniskilling Dragoon Guards* (Aldershot G&P 1951)

Maj Gen H Everett *The History of the Somerset Light Infantry* (Methuen 1934)

Gen M Farndale *A History of the Royal Regiment of Artillery* (Woolwich RA1 1986)

Gen A Farrar-Hockley *The Army in the Air* (Stroud Sutton 1994)

Col TG Fergusson *British Military Intelligence* (Arms &Armour 1984)

Maj ML Ferrar *With the Green Howards in South Africa 1899-1902* (Eden Fisher 1904)
Maj ML Ferrar *A History of the Services of the 19th Regiment 1688-1911* (Eden Fisher nd)
Col C Field *Britain's Sea Soldiers* (Liverpool Lyceum Press 1924)
Maj Gen A Forbes *A History of the Army Ordnance Services II* (Medici Society 1929)
A Forbes and 'A Former Commanding Officer' *The Black Watch* (Cassell 1910)
J Fortescue *The Royal Army Service Corps II* (Cambridge CUP 1930)
E Fraser & LG Carr-Laughton *The Royal Marine Artillery* (RUSI 1930)
AG Garrish *The Records of I Company* (Walbrook 1901)
Brig Gen S Geoghegan *The Campaigns and History of the Royal Irish Regiment II* (Edinburgh W Blackwood 1927)
GHPB *The Leicestershire Militia in South Africa* (Leicester Clarke and Satchell 1902)
Lt GF Gibson *The Story of the Imperial Light Horse* (Johannesburg GD and Co 1937)
Capt CJL Gilson *History of the 1st Batt. Sherwood Foresters in the Boer War* (Swan Sonnenschein 1908)
M Glover *That Astonishing Infantry* (Leo Cooper 1989)
Lt Col AD Greenhill Gardyne *The Life of A Regiment. II 1816-1898* (The Medici Society reprinted 1929)
Lt Col AD Greenhill Gardyne *The Life of A Regiment. III 1898-1914* (The Medici Society 1939)
Ed Lt Col St John Gore *The Green Horse in Ladysmith* (Sampson Low, Marston 1901)
Brig J Gilbert Browne and Lt Col E Bridges, Ed Maj JAT Miller *Historical Record of the 14th (King's) Hussars* (RUSI 1932)
SH Gilbert *Rhodesia and After* (Simpkin Marshal, Hamilton Kent 1901)
GH Gillum Scott and GL McDonell *The Record of the Mounted Infantry of the City Imperial Volunteers* (E&FN Spon 1902)
E Goetzsche *Rough But Ready* (np nd)
Lt Col CAL Graham *The Story of the Royal Regiment of Artillery* (Woolwich RAI 1928)
Brig Gen CAL Graham *The Story of the Royal Regiment of Artillery* (Woolwich RAI 1962)
Col H Graham *History of the Sixteenth Light Dragoons (Lancers) 1759 -1912* (Private 1912)
Lt Col G le M Gretton *The Campaigns and History of the Royal Irish Regiment I* (Edinburgh W Blackwood 1907)
Lt Col P Groves *Historical Records of the 7th or Royal Regiment of Fusiliers* (Guerin 1903)
Lt Col R Gurney *History of the Northamptonshire Regiment 1742-1934* (Aldershot G&P 1935)
Col J Hall *The Coldstream Guards 1885-1914* (Oxford Clarendon 1929)
Maj Gen S Hare *The Annals of the King's Royal Rifle Corps* (J Murray 1929)
Lt Col JR Harvey & Lt Col HA Cape *The History of the 5th Royal Irish Lancers* (Aldershot G&P 1923)
Col HB Hamilton *Historical Record of the 14th (King's) Hussars* (Longmans, Green 1901)
Col JG Harcourt *Soldiers of the King* (G&P nd)
J Haswell *British Military Intelligence* (Weidenfeld and Nicolson 1973)
Maj TH Hawkins and LJF Brimble *Adult Education* (Macmillan 1947)
Maj Gen J Headlam *The History of the Royal Artillery from the Indian Mutiny to the Great War II 1899-1914* (Woolwich RAI 1937)
Maj Gen J Headlam The History of the Royal Artillery from the Indian Mutiny to the Great War III 1860-1914 (Woolwich RAI 1940)
Maj HD Hirst The Third Battalion “The Buffs” in South Africa (Canterbury Goulden 1908)
HP Holt The Mounted Police of Natal (Murray 1913)
Lt W Home With the Border Volunteers to Pretoria (Hawick W&J Kennedy 1901)
D Horner The Gunners A History of Australian Artillery (St Leonards 1995)
Lt M Hunt With the Warwickshire Yeomanry in South Africa (Birmingham Cornish 1902)
Brig Gen AH Hussey A Narrative of the 5th Divisional Artillery 1914-1918 (Woolwich RAI 1919)
Lt Gen E Hutton A Brief History of the King’s Royal Rifle Corps 1755-1915 (Winchester Warren 1917)
Lt Col HJ Huxford History of the 8th Gurkha Rifles 1824-1949 (Aldershot G&P nd)
Lt Col WRV Isaac The History of the Development of the Directorate of Military Intelligence 1835-1939 (np nd)
‘Jack the Sniper’ A Peep over the Barleycorn. In the Firing Line with the PWO (Dublin T Drought 1911)
Maj ES Jackson The Inniskilling Dragoons (AL Humphreys 1909)
Col M Jacson The Record of a Regiment of the Line (Hutchinson 1908)
2nd Lt FM James The Annals of the “Five and Nine” (Poona Shalom 1906)
SHF Johnstone The History of the Cameronians (Scottish Rifles) I 1689-1910 (Aldershot G&P 1957)
Tpr LH Johnson The Duke of Lancaster’s Own Yeomanry 23 Co., IY (nd np)
MK Johnson The King’s Own Yorkshire Light Infantry 1857-1968 (Stroud Tempus 2000)
JP Jones A History of the South Staffordshire Regiment (Wolverhampton Whitehead 1923)
Sgt RJ Jones A History of the 15th (East Yorkshire) Regiment (np 1958)
AHC Kearsey War Record of the York & Lancaster Regiment 1900-1902 (Bell 1903)
A Keith-Falconer The Oxfordshire Hussars in the Great War (1914-1918) (Murray 1927)
Lt Col HFN Jourdain and E Fraser The Connaught Rangers I (RUSI 1924)
Lt Col HFN Jourdain and E Fraser The Connaught Rangers II (RUSI 1926)
Col NCE Kendrick The Story of the Wiltshire Regiment (Aldershot G&P 1963)
CL Kingsford The Story of the Royal Warwickshire Regiment (Country Life 1921)
CL Kingsford The Story of the Duke of Cambridge’s Own (Middlesex Regiment) (Country Life 1916)
Capt CRB Knight Historical Records of the Buffs Part 2 (Medici Society 1935)
W Laird Clowes The Royal Navy. A History VII (1903)
Lt Col GB Lawrie History of the Royal Irish Rifles (G&P 1914)
JC Leask and HM McCance The Regimental Records of the Royal Scots (Dublin A Thom 1915)
A Lee The History of the Thirty-third Foot (Norwich Jarrold 1922)
A Lee The History of the Tenth Foot II (Aldershot G&P 1911)
SJ Levy Memories of 71st and 83rd Companies RASC MT 1914-1918 (Private nd)
E and A Linklater The Black Watch (Barrie & Jenkins 1977)
B Lloyd and L Curtis CIV in South Africa 1900 (np 1900)
F Lloyd and A Russell First or Grenadier Guards in South Africa (Keliher 1907)
V Longer Red Coats to Olive Green (Bombay Allied Publishers 1974)
F Lorraine Petre The 1st King George’s Own Gurkha Rifles (RUSI 1925)
FLorraine Petre *The Royal Berkshire Regiment* (Reading 1925)

FLorraine Petre *History of the Norfolk Regiment* 1685-1918 I (Norwich Jarrold nd)

Capt LR Lumley *History of the Eleventh Hussars (Prince Albert's Own)* (RUSI 1936)

Maj Gen J Lunt *The Scarlet Lancers* (Leo Cooper 1993)

Col F Luttman-Johnson *Record of Services of the 3rd Battalion The Prince of Wales's Leinster Regiment in the South African War 1900,1901,1902* (Army and Navy Cooperative Society 1913)

R MacDonnell & M Macaulay *A History of the 4th Prince of Wales's Own Gurkha Rifles* I (Edinburgh W Blackwood 1940)

Maj Gen WH Mackinnon *The Journal of the CIV in South Africa* (J Murray 1901)

Capt S McCance *A History of the Dublin Fusiliers* II (Aldershot G&P 1927)

Capt HG McKenzie Rew *Records of the Rough Riders* (Bedford Brown & Wilson 1907)

Maj A Mainwaring *Crown and Company* (AL Humphreys 1911)

Lt Col BN Majumdar *History of the Army Service Corps* (New Delhi Sterling 1976)

Ed Lt Col E Makins *The Royals in South Africa* (South Africa The Eagle 1914)

Maj GEW Malet *The History of the 1st The QDG Battery Royal Horse Artillery* (C Good nd)

M Mann *Regimental History of the 1st The QDG* (1 QDG 1993)

Maj AW Marden and Capt WPE Newbigging *Rough Diary of the Doings of the 1st Batt Manchester Regiment During the South African War* (Manchester J Heywood nd)

Maj R Marker *The Record of the Coldstream Guards* (Chiswick Press 1907)

Capt RJ Marker *Diary of 1st Batt Coldstream Guards in South Africa 1900-2* (np nd)

TG Marquis *Canada's Sons on Kopje and Veldt* (Toronto Canada’s Sons Publishing Co nd)

Maj H Marriott Smith *The History of 13th Battery, RFA* (Edinburgh Paton 1913)

GD Martineau *A History of the Royal Sussex Regiment* (Chichester Moore & Tillyer nd)

Maj Gen F Maurice *The 16th Foot* (Constable 1931)

Maj Gen F Maurice *The History of the Scots Guards* II (Chatto & Windus 1934)

Lt Col KW Maurice-Jones *The Shop Story 1900-1939* (Woolwich RA nd)


Maj GF Micholls *A History of the 17th (Duke of Cambridge's Own) 1895-1924* (Macmillan 1931)

J Milne *The Gordon Highlanders* (J Macqueen 1898)

Lt Col AF Mockler-Ferryman *The Oxfordshire Light Infantry in South Africa* (Eyre and Spottiswood 1901)

Capt AF Mockler-Ferryman *The Oxfordshire Light Infantry Calendar for 1894* (Eyre and Spottiswood)

Lt Col AF Mockler-Ferryman *Regimental War Tales* (Oxford Alden 1915)

SSM JW Morton *8th (King's Royal Irish) Hussars Diary of the South African War* (Aldershot G&P 1905)

Col BR Mullaly *The South Lancashire Regiment* (Bristol White Swan Press 1952)

Col BR Mullaly *Bugle and Kukri* (Edinburgh Blackwood 1957)

RH Murray *The History of the VIII King’s Royal Irish Hussars* II (Cambridge W Heffer 1928)

Maj Gen RFH Nalder *The Royal Corps of Signals* (Royal Corps of Signals 1958)

Lt Col FH Neish *Historical Diary of the Gordon Highlanders* (Dundee Leng 1914)

1 This is the Indian ASC.
T Neligan From Preston to Ladysmith (Preston J&H Platt 1900)

H Newbolt The Story of the Oxfordshire and Buckinghamshire Light Infantry (Country Life nd)

HN Newey The Story of the First Battalion the Duke of Cornwall's Light Infantry (Aldershot G&P 1924)

Lt Col LB Oatts Emperor's Chambermaids (Ward Lock 1973)

Lt Col LB Oatts I Serve (Chester Home Headquarters 3rd Carbineers 1966)

Lt Col LB Oatts Proud Heritage III (House of Grant 1961)

J O'Connell The Transvaal War 1899-1900. Campaigning with the Durban Light Infantry (Durban Robinson 1900)

Lt Col EAL Oldfield History of the Army Physical Training Corps (Aldershot G&P 1955)

'O One of Them' The 85th King's Light Infantry (Spottiswood 1913)

Commandant N Orpen Gunners of the Cape (Capetown CFA Regimental History Committee 1965)

Tpr AS Orr Scottish Yeomanry in South Africa 1900-1901 (Glasgow J Hedderwick 1901)

Lt Col EC Packe An Empire Building Battalion (Leicester E Backus nd)

Capt HG Parkyn A Short History of the Rifle Brigade (1921)

Brig BAH Parritt The Intelligencers (Ashford The Intelligence Corps Association 1983)

Capt AJ Parsons A Brief History of the Small Arms School Corps and The Small Arms Wing Hythe (Maidstone British Legion Press nd)

HS Pease The Story of Lumsden's Horse (Longmans, Green 1903)

Col HW Pease History of the 1st and 2nd Battalions the East Surrey Regiment (Spottiswood Ballatyne 1916)

H Pease The History of the Northumberland (Hussars) Yeomanry 1819-1919 (Constable 1924)

Maj RL Pomeroy The Story of a Regiment of Horse (Edinburgh W Blackwood 1924)

Lt Col FS Poynder The 9th Gurkha Rifles (RUSI 1937)

Col G Powell The History of the Green Howards (Arms and Armour 1992)

Col G Powell and Brig J Powell The History of the Green Howards (Lee Cooper 2002)

R Power Berry The King's Guards (J Nisbet 1903)

Bvt Maj AG Pratt The 1st Bn Essex Regiment in South Africa (Thayetmyo Cpl E Bothwell Regt Press 1908)

Maj RE Priestley The Signals Service in the European War of 1914 to 1918 (Chatham W and J Mackay 1921)

RA Preston Canada's RMC (Toronto RMC Club 1969)

C Ray Regiment of the Line (Batsford 1963)


Record of the History of "U" Battery Royal Horse Artillery (Manchester J Heywood nd)

Regimental Historical Records Committee The Royal Inniskilling Fusiliers (Constable 1934)

FH Reynard The Ninth (Queen's Royal) Lancers 1715-1903 (Edinburgh W Blackwood 1914)

AR Ritchie The Record of the 4th Bn West Yorkshire Regiment during the Boer War 1899-1902 (York Sampson 1903)

Maj CF Romer and Maj AE Mainwaring The Second Battalion Royal Dublin Fusiliers in the South African War (AL Humhreys 1908)
Tpr C Rose-Innes *With Paget’s Horse to the Front* (MacQueen 1901).
Compiled Majs DGJ Ryan, GC Strachan & Capt JK Jones *Historical Record of the 6th Gurkha Rifles I 1817-1919* (Aldershot G&P nd)
Brig A Samut-Tagliaferro *The Royal Malta Artillery* (Malta Lux 1976)
Lt Col EW Sandes *The Military Engineer in India I & II* (Chatham REI 1933 & 1935)
Lt Col EW Sandes *The Indian Sappers and Miners* (Chatham REI 1948)
‘SGB’ *The Regimental Records of the 1st Batt. Royal Dublin Fusiliers* (np nd)
Col LW Shakespear *History of the 2nd King Edward’s Own Goorkha Rifles (The Sirmoor Rifles)* (Aldershot G&P 1912)
GD Sheffield *The Redcaps* (Brassey’s 1994)
Maj EW Sheppard *The Ninth Queen’s Royal Lancers* (Aldershot G&P 1939)
CV Simpson *The Featherbed Soldiers* (Melbourne Mostly Unsung Military History 2001)
F Simpson *The Cheshire Regiment* (np nd)
Capt AK Slessor *The 2nd Battalion Derbyshire Regiment in Tirah* (Swan Sonnenschein 1900)
Maj Gen F Smith *A History of the Royal Army Veterinary Corps 1796-1919* (Balliere, Tindall and Cox 1927)
GH Smith *With The Scottish Rifle Volunteers at the Front* (Glasgow W Hodge 1901)
Maj B Smyth *A History of the Lancashire Fusiliers II 1822-1903* (Dublin Sackville Press 1904)
KB Spurgin *On Active Service with the Northumberland and Durham Yeomanry under Lord Methuen* (Walter Scott Publishing nd)
J Stalker *The Natal Carbineers* (Pietermaritzburg np 1912)
Capt PF Stewart *The History of the XII Royal Lancers* (OUP 1950)
J Stirling *Our Regiments in South Africa 1899-1902* (Edinburgh W Blackwood 1903)
CAJ Stockings *The Making and the Breaking of the Post-Federation Australian Army. 1901-09* (Canberra Land Warfare Studies Center 2007)
Col HH Story *History of the Cameronians (Scottish Rifles) 1910-1933* (Aylesbury Hazell Watson and Viney 1961)
H Strachan *History of the Cambridge University Officers Training Corps* (Tunbridge Wells Midas 1976)
Staff College Quetta *The First Fifty Years of the Staff College Quetta 1905-1955* (Quetta Staff College Press 1955)
D Sutherland *Tried and Valiant* (Leo Cooper 1972)
Ed Col J Sym *Seaforth Highlanders* (G&P 1962)
H Thomas *The Story of Sandhurst* (Hutchinsons 1961)
TR Threlfall *The Story of the King’s (Country Life 1917)
Trekking with the Royal Irish Rifles Mounted Infantry* (Hertford Henderson and Spalding nd)
RAJ Tyler *Bloody Provost* (Phillimore 1980)
‘Ubique’ (Maj Gen Guggisberg) *Famous Batteries of the Royal Artillery* (Portsmouth WH Barrell nd)
Lt Col WL Vane *The Durham Light Infantry* (G&P 1914)
Capt A Vaughan Lovell-Knight *The History of the Office of Provost Marshal and the Corps of Military Police* (Aldershot G&P 1943)
Col W Verner *History and Campaigns of the Rifle Brigade I & II* (Bale and Danielsson 1912 & 1919)
Capt W Verner *The First British Rifle Corps* (WH Allen 1890)
P Verney *The Micks* (Davies 1970)
HM Walker *A History of the Northumberland Fusiliers 1674-1902* (J Murray 1919)

WJ Wallis-Jones *The Welsh Regiment* (WH Roberts 1900)

Col BR Ward *The School of Military Engineering 1812-1909* (Chatham REI 1909)

SPG Ward *Faithful* (Edinburgh T Nelson nd)

Col CM Watson *History of the Corps of Royal Engineers III* (Chatham REI 1915)

Capt AG Wauchope *A Short History of the Black Watch* (Edinburgh W Blackwood 1908)

L Wayper *Mars and Minerva* (Winchester RAEC Association 2004)

L Weaver *The Story of the Royal Scots* (Country Life 1915)

Lt Col EAH Webb *A History of the Services of the 17th (Leicestershire) Regiment* (Vacher 1911)

Lt Col EAH Webb *History of the 12th (The Suffolk) Regiment 1685-1913* (Spottiswood 1914)

TC Wetton *Reminiscences of 34th Battalion Imperial Yeomanry* (Sidney and Bartlett nd)

Col ACT White *The Story of Army Education 1643-1963* (Harrap 1963)

H White *One and All* (Padstow Tabb House 2006)

Maj Gen B White-Spunner *Horse Guards* (Macmillan 2006)

Maj AC Whitethorne *The History of the Welch Regiment I* (Cardiff Western Mail and Echo 1932)

Lt Col FE Whitton *The History of the Prince of Wales's Leinster Regiment I* (Aldershot G&P 1924)

F Whyte and A Hilliard Atteridge *A History of the Queen's Bays* (J Cape 1930)

Maj WT Wilcox *The Historical Records of the Fifth (Royal Irish) Lancers* (A Doubleday 1908)

Ed B Williams and E Childers *The HAC in South Africa* (Smith, Elder 1903)

Capt GT Williams *The Historical Records of the Eleventh Hussars Prince Albert's Own* (G Newnes 1908)

HH Woollright *Records of the Seventy Seventh* (G&P 1907)

HF Wood *The King's Royal Rifle Corps* (Hamish Hamilton 1967)

W Wood *The Rifle Brigade* (Grant Richards 1901)

W Wood *The Northumbrian Fusiliers* (Grant Richards 1901)

Maj Gen NG Woodyatt *The Regimental History of the 3rd Queen Alexandra's Own Gurkha Rifles* (P Allan 1929)

R Woolcombe *All the Blue Bonnets* (Arms and Armour Press 1980)

Maj HH Woollright *Records of the Seventy Seventh* (G&P 1907)

Col HC Wyllie *XVth (The King's) Hussars* (Caxton 1914)

Col HC Wyllie *Neill's 'Blue Caps'* (Aldershot G&P nd)

Col HC Wyllie *History of the 1st and 2nd Battalions The Sherwood Foresters II* (np 1929)

Col HC Wyllie *The York and Lancaster Regiment 1758-1919 I* (np 1930)

Col HC Wyllie *History of the Queen's Royal Regiment* (Aldershot G&P 1924)

Col HC Wyllie *History of the King's Own Yorkshire Light Infantry II* (Lund Humphries nd)

Col HC Wyllie *History of the Manchester Regiment II* (Forster Groom 1925)

Col HC Wyllie *The Loyal North Lancashire Regiment* (RUSI 1933)

Col HC Wyllie *1909 Regimental Annual. The Sherwood Foresters* (Swan Sonnenschein 1909)

Col HC Wyllie *1910 Regimental Annual. The Sherwood Foresters* (Swan Sonnenschein 1910)
Col HC Wyly *1911 Regimental Annual. The Sherwood Foresters* (Swan Sonnenschein 1911)
Lt Col JW Yardley *With The Inniskilling Dragoons* (Longmans Green 1904)
Lt Col M Young *Army Service Corps 1902-1918* (L Cooper 2000)
Bibliography of Military and Official Works

Official Works without a Named Author

1 (BR) Corps Terrain Study BAOR (Rheindalen nd)
Abstract of the Recommendations of Commissions, Committees & Conferences Relating to Army Affairs 1900-1920 (nd)
Annual Report of the Inspector-General of Recruiting for the Year 1899 (HMSO 1900)
Annual Report of the Inspector-General of Recruiting for the Year 1900 (HMSO 1901)
Annual Report of the Inspector General for Recruiting for the first nine months of the Year 1903 (HMSO 1903)
Annual Report of the School of Gunnery. Horse and Field Artillery at Home 1899 (HMSO 1900)
Annual Report of the School of Gunnery. Horse and Field Artillery at Home 1900 (HMSO 1901)
Annual Report of the School of Gunnery. Horse and Field Artillery at Home 1901 (HMSO 1902)
Annual Report of the School of Gunnery. Horse and Field Artillery at Home 1902 (HMSO 1903)
Annual Report of the School of Gunnery. Horse and Field Artillery at Home 1903 (HMSO 1904)
Annual Report of the Royal Horse and Royal Field Artillery Practice in South Africa 1908 (Pretoria 1908)
Army Lists (HMSO various dates)
British Expeditionary Force 1914 Field States and Other Data (np 1914)
Catalogue of the Royal Engineers Corps Library at the Horse Guards Whitehall (Chatham REI 1929)
Cavalry Manoeuvres in France and Italy 1890 (HMSO 1891)
Chronology of Events Connected with Army Administration 1858-1907 (HMSO 1908)
Committee on Co-ordination of Communications 1909 (np 1909)
Correspondence relative to the recall of Major-General Sir HE Colvile (HMSO 1901)
Deductions from accounts of night attacks during the Manchurian War (Simla Government Central Press 1908)
Diaries and Letters of the Indian Staff College visiting the Manchurian battlefields in 1907 (Simla Government Central Press 1908)
East India (North-West Frontier Papers Regarding I. Orakzaits II Zakka Khel Afridis III Mohmands Operations (HMSO 1908) (Cd 4201)
Engagement Ranges Western Europe (West Byfleet DOAE nd)
Evidence of Lt Col Kinloch ... before Court of Enquiry... (HMSO 1903) (Cd 1420)
Experimental Mobilisation 1895 (np nd)
The Field Service Pocket Book (HMSO 1905)

1 A volume possibly bound at the WO and held at the NAM.
Findings of a Court of Enquiry held at Baberton on 25th September 1900, to
investigate the circumstances under which Lieutenant-Colonel BE Spragge, DSO,
XIIIth Bn Imperial Yeomanry, and others became prisoners of war (HMSO 1901)(Cd
470)
General Annual Report on the British Army (HMSO various dates)
GS WO Handbook of the French Army 1914 (London & Nashville IWM and Battery
Press 1995)²
GS WO Handbook of the German Army in War. January 1917
GS WO Handbook of the German Army in War. April 1918 (reprinted Arms and
Armour 1977)³
History of the War in South Africa 1899-1902 III (Hurst and Blackett 1908)
The Indian Army (Oxford Clarendon Press 1907)
Indian Army Lists (various dates)
Instructions for Fitting and Wearing the Equipment, Bandolier Pattern 1903 (HMSO
1903)
Interim Report of the Advisory Committee for Aeronautics (HMSO 1909)(Cd 4711)
Interim Report of the Advisory Committee for Aeronautics on the work for the Year
1910-11(HMSO 1911) (Cd 5453)
King’s Regulations (HMSO various dates)
The Land Defence of the United Kingdom (HMSO 1903-7)
Lessons of the Russo-Japanese War (Simla 1905)
Memorandum on Army Training 1908 (MT 2 18/1/09)
Memorandum on Army Training 1910 (MT 2 28/12/10)
Memorandum on Army Training 1912 (MT 2 19/12/12)
Memorandum on Army Training during the Individual Training Period 1912-13 (MT
2 11/11/13)
Memorandum on Army Training during the Collective Training Period 1913(MT 2
9/1/14)
Memorandum on Army Training during the Individual Training Period 1913-14 (MT
2 27/7/14)
Memorandum on Army Training in India 1909-1910
Memorandum by the Director-General, Army Medical Service, on the Physical
Unfitness ... [Recruits] (HMSO 1903) (Cd 1501)
Memorandum on the Number of Troops to the Yard in the Principal Battles since
1850 (HMSO 1884)
Military Operations on the North West Frontier 1897-8 (HMSO 1898)
Notes for the Guidance of Cavalry Officers by the Inspector General of Cavalry in
India 1900 (Simla Government Central Printing Office 1900)
GS Notes on Company Training (September 1914)
Notes on Fire Orders and the Control of Fire (RMC nd)
Notes on the Balkan Wars (HMSO 1914)
Notes on Soviet Ground Forces (MOD 1972)
GS WO Notes Upon Company and Battalion Tactics and the Employment of
Artillery in Battle based upon the Russo-Japanese War of 1904-5 (1907)
Official History of the Operations in Somaliland 1901-04 (HMSO 1907)
CID Official History of the Russo-Japanese War Part II (1908)
CID Official History of the Russo-Japanese War Part III (1909)
CID Official History of the Russo-Japanese War Part IV (1909)
Historical Section CID Official History (Naval and Military) of the Russo-Japanese
War I (HMSO 1910)

² Facsimile of original.
³ Facsimile of original.
Historical Section CID Official History (Naval and Military) of the Russo-Japanese War II (HMSO 1912)
Official History (Naval and Military) of the Russo-Japanese War III (HMSO 1920)
Official History (Naval and Military) of the Russo-Japanese War III Appendices and Maps (HMSO 1920)
Principles of Training (WO 1945)
Professional Papers of the Corps of Royal Engineers Foreign Translation Series 1
1895 (Chatham REI 1895)
Professional Papers of the Corps of Royal Engineers Foreign Translation Series 1
1896 (Chatham REI 1896)
Professional Papers of the Corps of Royal Engineers Foreign Translation Series 1
1897 (Chatham REI 1897)
Professional Papers of the Corps of Royal Engineers Fourth Series 'Paper No 1 'Six Lectures delivered at the Senior Officers' Course 16-21 Oct 1912' (Chatham REI 1912)
Queen's Regulations (HMSO various dates)
Proceedings of a Court of Enquiry ... on the Administration of the Army Remount
Department (Remount Proceedings) (HMSO 1902)(Cd 993)
Realities of War (Camberley 1994)
Record of the Proceedings during a Staff Ride between Brighton and Red Hill, 21st to
26th June 1895 conducted by General Rt Hon Sir Redvers Buller (HMSO 1895)
Record of Lord Kitchener's Administration of the Army in India 1902-1909 (Simla
Government Central Branch Press 1909)
Records of the Staff College, Quetta (Simla Government Central Printing Office
1908)
Records of the Staff College, Quetta (Simla Government Central Printing Office
1911)
Regimental Standing Orders of the Army Service Corps 1906 (HMSO 1906)
Regulations for the Equipment of the Regular Army Part 2 Section XIV Details for a
Remount Depot at Base and for an Advanced Remount Depot (HMSO 1899)
Regulations for the Equipment of the Regular Army Part 2 Section XIII Details for
Staff Units in Time of War (HMSO 1899)
Regulations for the Equipment of the Regular Army Part 2 Section XV Details for
a Mounted and a Dismounted Company of Army Signallers in Time of War (HMSO
1899)
Regulations for the Equipment of the Regular Army Part 2 Section 1a Mounted
Infantry (HMSO 1898)
Regulations for the Equipment of the Regular Army Part 2- Section X-Id Howitzer
Battery Details BL 5-inch Howitzer Equipment (Mark I) (Field Batteries) (HMSO
1899)
Regulations for the Equipment of the Regular Army Part 2- Section Xid Howitzer
Battery Details BL 5-inch Howitzer Equipment (Batteries Royal Field Artillery)
(HMSO 1901)
Regulations for the Equipment of the Regular Army Part 2 Sections XIV and XV,
XIV Details for a Remount Depot at Base and for an Advanced Remount Depot. XV
Details for a Mounted and a Dismounted Company of Army Signallers in Time of
War (HMSO 1904)
Provisional Regulations for the Equipment of the Regular Army Part 2 Section XII(h)
Royal Garrison Artillery Siege Artillery and Movable Armament (HMSO 1906)
Regulations for the Equipment of the Regular Army Part 2 Section 1a Mounted
Infantry (HMSO 1907)
Regulations for the Equipment of the Army Part 2 Section XIII Headquarters Units (War) (HMSO 1907)
Regulations for the Equipment of the Army Part 2 Section XIII. Headquarters Units (War) (HMSO 1909)
Regulations for the Equipment of the Regular Army Part II Section X-A Engineer Details (HMSO 1910)
Regulations for the Equipment of the Regular Army Part 2 Section XII(b) Royal Garrison Artillery Siege Artillery and Movable Armament, and Machine Guns in Armaments (HMSO 1910)
Regulations for the Equipment of the Regular Army Part II Section X-A Engineer Details (HMSO 1912)
Regulations for the Equipment of the Regular Army Part 2 Section XII(b) Royal Garrison Artillery Siege Artillery and Movable Armament, and Machine Guns in Armaments (HMSO 1913)
Regulations for Mobilization 1909 (HMSO 1909)
Regulations for Mobilization 1914 (HMSO 1914)
Regulations under which Commissions in the Army may be obtained by University Candidates (HMSO 1899)
Regulations under which Commissions in the Army may be obtained by University Candidates (HMSO 1904)
Report of the Advisory Committee for Aeronautics for the Year 1909-10 (HMSO 1910 (Cd 5282)
Report of the Committee appointed to Consider the Education and Training of Officers of the Army (The Akers-Douglas Committee) (HMSO 1902)
Report on Trial of the Short Rifle by the Army and the Navy (HMSO 1904) (Cd 2264)
Report of the Committee on Promotion to Colonel and General (HMSO 1906)
Report of the Committee on Mobilisation of the Horse, Field and Mountain Artillery in India 1898 (Simla Government Central Printing Office 1899)
Report on Army Exercise 1913 (HMSO 1914)
Report on the Attock Manoeuvres Feb 1900 (Simla Government Central Printing Office 1900)
Report...Board of Visitors [RMC] Sandhurst ... 1900 (HMSO 1901)
Report...Board of Visitors [RMA] Woolwich ... 1900 (HMSO 1901)
Report of a Conference of General Staff Officers 1906
Report of a Conference of General Staff Officers 1907
Report of a Conference of General Staff Officers 1908
Report of a Conference of General Staff Officers 1909
Report of a Conference of General Staff Officers 1910
Report of a Conference of General Staff Officers 1911
Report of a Conference of General Staff Officers 1912
Report of a Conference of General Staff Officers 1913
Report of a Conference of General Staff Officers 1914
Report of the Royal Commission ... upon the Care and Treatment of the Sick and Wounded during the South African Campaign (HMSO 1901)
A Report on the Demobilization of the South African Field Force 1st June 1902-28th February 1903 HQ Pretoria 1 April 1903 (Pretoria J Keith 1903)
Report on the Examination for Admission to the Staff College ... 1905 (HMSO 1905)
Report on the Examination for Admission to the Staff College ... 1906 (HMSO 1906)
Report on the Examination for Admission to the Staff College ... 1911 (HMSO 1911)
Report on the Examination for Admission to the Staff College ... 1912 (HMSO 1912)
Report on the Examination for Admission to the Staff College ... 1913 (HMSO 1913)
Report on the French Cavalry School Saumur Jan 1904 (HMSO 1907)
Report on Manoeuvres for the Training of the [RAMC] Units held in Southern Command (HMSO 1910)
Report on the Mobilisation of 1st Brigade, 1st Division, 1 Army-Corps (HMSO 1896)
Report on the Musketry Training of the Regular Forces serving at Home including the School of Musketry, and also on the Musketry Training of the Militia, Yeomanry and Volunteers during the Year 1897 (HMSO 1898)
Report on the Musketry Training of the Regular Forces serving at Home including the School of Musketry, and also on the Musketry Training of the Militia, Yeomanry and Volunteers during the Year 1898 (HMSO 1899)
Report on the Musketry Training of the Regular Forces serving at Home, including the School of Musketry, and also on the Musketry Training of the Militia, Yeomanry Cavalry and Volunteers during the Year 1899-1900 (HMSO 1901)
Report by the Commandant School of Musketry, Hythe, on the Instruction and General Work at the School of Musketry, and on the Musketry Training of the Regular and Auxiliary Forces serving at Home for the Year 1901 (HMSO 1902)
Report by the Commandant School of Musketry, Hythe, on the Instruction and General Work at the School of Musketry, and on the Musketry Training of the Regular and Auxiliary Forces serving at Home for the Year 1902 (HMSO 1903)
Report by the Commandant School of Musketry, Hythe, on the Instruction and General Work at the School of Musketry, and on the Musketry Training of the Regular and Auxiliary Forces serving at Home for the Year 1903 (HMSO 1904)
Report...Board of Visitors [RMC] Sandhurst ... 1900 (HMSO 1901)
Report...Board of Visitors [RMA] Woolwich ... 1900 (HMSO 1901)
Report of the Committee on Army Telegraph Units 1904
Report by Lieut-General...Colvile on the Operations of the Ninth Division at Paardeberg (HMSO 1901)(Cd 520)
Report from Lieut-General Lord Methuen on the action that took place near Tweebosch on 7th March 1902 (HMSO 1902)(Cd 967)
Report from Brigadier-General Dixon on the Operations at Vlakfontein on 29th May, 1901 (HMSO 1901)(Cd 693)
Report on the Curragh District Manoeuvres 1895
Report of the Committee ... to enquire into the nature of the Expenses Incurred by Officers of the Army ... (HMSO 1903) (Cd 1421)
Report on Staff Ride in the Severn Valley 1906 (HMSO 1906)
Report on the Tactical Operations South East District 1897 (HMSO 1897)
Report of the Telephone Co Aldershot Army Corps 1905 (np nd)
Report of Trials of Self-Propelled Lorries for Military Purposes held at Aldershot from 4th to 19th December 1901 (HMSO 1902)
Reports on the Sanitary Condition of Piershill Barracks Edinburgh (HMSO 1906)
Return Relating to Army Commissions (HMSO 1903)
Return Average Time to Reach Rank ... Captain... and Major (HMSO 1903)
Return Average Time to Reach Rank ... Captain... and Major (HMSO 1909)
Rhodesian Field Force Standing Orders (np nd)
Royal Commission on the War in South Africa Report (HMSO 1903) (Cd 1789)
Royal Commission on the War in South Africa Evidence I (HMSO 1903) (Cd 1790)
Royal Commission on the War in South Africa Evidence II (HMSO 1903) (Cd 1791)
Royal Commission on the War in South Africa Appendices to Evidence (HMSO 1903) (Cd 1792)
The Royal Military College of Science Risk Chance and Judgement. (Shrivenham nd)

Royal Military College Text Book of Military Administration and Law (Provisional) (HMSO nd)

The Russo Japanese War. Reports from British Officers I (HMSO 1908)
The Russo Japanese War. Reports from British Officers II (HMSO 1908)
The Russo Japanese War. Reports from British Officers III (HMSO 1908)
The Russo Japanese War III (HMSO 1905)
The Russo Japanese War Medical and Sanitary Reports from Officers Attached to the Japanese and Russian Forces in the Field (HMSO 1908)

GS WO The Russo-Japanese War Part I (1906)

School of Gunnery. Report 1901 Coast Siege (np nd)
The Royal Military Academy Sandhurst Serve to Lead (np nd)
The Soft Spot (1919) (Infantry Training Leaflet 13)

GS WO Some Tactical Notes on the Russo-Japanese War (1906)

South African Constabulary Handbook (np nd)

South African Despatches I (HMSO 1901) (Cd 457)
South African Despatches II Natal Field Army (HMSO 1901) (Cd 458)
South African Despatches Supplementary (HSMO 1901) (Cd 463)

The Standing Orders of The Prince Albert's (Somerset Light Infantry) (Lahore Civil and Military Gazette 1894)
The Standing Orders of The Prince Albert's (Somerset Light Infantry) (Devonport Swiss 1910)
The Standing Orders of the 2nd Battalion the King's Own Yorkshire Light Infantry (Aldershot G&P 1906)
The Standing Orders of the 2nd Battalion the Durham Light Infantry (Aldershot G&P 1907)
The Standing Orders of the Suffolk Regiment (Aldershot G&P 1910)
The Standing Orders of the 1st Battalion The Prince of Wales' Leinster Regiment (The Royal Canadians) (Aldershot G&P 1908)
The Standing Orders 2nd Battalion Prince of Wales' Leinster Regiment (Royal Canadians) (1900 np)

System of Training of Staff Officers in Foreign Armies (HMSO 1901)
The Standing Orders 1st Battalion Oxfordshire Light Infantry (Portsmouth Charpentier 1890)

Statement on the Army Estimates 1914-15 (HMSO 1914)

Technical Instructions for the use of Telephones in the Field (Provisional) (HMSO 1908)

Telegrams Concerning the Siege of Ladysmith (HMSO 1902) (Cd 987)
Text Book of Military Small Arms and Ammunition 1894 (HMSO 1894)
The Army in India and Its Evolution (Calcutta Superintendent Government Printing India 1924)
Translations from Foreign Journals relating to the Recent War in South Africa
(Intelligence Division WO 1902)
War Establishments Section I. Notes on War Establishments 1905 (HMSO 1905)
War Establishments. 1907-1908 (Provisional) (HMSO 1907)
War Establishments. 1908-1909 (HMSO 1907)
War Establishments. Part I Expeditionary Force 1914 (HMSO 1914)
Weekly Tank Note No 23 18 January 1918 (1919) 4

Official Publications with a named Author

Col EHH Allenby Standing Orders of the 5th (Royal Irish) Lancers (Aldershot G&P 1904)
Maj Gen Baden-Powell Notes Cavalry Manoeuvres 1904 (nd np)
Col J Bailey The First World War and the Birth of Modern Warfare (Camberley SCSI Paper No 22 nd)
Col CH Bridge Notes on Manoeuvres (HMSO 1898)
Lt Gen WF Butler Record of the Western District Staff Ride Conducted 1st to 5th September, 1902 (1902 np)
Capt CE Callwell Small Wars (HMSO 1896)
Maj CE Callwell Small Wars (HMSO 1899)
Col CE Callwell Small Wars (HMSO 1906)
Col FC Carter The Training and Use of Scouts (HMSO 1905)
Lt Col M Claire Garcia Report on the Discipline and Management of Military Prisons 1899 (HMSO 1900)
Lt Col M Claire Garcia Report on the Discipline and Management of Military Prisons 1900 (HMSO 1901)
Lt Col M Claire Garcia Report on the Discipline and Management of Military Prisons 1901 (HMSO 1902)
Brig Gen JJ Collyer The Campaign in German South West Africa 1914-1915 (Pretoria Government Printer 1937)
Col HE Colville History of the Sudan Campaign I & II (HMSO 1889)
Maj JE Edmonds Handbook of the German Army (HMSO 1900)
Maj JE Edmonds Organisation of Voluntary Medical Aid in War (HMSO 1901)
Brig Gen JE Edmonds Military Operations France and Belgium 1914 1-1918 V (Macmillan 1922-1947) 6
Ed Capt RF Edwards Professional Papers of the Corps of Royal Engineers XXV 1899 (Chatham W&J Mackay 1900)
Ed Capt RF Edwards Professional Papers of The Corps Of Royal Engineers XXVI 1900 (Chatham W&J Mackay 1901)
Ed Capt RF Edwards Professional Papers of The Corps Of Royal Engineers XXVII 1901 (W&J Mackay Chatham 1901)
Maj LF Ellis The War in France and Flanders 1939-1940 (HMSO 1953)

4 Misdated, clearly written in 1919.
5 Facsimile copy of the 1914 edition.
6 Various authors, but the entire work should be traceable via Edmonds only.
Maj Gen GF Ellison *Lecture History of Military Administration* (np 1921)
Capt C Falls *Military Operations Egypt and Palestine* I (HMSO 1930)
Capt C Falls *Military Operations Egypt and Palestine* II (HMSO 1930)
Capt V Ferguson *A Dictionary of Russian Military and Naval Terms* (HMSO 1906)
Gen JDP *French Memorandum on Theoretical Instruction in the Art of War* (np nd)
Maj JG Geddes *Notes on Japanese and Russian Artillery in Manchuria* (HMSO London 1907)
Lt Col EPC Girouard *History of the Railways during the War in South Africa, 1899-1902* (HMSO 1903)
Ed J Gooch *The Origins of Contemporary Doctrine* (SCSI 1997)
Lt Gen WH Goodenough and Lt Col JC Dalton *The Army Book of the British Empire* (HMSO 1893)
Capt HM Grant *History of the War in South Africa 1899-1902* IV (Hurst and Blackett 1910)
Maj Gen WH Greenly *Russo-Japanese War-Cavalry Reports* (np nd)
Gen A Haldane *Notes on Training* (AP&SS Rhine Army 1919)
Col L Hale *What to Observe and How to Report It* (HMSO 1898)
DOW Hall *The New Zealanders in South Africa 1899-1902* (Wellington War History Branch 1949)
Ed Maj WA Harrison *Professional Papers of The Corps Of Royal Engineers Fourth Series* II 1908-11 (Chatham W&J Mackay 1911)
Brig Gen RC Hart *Standing Orders for Field Manoeuvres* (Belgaum Dhundiraj Press 1896)
RG Haycock, P Caddick-Adams, M Bechtold. DI Hall, EC Kiesling & Brig M Melvin *The Relevance and Role of the Battlefield Tour and Staff Ride for Armed Forces in the 21st Century* (Shrivenham SCSI 2005)
Lt Col RA Henderson *Report on the Discipline and Management of Military Prisons 1903* (HMSO 1904)
Col AM Heniker *Transportation on the Western Front* (HMSO 1937)
R Holmes *Army Battlefield Guide Belgium and Northern France* (HMSO 1995)
Maj JM Home *The Russo-Japanese War up to 15th August 1904* (HMSO 1905)
Col R Home revised Lt Col SC Pratt *A Précis of Modern Tactics* (HMSO 1896)
FJ Huddleston *Catalogue of the War Office Library Part III Subject Index* (HMSO 1912)
Inspector General Cavalry *Notes on the Cavalry Schools in Italy and on the Training of Recruits in France and Italy* (HMSO 1905)
Maj ER Kenyon *Notes on Land and Coast Fortification* (Chatham REI 1894)
MD Krause and R Cody Phillips *Historical Perspectives of the Operational Art* (Washington Center of Military History 2005)
Maj JF Lewis *Text Book of Fortification and Military Engineering Part I Field Fortification and Military Bridges* (HMSO 1892)
Maj JF Lewis *Text Book of Fortification and Military Engineering Part II Permanent Fortifications, Historical Development, Siege Works Coast Defence* (HMSO 1893)
Lt Gen G MacMunn and Capt C Falls *Military Operations Egypt and Palestine* I (HMSO 1928)
Lt Col WG Macpherson *Lecture on the Removal of Sick and Wounded from the Battlefield* (HMSO 1908)
Col JF Maurice *Military History of the Campaign in Egypt* (HMSO nd)

7 Given School of Military Administration 18 Jan 1921, bound with it are other versions including one chaired by RBS Haldane.
8 Prepared for 10 Brigade 1913-1914. Haldane was the Brigadier.
Gen F Maurice *History of the War in South Africa 1899-1902* I (Hurst and Blackett 1906)
Gen F Maurice *History of the War in South Africa 1899-1902* II (Hurst and Blackett 1907)
Lt Gen AGL McNaughton *The Development of Artillery in the Great War* (np nd)
Brig AB McPherson *Discipline* (War Office 1950)
Ed Capt AT Moore *Professional Papers of the Corps of Royal Engineers XXVIII* 1902 (Chatham W&J Mackay 1903)
Ed Maj AT Moore *Professional Papers of the Corps of Royal Engineers Occasional Papers XXX* (Chatham REI 1904)
Ed Maj AT Moore *Professional Papers of the Corps of Royal Engineers XXX* 1904 (Chatham W&J Mackay Chatham 1905)
Compiled Lt Col PL Murray *Official Records of the Australian Military Contingents to the War in South Africa* (Melbourne Government Printer 1911)
Brig AL Pemberton *The Development of Artillery Tactics and Equipment* (WO 1950)
Brig ISO Playfair *The Mediterranean and Middle East I* (HMSO 1954)
Brig ISO Playfair and Brig CJ Molony *The Mediterranean and Middle East IV* (HMSO 1966)
W Raleigh *The War in the Air* I (OUP 1922)
Bvt Col SWH Rawlins *A History of the Development of the British Artillery in France 1914-1918* (np nd)
Col JS Rothwell *Military Administration and Staff Duties. Tables and Data for the Use of Staff College Officers* (HMSO 1891)
R de M Rudolf *Short Histories of the Territorial Regiments of the British Army* (HMSO nd)
Lt Col RJS Simpson *The Medical History of the War in South Africa; an Epidemiological Essay* (HMSO 1911)
Maj Gen F Smith *A Veterinary History of the War in South Africa 1899-1902* (H&W Brown 1919)
Capt WJ Stopford *Report on the Discipline and Management of Military Prisons 1897* (HMSO 1898)
RL Wallace *The Australians at the Boer War* (Canberra The Australian War Memorial and The Australian Government Publishing Service 1976)
Col WHH Waters *Reports on the Campaign in Manchuria in 1904* (HMSO 1905)
S Wilkinson *Moltke's Projects for the Campaign of 1866 against Austria* (HMSO 1902)
Capt AH Wolley-Dod *Reconnaissance Reports on the Lines of Advance through the Orange Free State* (Intelligence Division WO 1897)
Lt Col FW Young *The Story of the Staff College* (Camberley The Staff College 1958)

**Pre-1900 Training Manuals**

*Cavalry Drill* 1896 (HMSO 1896)
*Cavalry Drill* 1898 (HMSO 1898)
*Cyclist Drill* 1897 (HMSO 1897)
*Field Artillery Drill* (HMSO 1896)
Field Engineers Drill 1899 (HMSO 1899)
Field Service Manual Infantry (Provisional issue) 1897 (HMSO 1897)
Field Service Manual Infantry 1899 (HMSO 1899)
Field Service Manual Mounted Infantry 1899 (HMSO 1899)
Field Exercise Infantry Drill Part X Rules for the Conduct of Field Manoeuvres 1896 (HMSO 1896)
Garrison Artillery Drill II (HMSO 1891)
Garrison Artillery Drill I (HMSO 1892)
Garrison Artillery Drill I 1895 (HMSO 1895)
Garrison Artillery Drill II 1897 (HMSO 1897)
Garrison Artillery Drill I 1899 (HMSO 1899)
Garrison Artillery Drill II 1899 (HMSO 1899)
Handbook for the 0.303 Maxim Machine Gun... 1897 (HMSO 1897)
Handbook for the 0.303 Maxim Machine Gun... 1898 (HMSO 1898)
Handbook for the 6 Inch BL Howitzer 30 cwt (Mark I) (HMSO 1899)
Handbook for the 6 Inch BL Howitzer 25 cwt (Mark I) (HMSO 1899)
Handbook for the 40 Pr RML Gun of 35 Cwt Siege and Movable Armament 1897 (HMSO 1897)
Handbook for the 5-inch BL Howitzer (Mark I) (Field or Siege) 1899 (HMSO 1899)
Handbook for the 5.4in BL Howitzer (Mark I) 1897 (HMSO 1897)
Handbook for the 6 inch BL Howitzer (HMSO 1899)
Handbook for the 6.3 Inch RML Howitzer for Movable Armament and Armament of Works (HMSO 1895)
Handbook for the 15 Pr BL Gun (Mark I)(Field Batteries) 1898 (HMSO 1898)
Handbook for the 12 Pr BL 6 Cwt Gun (Mark I)(Horse Artillery) 1898 (HMSO 1898)
Infantry Drill 1892 (Provisional) (HMSO 1892)
Infantry Drill 1893 (HMSO 1893)
Infantry Drill 1896 (HMSO 1896)
Infantry Drill 1896 Amended (HMSO 1900)
Instruction in Military Engineering I Part II Military Bridges (HMSO 1887)
Instruction in Military Engineering I (Part I) Field Defences (HMSO 1888)
Instruction in Military Engineering I (Part I) Field Defences (HMSO 1894)
Instructions for Practice Horse Field and Mountain Artillery 1896 (HMSO 1896)
Instructions for Practice Horse Field and Mountain Artillery 1897 (HMSO 1897)
Instructions for Practice Horse Field and Mountain Artillery 1898 (HMSO 1898)
Instructions for Practice Horse Field and Mountain Artillery 1899 (HMSO 1899)
Instructions for Practice Siege Artillery 1899 (HMSO 1899)
Manual of Military Engineering (Provisional) (HMSO 1899)
Military Engineering Part 2 Attack and Defence of Fortresses 1896 (HMSO 1896)
Mountain Artillery Drill 1891 (HMSO 1891)
Musketry Regulations 1898 (HMSO 1898)
Regulations for Mounted Infantry 1897 (HMSO 1897)
Regulations for Mounted Infantry 1899 (HMSO 1899)
Regulations for Musketry Instruction Lee-Metford Rifle and Carbine 1896 (HMSO 1896)
Regulations for Supply Transport and Barrack Services (HMSO 1899)
Rifle Exercises (Lee Metford Rifle) Manual Exercises and Bayonet Exercise 1892 (HMSO 1892)
Rifle and Carbine Exercises (Martini Breech Action) Care of Arms and Ammunition and Firing Exercise 1896 (HMSO 1896)

400
Rifle and Carbine Exercises (Lee Metford) Manual Exercise, Firing Exercise, Bayonet Exercise and Firing Exercise for Webley Pistol 1896 (HMSO 1896)
Rifle and Carbine Exercises Manual Exercise, Firing Exercise, Bayonet Exercise, Firing Exercise for Webley Pistol and Instructions for Cleaning Arms 1898 (HMSO 1898)
Rules for the Conduct of Field Manoeuvres (Provisional). Infantry Drill Part X (HMSO 1899)
Rules for the Conduct of the War-Game on a Map (HMSO 1896)
Siege Artillery Drill 1891 HMSO 1891
Siege Artillery Drill 1896 (HMSO 1896)
Signalling Instructions 1896 (HMSO 1896)
Signalling Instructions 1898 (HMSO 1898)
Staff Duties in the Field (HMSO 1891)
Text Book of Gunnery (HMSO 1897)
Text Book of Military Topography Parts I and II (HMSO 1898)
War Establishments 1898 (HMSO 1898)

Training Manuals 1900-1906

Appendix to Training Manuals (HMSO 1905)
Army Service Corps Training (Provisional) 1903 (HMSO 1903)
Cavalry Training (Provisional) 1904 (HMSO 1904)
Cavalry Training 1907 (HMSO 1907)
Cavalry Training 1907(reprinted with amendments, 1910) (HMSO 1910)
Combined Training (Provisional) 1902 (HMSO 1902)
Combined Training (Provisional) 1903 Parts VI-IX (HMSO 1903)
Directions for use of the Signalling Disc (HMSO nd)
Field Artillery Training 1902 (HMSO 1902)
Field Artillery Training 1902 Amended 1902 (HMSO 1902)
Field Artillery Training 1903 Chapter 4 (Revised) (HMSO 1903)
Field Artillery Training 1906 (HMSO 1906)
Firing Exercises. Pistol Exercise and Instructions for Aiming and Judging Distance (Provisional) 1901 (HMSO 1901)
Frontier Warfare and Bush Fighting 1906 (Calcutta Government Printing 1906)
FSRs Part I Combined Training 1905 (HMSO 1905)
FSRs India (Provisional Edition) (Calcutta Government of India Press 1906)
Garrison Artillery Training 1902 I Provisional Edition (HMSO 1902)
Garrison Artillery Training 1902 III (HMSO 1902)
Garrison Artillery Training 1904 (HMSO 1904)
Garrison Artillery Training 1904 II Provisional Edition Coast Defence and Practice (HMSO 1904)
Garrison Artillery Training 1905 I Coast Defence (HMSO 1905)
Garrison Artillery Training II 1906 Siege and Movable Armament (HMSO 1906).
Garrison Artillery Training 1905 III 1905 (HMSO 1905)
Handbook for the 5-inch BL Howitzer (Mark I) 1901 (HMSO 1901)
Handbook for the 9.45 Inch BL Howitzer (HMSO 1906)
Handbook for the 15 Pr BL Gun (Mark I)(Field Batteries) 1900 (HMSO)
Handbook (Provisional) for the 2.95-in QF Mountain Gun (Mark I)(Mule Equipment) 1901(HMSO 1901)
Handbook for the 0.303 Maxim Machine Gun... 1901 (HMSO 1901)
Handbook for the Converted 0.303and 303 converted Maxim Machine Guns... 1903 (HMSO 1903)
Handbook for the 15 Pr BL Gun (Mark I) (Field Batteries) 1900 (HMSO 1900)
Heavy Artillery Training (Provisional) 1903 (HMSO 1903)
Heavy Artillery Training 1904 (Provisional) (HMSO 1904)
Imperial Yeomanry Training (Provisional) (HMSO 1902)
Instructions for Practice Horse Field and Mountain Artillery 1900 (HMSO 1900)
Instructions for Practice Horse Field and Mountain Artillery 1901 (HMSO 1901)
Instructions for Practice Horse Field and Mountain Artillery 1902 (HMSO 1902)
Instructions for Practice Horse Field and Mountain Artillery 1903 (HMSO 1903)
Instructions for Practice Heavy Artillery 1904 (HMSO 1904)
Instructions for Practice Horse Field and Mountain Artillery 1904 (HMSO 1904)
Instructions for Practice Heavy Artillery 1905 (HMSO 1905)
Instructions for Practice Horse and Field Artillery 1905 (HMSO 1905)
Instructions for Practice Horse, Field and Heavy Artillery 1906 (HMSO 1906)
Instruction in Military Engineering Part I Field Defences (HMSO 1902)
Instructions for Training Imperial Yeomanry (HMSO 1905)
Infantry Training Provisional 1902 (HMSO 1902)
Infantry Training 1905 (HMSO 1905)
Manual of Field Sketching and Reconnaissance 1903 (HMSO 1903)
Manual of Horse and Stable Management (HMSO 1904)
Manual of Map Reading and Field Sketching 1906 (HMSO 1906)
Manual of Military Ballooning Part I (HMSO 1905)
Manual of Military Engineering (Provisional Edition) (HMSO 1901)
Manual of Military Engineering (Provisional) (HMSO 1903)
Manual of Military Engineering (HMSO 1905)
Mountain Warfare (Simla 1900)
Mounted Infantry Training Provisional 1904 (HMSO 1904)
Mounted Infantry Training 1906 (HMSO 1906)
Musketry Regulations Provisional 1903 (HMSO 1903)
Musketry Exercises (Provisional) 1904 (HMSO 1904)
Musketry Regulations 1905 (HMSO 1905)
Regulations for Intelligence Duties in the Field 1904 (HMSO 1904)
Remount Manual (HMSO 1906)
Regulations for the Equipment of the Regular Army Part 2 Section z XIII Details for
Staff Units in Time of War (HMSO 1901)
Siege Artillery Drill 1900 (HMSO 1900)
Signalling Regulations (HMSO 1904)
Text Book of Small Arms 1904 (HMSO 1904)
Transport Manual (Provisional) (Field Service) 1905 Part I (HMSO 1905)
War Establishments 1905 (HMSO 1905)

Training Manuals from 1906

Amendments to Combined Training 1905 (HMSO 1907)
Amendments to Garrison Artillery Training 1905 I (HMSO 1907?)
Animal Management 1908 (HMSO 1908)
Army Doctrine Publication 1 Operations (HMSO 1994)
Army Doctrine Publication 2 Command (HMSO 1995)
The Army Field Manual I The Application of Force (HMSO 1985)
Air Power Doctrine (HMSO 1993)
Army Motor Reserve (HMSO 1907)
Army Service Corps Training Part I 1909 (HMSO 1909)
Army Service Corps Training Part IV Mechanical Transport (HMSO 1912)
Artillery Training III War (HMSO 1928)
British Defence Doctrine (HMSO 1996)
Cavalry Training 1907 (HMSO 1907)
Cavalry Training 1912 (HMSO 1912)
Cavalry Training Indian Supplement (Simla Government Monotype Press 1911)
Cyclist Training (Provisional) 1908 (HMSO 1908)
Cyclists Training 1911 (HMSO 1911)
Cyclist Training (Provisional) 1914 (HMSO 1914)
Education and Training of the Japanese Field Artillery (HMSO 1909)
Elementary Training in Night Operations 1911 (HMSO 1911)
Engineer Training 1912 (HMSO 1912)
Engineer Training 1912 Amendments 1913 (HMSO 1913)
Expeditionary Force War Establishments. 1909-1910 (HMSO 1909)
Amendments to Field Artillery Training (HMSO 1908)
Field Artillery Training 1906 Amendments (HMSO 1907)
Field Artillery Training 1908 (HMSO 1908)
Field Artillery Training 1908 (Appendix IV Mountain Artillery 1910) (HMSO 1910)
Field Artillery Training (Provisional) 1912(HMSO 1912)
Field Artillery Training 1914 (HMSO 1914)
Engineer Training 1912 (HMSO 1912)
Field Service Manual 1907 Cavalry Regiment (HMSO 1907)
Field Service Manual 1907 Infantry Battalion (HMSO 1907)
Field Service Manual 1908 Field Artillery (Howitzer) Brigade (5 Inch BL) (HMSO 1908)
Field Service Manual 1908 Field Artillery (18 Pr) Brigade (HMSO 1908)
Field Service Manual 1908 Horse Artillery Brigade (HMSO 1908)
Field Service Manual 1908 RE Field Company (HMSO 1908)
Field Service Manual 1908 Infantry Battalion (HMSO 1908)
Field Service Manual 1910 Cavalry Regiment Expeditionary Force (HMSO 1910)
Field Service Manual 1911 Headquarters Units (Expeditionary Force) (HMSO 1911)
Field Service Manual 1913 Cavalry Regiment. Expeditionary Force 1913 (HMSO 1913)
Field Service Manual 1914 Infantry Battalion (Expeditionary Force) (HMSO 1914)
Field Service Manual 1910. Heavy Artillery- B.L. 60-pr Bty and Ammo Colm. EF 1910 (HMSO 1910)
Field Service Manual 1910 Infantry Battalion (Expeditionary Force) (HMSO 1910)
Field Service Manual 1910 RE Field Company Expeditionary Force (HMSO 1910)
Field Service Manual 1910 RE Field Troop Expeditionary Force (HMSO 1910)
Field Service Manual 1910 Mounted Infantry Battalion Expeditionary Force (HMSO 1910)
Field Service Manual Engineers 1910 (HMSO 1910)
Field Service Manual 1913 Infantry Battalion Expeditionary Force (HMSO 1913)
Field Service Manual 1913 Mounted Infantry Battalion Expeditionary Force (HMSO 1913)
Field Service Manual 1913 Mounted Infantry Battalion Expeditionary Force (HMSO 1913)
Field Service Manual 1913 Signals Service Sigs Coy with Division (HMSO 1913)
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<td>Field Service Pocket Book (Provisional) 1907</td>
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<td>Field Service Regulations Part II Organisation and Administration</td>
<td>1909</td>
<td>HMSO</td>
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<td>Field Service Regulations Part I Operations 1912</td>
<td>1912</td>
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<td>Field Service Regulations Part I Operations 1914</td>
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<td>Garrison Artillery Training I 1914</td>
<td>1914</td>
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<td>Handbook on Military Bicycles</td>
<td>1910</td>
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<td>Indian Cavalry Pocket Book (Lahore Civil and Military Gazette Press)</td>
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<td>Instructions for Practice Horse, Field and Heavy Artillery</td>
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<td>1911</td>
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<td>Instructions for Practice Royal Garrison Artillery Siege and Movable Armament</td>
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<td>Infantry Training 1905</td>
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<td>Instruction in Bayonet Fighting 1907</td>
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<td>Instruction in Bayonet Fighting for Competitions 1911</td>
<td>1911</td>
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<td>Manual of Field Engineering</td>
<td>1911</td>
<td>HMSO</td>
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<td>Manual of Map Reading and Field Sketching</td>
<td>1912</td>
<td>HMSO</td>
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<td>.303 Maxim Guns</td>
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<td>HMSO</td>
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<td>Memorandum Reorganised System of Supply ... Introduction of [MT]</td>
<td>1912</td>
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<td>Military Engineering Part I Field Defences 1908</td>
<td>1908</td>
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<td>Military Engineering Part II Attack and Defence of Fortresses</td>
<td>1910</td>
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<td>Musketry Regulations Part I 1909</td>
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<td>Musketry Regulations Part II 1910</td>
<td>1910</td>
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<td>Notes on Map Reading for use in Army Schools</td>
<td>1908</td>
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<td>Notes on Map Reading for use in Army Schools</td>
<td>1912</td>
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<td>1914</td>
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<td>RFC Training Manual Part II (Military Wing)(Provisional)</td>
<td>1914</td>
<td>HMSO</td>
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404
Royal Engineers' Training 1907 (HMSO 1907)
6 Inch BL Howitzer Section Gun Drill (HMSO 1912)
Staff Manual War Provisional 1912 (WO 1912)
Supply Manual (War) 1909 (HMSO 1909)
Tests of Elementary Training: Machine Gun (HMSO 1911)
Text Book of Small Arms (HMSO 1909)
3rd Infantry Brigade Standing Orders for Camps, Bivouacs and Marches (Aldershot G&P 1910)
Training and Manoeuvre Regulations 1909 (HMSO 1909)
Training and Manoeuvre Regulations 1909 Amendments 1911 (HMSO 1911)
Training Manual Signalling 1907 (HMSO 1910)
Training Manual Signalling 1907 (HMSO reprinted 1911)
Technical Instructions for the Use of Telephones in the Field (Provisional) (HMSO 1908)
Works Manual (Provisional) (HMSO 1913)
Yeomanry and Mounted Rifle Training Parts 1 and 2 1912 (HMSO 1912)

Indian Military Publications

Works with Named Authors

MJD Cockle A Catalogue of Books Relating to the Military History of India (Simla Government Central Printing Office 1901)
Lt Col ER Elles A Course of Lectures on Tactics Delivered to 2nd Punjab Rifle Volunteers (Lahore Punjab Government Press 1890)
Maj GH Elliot Cavalry Literature (Calcutta Office of the Superintendent of Government Printing 1893)
Maj Gen CGM Fasken Report on Brigade Training the Bannu Brigade February 1908 (Allahabad Pioneer 1908)
Vet Lt Col Glover Report on the Working of the Army Veterinary Department with the Tirah Expeditionary Force 1897-8 (Simla Government Central Printing Office 1898)
Maj FA Houghton Operations of the Mohmand Field Force in 1897 (Simla Government Central Printing Office 1899)
Maj GV Kemball Operations of the Tochi Field Force in 1897-98 (Simla Government Central Printing Office 1900)
Maj EWM Norie Official Account of Military Operations in China (Simla Government Printer 1903)
Maj W Thwaites New Tactical Ideas in the French Army and Their Import (GS India 1912)
Capt HF Walters Operations of the Tirah Expeditionary Force 1897-8 (Simla Government Central Press 1900)
Capt HF Walters Operations of the Malakand Field Force and the Buner Field Force (Simla Government Central Press 1900)

Anonymous Works

The Army in India and Its Evolution (Superintendent Government Printing India Calcutta 1924)
Report on the Commissariat-Transport Arrangements of the 2nd and 3rd Reserve Brigades ordered to be held at readiness at Rawal Pindi 1897 (Allahabad North-Western Provinces and Oudh Government Press 1898)
Frontier Warfare and Bush Fighting 1906 (Calcutta Superintendent Government Printing 1906)


Intelligence Army HQ India Frontier and Overseas Expeditions from India Vol VI Official Account of the Abor Expedition (Simla Government Central Press 1913)

Overseas Expeditions (Superintendent Government Printing India Calcutta 1911)

The Second Afghan War Abridged Official Account (Murray 1908)

Official Translations with a Named Author

Gen v Brunner trans Capt Ottley Place Fortress Warfare (Chatham REI 1907)

Capt F Culmann trans GS German Tendencies with Regard to the Preparation and Development of an Action (HMSO 1908)

Lt Col MR von Hoen trans Li Col WG Macpherson The Strategical and Tactical Employment of the Medical Service as carried out in an Army Corps (HMSO 1909)

Prince Hohenlohe-Ingelfingen trans Maj Walford Letters on Artillery (Woolwich RAI 1887)

Lt Col Pl Izmestiev The Importance of Secrecy in War (notes by an officer of the Russian General Staff (HMSO 1907)

Hptm H Von Kiesling The Battle of Encounter Part I Practical (HMSO 1913)

Hptm H Von Kiesling Operation Orders (HMSO 1910)

Gen H Langlois Lessons from Two Recent Wars (HMSO 1909)

von Moser The Preparation and Conduct of Tactical Rides and Tours on the Ground (HMSO 1911)

Capt Neznamov Lessons of the War [Manchuria] (HMSO 1906)

Gen Percin The Artillery at the Picardy Manoeuvres in 1910 (HMSO 1912)

Von Schell The Tactics of Field Artillery Trans 1900 (HMSO 1900)

Gen Von Schellendorff Ed Col Meckel trans Lt Col Hare for Intelligence Branch Duties of the General Staff (third edition HMSO 1895)

Gen Von Schellendorff Duties of the General Staff (Fourth Ed 1905)

Capt LZ Soloviev Actual Experiences of War (Washington War Department 1906)

Col von Spohn The Art of Command (HMSO 1913)

Anonymous Official Translations of Foreign Military Works

The Campaign of 1866 in Germany (Reprinted HMSO 1907)

Revised JHV Crowe, trans WG Nicholson Drill Regulations of the German Field Artillery 1899 (HMSO 1901)

Field Service Regulations of the German Army 1900 (HMSO 1901)

Field Service Regulations of the German Army 1908 (HMSO 1909)

German Army Field Service Regulations 1908 (HMSO 1908)

Italian Cavalry Regulations 1911 (HMSO 1912)

The Operations of Large Formations (Conduite des Grandes Unities)

* Also published in the JRUSI 1906 and thus readily available to British commentators.
(HMSO 1914)

**Other Records**

*Manchester Tactical Society Minutes etc*
The Military Societies Bibliography

The Aldershot Military Society

Lt Col EF Chapman ‘The March from Kabul to Kandahar in August and the Battle of the 1st September 1880 Mar 1881
Maj GFR Henderson ‘ Second Lecture on The American Civil War, 1861-65- A Resume of Some of the Principal Events of the War, Illustrative of the Strategy and Tactics of the Belligerents’ XXXVII Feb 1892.
Maj GFR Henderson ‘The Battle of Gettysburg’ XLIV Feb 1893.
Capt GE Benson ‘Smokeless Powder and its probable effect upon the Tactics of the Future’ Mar 1893.
Col JF Maurice ‘How Far the Lessons of the Franco-German War are now out of Date.’ LII Jan 1895.
Lt Col GS Clarke ‘Field Fortification as applied to Modern Conditions of War’ LIII Feb 1895.
Capt CE Callwell ‘Lessons to be Learnt from Small Wars Since 1870’ LIV Mar 1895.
Col L Hale ‘The Fog of War’ No LVIII Mar 1896
Maj ES May ‘Horse Artillery and Cavalry’ LXI Jan 1897.
Lt Col MHG Goldie ‘Tactical Application of Field Defences in Battles of Recent Campaigns’ LXII Mar 1897.
Col ETH Hutton ‘The German and French Military Manoeuvres of 1897’ LXVI Dec 1897.
Maj ES May ‘The Problem of the Attack’ LXIX Apr 1898
GW Steevens ‘The Downfall of Mahdism’ LXX Nov 1898
Lt Col EAH Alderson ‘The Counter-Attack’ LXXI Dec 1898.
Lt Col FB Emslie ‘The Possible Effects on Tactics of Recent Improvements in Weapons’ LXXII Feb 1899.
Lt Col FT Clayton ‘Supply of an Army in the Field’ LXXXIII Mar 1899.
‘Thoughts on Modern Fighting Methods’ LXXXIV Jan 1901.
Lt Col FN Maudie ‘Evolution of Modern Infantry Tactics’ XXVIII Jan 1904.
Lt Col WD Bird ‘Rifle Calibre Machine Gun Tactics’ LXXX Nov 1904.
W Barnes Steveni ‘The People, Army and Resources of Russia’ LXXXI Dec 1904.
Lt Col RCB Haking ‘Staff Rides’ LXXXII Jan 1905\(^2\)
Lt Col SS Long ‘Army Transport’ XXXIV Feb 1905.
Maj Gen HJ Scobell ‘Cavalry’ LXXXVII Dec 1905.
Brig Gen TD Pilcher ‘Some Considerations Connected with the Formation of Infantry in Attack and in Defence’ LXXXVIII Jan 1906.
Lt Col JAL Haldane ‘Some Lessons from the Russo-Japanese War’ LXXXIX Apr 1906.
Maj C Ross ‘The Principle of Success in War’ LXXXIX A Nov 1906
Viscount Esher ‘The Study of Modern History’ XCI Jan 1907
Brig Gen TD Pilcher ‘The Use and Abuse of Fire in the Field’ XC Jan 1907
Col JE Capper ‘Information on the Battlefield’ XCIII Feb 1907.
Col FG Stone ‘The Employment of Heavy Artillery in the Field’ XCIV Nov 1907.
Lt Col NR McMahon ‘Fire Fighting’ XCV Dec 1907.
Lt AG Taylor ‘Commended Winter Essay 1907-08’ XCVI 1908

\(^1\) Internal evidence suggests this was an AMS lecture, but it is annotated for private circulation only.
\(^2\) Not published.
Capt JW O’Dowda ‘A Summary of the Campaigns which led up to the Wilderness Campaign in 1864’ XCVII Nov 1908.
Maj CED Budworth ‘Tactical Employment of Artillery as Evolved on the Practice Ground and From the Experiences of Modern War’ XCIX Dec 1908.
Col AE Sandbach ‘The Use of Field Telegraphs in War’ CI Jan 1909.
Capt CAL Yate ‘The Manoeuvres of the Prussian Guard Corps in 1910’ CVI Nov 1910.
Brig Gen FC Heath ‘Royal Engineers in Co-operation with Other Arms’ CX Jan 1911.
Col H de B Lisle ‘Mounted Troops in Co-operation with Other Arms’ CXI Feb 1911.
Lt Col J Campbell ‘Fire Action’ CXII Mar 1911.
Lt Col EF Hall ‘Co-operation between Infantry and Artillery’ CXIV Nov 1912.
Lt Col JA Gibbon ‘Entrenchments’ CVX Jan 1913.
Lt Col GK Ansell ‘The Employment of Cavalry’ CXVI Nov 1913.

The Military Society of Ireland

Col JF Maurice ‘Theory and Practice’ (Dublin 1891).
Col JF Maurice ‘Slavish Discipline’ (Dublin 1891).
Col JF Maurice ‘The Battle of Tahkessen’ (Dublin 1892).
Col JF Maurice ‘The Artillery in 1870-1’ (Dublin 1891).
Col JS Rothwell ‘The Rochelle Expedition of 1627’ (Dublin Sibley 1893).
Capt WH James ‘Modern Strategy’ (Dublin Dollard 1894).
Capt WH James ‘The Functions of the Navy and the Army in the Maintenance of the British Empire’ (Dublin Dollard 1894).
Capt PJR Crampton ‘Developments of Field Artillery Fire’ (Dublin Dollard 1895).
Col F Cochran ‘Upper Burma from a Military Point of View’ (Dublin Dollard 1895).
Lt T Miller Maguire ‘The Eastern Questions’ (Dublin Dollard 1896).
Maj ES May ‘Cavalry and Horse Artillery’ (Dublin Dollard 1896).
PS Pilcher ‘Experiments in Flying Machines’ (Dublin Dollard 1897).
Lt Col RD (sic) Baden-Powell ‘The Campaign in Rhodesia’ (Dublin Dollard 1897).
Col T Sturmy Cave ‘The Operations of the Third German Army from 4th to 6th August 1870’ (Dublin Dollard 1898).
Capt WH James ‘What Can and what cannot be Learned from Military History’ (Dublin A Thom 1898).
Lt T Miller Maguire ‘Surprise in War, from a Military and National Point of View’ (Dublin Dollard 1898).
Lt Col H Stewart ‘The Militia, Past and Present’ (Dublin Dollard 1898).
Lt Col GFR Henderson ‘Technical Training of Infantry’ (Dublin Sibley 1899).
Brig Gen MF Rimington ‘The Horse in Recent War’ (Dublin A Thom 1904).
Maj I Banon ‘The Situation in the Far East and the Events that have led up to it’ (Dublin A Thom 1904).
Lt Col LJ Blenkinsop ‘Contagious Diseases among Animals’ (Dublin HQ Printing Office 1904).
Maj JEB Seely ‘The Private Soldier in War’ (Dublin Thom 1904).
Col WH Rycroft ‘The Desert Frontiers of Egypt’ (Dollard Dublin 1906).
Capt HT Cantan ‘Physical Training and its Advantages’ (Dublin Dollard 1906).
Lt HJN Davis ‘Scouting and the Training of Scouts in Peace’ (Dublin 1907).
Lt Col GFR Henderson ‘The Campaign in the Wilderness of Virginia’ (H Rees 1908). 3
Brig Gen ES May ‘Encounter and Counterstroke’ (Dublin HQ Printing Office 1910).
Cdr W Henderson RN ‘The Conduct of Modern Overseas Expeditions’ (Dublin Drought 1911).
Capt TAAM Cunningham ‘Training and Infantry Formations Owing to Experience Gained in recent Campaigns’ (Dublin 1911).
Brig Gen TE Capper ‘Staff Duties’ 1912.4

Transactions of the East of Scotland Tactical Society 5

‘Conference on the Reorganisation of the Army Medical Reserve and the Medical Services of the Auxiliary Forces’ Dec 1900
Capt FC Dundas ‘Some General and Tactical Lessons of the South African War’ Jan 1901

Web Articles Consulted

2. IB Copley ‘The Battle of Silkaatsnek-11 July 1900’ http://samilitaryhistory.org/vol093ic.html consulted 16/9/06.
5. ‘The Tirah Campaign Recollections of Surgeon Captain AE Masters’ http://www.queensroyalsurreys.org.uk_regt inindia/34 1.html consulted 21/9/06.
6. Capt Henry Singleton Pennell VC http://www.victoriacross.org.uk/mmpenn03.htm consulted 21/9/06.
8. JD Harris ‘The Other Vlakfontein’ http://rapidtp.com/milhist/vo/096jh.html consulted 17/9/06.
10. S Herold ‘Expeditions Against the Tribes of the North-West Frontier Province from 1847 to 1908’ http://www.antiquesatoz.comstephenherold/nwfrontc.htm consulted 6/10/06.

3 Given pre-1899 but not published then.
4 Capper Papers 2/4/4; does not survive in RUSI.
5 The transactions do not have other bibliographic details. They are available at the RUSI.
Index of Civilian, Academic and Service Magazines and Newspapers

Index of Civilian and Academic Magazines and Newspapers Consulted

Admiralty and Horse Guards Gazette 1899
The American Historical Review 1906
The Army and Navy Gazette 1896-1914
The Army Quarterly 1920-1935
Blackwood's 1897-1913
The Broad Arrow 1895-1914
The British Commission for Military History Newsletter 2004-7
The Century Magazine 1899-1901
The Contemporary Review 1897-1913
The Cornhill Magazine 1897-1913
The English Historical Review 1899-1902, 1996
The Edinburgh Review 1897-1909, 1911
The Fortnightly Review 1897-1913
Journal of Contemporary History 1978
Journal of Modern History 1979
Journal of the RUSI 1895-1914, 1974-2007
Journal of the Society for Army Historical Research 1922-2007
Journal of the United Services Institute of India 1897-1914
Macmillan's Magazine 1896-1905
Military Affairs 1965-6, 1968-70
The Monthly Review 1900-1907
National Defence 1908-1912
The National Review 1897-1913
Naval and Military Magazine 1897-99
Naval and Military Review 1900-02
Navy and Army 1897-99
The Nineteenth Century (and After) 1897-1913
The North American Review 1899-1905
The Pall Mall Magazine 1896-1902
The Quarterly Review 1898-1913
The Review of Reviews 1897-1899
The St James' Gazette 1900
Sabretache 1974
The Saturday Review 1897-1908
Scribner's Magazine 1899-1906
Scottish Life 1898
Soldiers of the Queen 1995-2006
The South African Military History Journal various dates
The Strand Magazine 1899-1902
The Sussex Shooting Magazine 1907
The Times various dates
The Times Literary Supplement 1903-1907
The United Service Gazette 1898-1912
United Service Magazine 1894-1914
Service Magazines and Papers Consulted

The Acorn 1910-1913
The Army Ordnance Corps Gazette 1906-1909
The Army Review 1912-14
The Army Service Corps Journal 1898-1913
The Army Service Corps Quarterly 1905-27
The Basilisk 1910-12
The Bengal Tiger 1895-1900
The Black Horse Gazette 1895-99, 1908-9
The Brigade of Guards Magazine 1897-1900
The British Army Review various dates
The Bugle (DLI) 1898-1902
The Bugle (KOYLI) 1900-1902
The Cavalry Journal 1906-1914
The China Dragon 1909-1914
The Dorset Regimental Journal 1912-14
The Dragon 1897-1904
The Duke of Cambridge's Own (Middlesex Regiment) Regimental News 1913-14
The Eagle 1907-1908
The Faugh-a-Ballagh 1908-1914
The Green Howards Gazette 1897-99
The Green Tiger 1904-6
Highland Light Infantry Chronicle 1897-1909
The Household Brigade Magazine 1898-1908
I'm Ninety Five 1897-8, 1900
Journal of the 37th 1st Hampshire Regiment 1903-1905
The Journal of the Leinster Regiment 1909-1911
Journal of the Royal Army Medical Corps 1903-5
KRRC Chronicle 1901-1911, 1914
The Light Bob Gazette 1896-1910
The Lilywhites Gazette 1898-9
The Maple Leaf 1896-1897
The Naval Review 1914
The Oakleaf 1899-1900
The One and All 1899-1901
The Oxfordshire LI Chronicle 1896-1914
Proceedings/Journal of the RAf 1895-1914, 1924
The Queen's Own Gazette 1897-1900
The Ranger 1909
The RE Journal 1899-1914
RE Proceedings 1899-1914
The Rifle Brigade Chronicle 1894-1914
Royal Military Academy Magazine 1900-1902
The Royal Military College Record 1912-1914
The Rousillon Gazette 1910-1911
The Snapper 1906-08
The Sprig of Shillelagh 1897-1899
The Suffolk Gazette 1899-1900
The Thistle 1904-5
The Tiger and Sphinx 1898-9
The Thin Red Line 1896-9
The Twelfth Royal Lancers Journal 1909-1912
‘XXX’ A Paper for the Men of the 1st Battalion East Lancashire Regiment 1904-10
Index of Private Papers Consulted

Lt Col Abadie (NAM)
FM Allenby LHCMA
Arnold Foster BL
Viscount Balfour BL
Col Barry NAM
Lt Barton NAM
Brig Gen Beddington LHCMA
Gen Buller NA/Devon Records Office
Lt Gen Broadwood NAM
Schoolmaster Cameron NAM (RAEC)
Maj Cecil NAM
Lt Col Clowes NAM
Maj Crum NLS
Lt Davies Cook NAM
Gen De Lisle LHCMA
Gen von Donop IWM
Brig Gen Edmonds LHCMA
Lt Gen Ellison NAM
Maj Gen Ferrier IOL
FM French IWM
Gen Gaslee NAM
Drummer Goodwin NAM
Sgt Greening NAM
FM Haig NLS
Viscount Haldane NLS
Lt Gen Hamilton-Gordon RAI
Brig Gen Howell LHCMA
Lt Gen Hutton BL
Col Jourdain NAM
Gen Kiggell LHCMA
Lt Lawrence NLS
Lt Longueville NAM
Brig Gen Maconchy NAM
Lt Col Marker BL/NAM
Gen Maxse IWM
FM Methuen Wiltshire Record Office
Gen Murray IWM
Lt Nightingale NA
Lt Gen LW Parsons RAI
Lt Col Richardson NAM
FM Roberts NAM/NA,
Pte Rollins IOL
Gen Shea LHCMA
Gen Smith-Dorrien IWM/BL
FM Alanbrooke LHCMA
Maj Gen Ardagh NA
Lt Gen Baden-Powell NAM
Gen Barrow IOL
Maj Gen Barter NAM
Capt Battine IWM
Maj Gen Beynon IOL
FM Birdwood NAM/IOL
Gen Burnett-Stuart LHCMA
Maj Gen T Capper LHCMA
Brig Gen Charteris IOL/NA/LHCMA
Pte Coles IOL
Pte (??) Davies IOL
Maj Gen Davidson NLS
Lt Gen Dening NAM
Lt Gen Dundonald SRO
Brig Gen Egerton NAM
Viscount Esher Churchill College
Lt Francis NAM
Maj Gen Fuller LHCMA
Gen Godley LHCMA
Col Grant-Duff NAM
HA Gwynne Bodleian
Lt Gen Haldane NLS
Gen Hamilton LHCMA
Maj Gen Headlam RAI
Lt Gen Hunter-Weston NAM
Maj Gen Isaacke LHCMA
Brig Gen Kempster NAM
FM Kitchener NA
Schoolmaster Leaver NAM (RAEC)
FM Lyttelton QMAWC
Col R MacLeod NAM
Maj Gen Maurice LHCMA
Brig Gen FA Maxwell NAM
FM Montgomery-Massingberd LHCMA
Brig Gen Ormsby IOL
FM Rawlinson NAM
Rifle L/Cpl IOL
FM Robertson LHCMA
Col Ross NAM
Maj G De H Smith IOL
Spencer Wilkinson NAM
Lord Sydenham (Col GS Clarke) BL
Schoolmaster Wells NAM (RAEC)
FM Wilson IWM
Maj Gen Wynne NAM

Pte Tyler NAM
FM White IOL
FM Wolseley Hove Reference Library
Index of National Archive Files

ADM 1/7733 RCWSA and the RN

AIR 1/783/204/4/532 RFC Training 1914
AIR 1/796/ 204/4/956 RFC 1913-14

CAB 1/4 General including Russo-Japanese War
CAB 17/14 Misc Notes WO Reconstruction Co
CAB 18/22 Naval and Mil Co
CAB 45/132 1914-18 History

FO 46/578 Japan/UK
FO 46/579 Japan/UK
FO 46/592 Japan/UK
FO 46/665 Summary of WO Information Russo-Japanese War

PRO/30/40/3 Ardagh Papers 1899-1901
PRO/30/40/4 Ardagh Papers
PRO 30/40/16 Ardagh Papers
PRO 30/57/17 Kitchener Papers South Africa
PRO 30/57/20 Kitchener Papers Kitchener/ Roberts Letters
PRO 30/57/25 Kitchener Papers RCWSA
PRO 30/57/28 Kitchener Papers
PRO 30/57/30 Kitchener Papers India
PRO 30/57/34 Kitchener Papers Russo-Japanese War
PRO 30/57/37 Kitchener Papers
PRO 30/71/1 Nightingale Papers

SUPP 6/534 Small Arms Co 1911
SUPP 6/654 Small Arms Co Accuracy Experiments 1903

WO 24/896 WEs
WO 24/897 WEs
WO 24/898 WEs
WO 27/490 IGF Reports 1904
WO 27/491 IGF Reports 1904-1908
WO 27/492 IGF Reports 1905
WO 27/501 Aldershot and other Trg papers
WO 27/502 Inspection Reports
WO 27/503 Aldershot Command 1904
WO 27/504 Aldershot Command 1905
WO 27/505 Misc Papers MV Brett
WO 27/506 Misc Papers MV Brett
WO 27/507 FM French visit France
WO 27/508 IGF 1904-13
WO 27/509 IGF Separate Reports 1904-5
WO 28/378 Intelligence Somaliland 1903-4
WO 28/381 Somaliland Field Force Report on Artillery
WO 32/3115 Committee Lessons of the Great War
WO 32/3116 Report of the Committee on the Lessons of the Great War
WO 32/4731 Staff Manual War
WO 32/5056 Coleridge Grove's Co Report on the Promotion and Retirement of Regimental Officers 1908
WO 32/6143 Kitchener's Report Omdurman
WO 32/6150 Report on the Allies in China
WO 32/6168 Simplification of Regulations
WO 32/6187 Promotion/Selection Procedure
WO 32/6260 Composition of a Bde of Cavalry 1901-2
WO 32/6339 Small Arms Co Report Short Rifle 1902
WO 32/6411 Grierson's Staff Diary I
WO 32/6412 Grierson's Staff Diary II
WO 32/6741 Assimilation of Home and Indian Establishments for War
WO 32/6762 Garrison Artillery Transfers to Siege Branch
WO 32/6781 Report Organization and Equipment of Cavalry
WO 32/6782 Cavalry Weapons Report
WO 32/6805 E Wood Co on REs
WO 32/6872 Flogging Military Prisons
WO 32/6923 Duties IGF
WO 32/6941 Report of the Committee on the Attachment of Staff College Students
WO 32/7000 Guns v Mortars
WO 32/7005 Scobell's Co Cavalry Swords
WO 32/7067 Machine Guns
WO 32/7069 Machine Guns for aircraft
WO 32/7075 Report of the Co on Reduction of Transport in the Field
WO 32/7078 Reorganisation Casualty Evacuation System in light Russo-Japanese War
WO 32/7084 Formation 7 Div Egypt 1908/9
WO 32/7085 Formation 7 Div Egypt 1909/10
WO 32/7887 Engagement at Colenso
WO 32/7844 South Africa papers
WO 32/7904 Court of Inquiry Uitval's Nek
WO 32/7945 RN Despatches South Africa
WO 32/7946 RN Despatch Publication South Africa
WO 32/7949 Memoranda on Action at Nooitgedacht 13/12/00
WO 32/7963 Gatacre's Reverse Stormberg
WO 32/7971 Operations leading to the Relief of Kimberley
WO 32/7979 Lt Col Dalgety's Report Wepener
WO 32/7983 Broadwood Sannah's Post
WO 32/8065 Kitchener's South African Despatches Nov 1901
WO 32/8066 Kitchener's South African Despatches Dec 1901
WO 32/8079 Methuen's Report Tweebosch
WO 32/8111 Boer Surrenders
WO 32/8684 Cavalry officers expenses 1900
WO 32/8693 GS Policy Musketry Training
WO 32/8694 Owen Co on Coast Defence Artillery
WO 32/8652 Cavalry Commissions
WO 32/8669 Report Co Deficiencies Cavalry Offrs
WO 32/8670 Report Co Deficiencies Cavalry Offrs
WO 32/8701 Increasing powers of COs
WO 32/8733 1895 Mil Prisons Report
WO 32/8734 Military Penal System
WO 32/8812 Report on Field Intelligence 29/11/00-End Hostilities
WO 32/8865 Inspection Imperial Yeomanry 1905

417
WO 32/9030 New Field Gun
WO 32/9050 Rearmament of RHA and RFA
WO 32/9051 RA Co 1909
WO 32/9060 HE Shells
WO 32/9063 TNT 1906
WO 32/9074 Accuracy Trials Rifles
WO 32/9075 The Short Rifle
WO 32/9081 SMLE India 1905
WO 32/9082 Automatic Rifles 1902-4
WO 32/9249 Grant of Battle-Honour Namur 1695 Co 1909
WO 32/18740 Replacement of Civil Staff by Soldiers in Military Prisons
WO 32/18741 Replacement of Civil Staff by Soldiers in Military Prisons
WO 32/18742 Replacement of Civil Staff by Soldiers in Military Prisons
WO 32/18743 Replacement of Civil Staff by Soldiers in Military Prisons
WO 33/132 Report Mil Mans Co 1898
WO 33/137 Report Special Co on the 1 pdr Automatic QF Gun
WO 33/137 Report Special Co on Machine Guns
WO 33/148 Correspondence on the Nile Expedition, 1898
WO 33/155 Reports of the MAs with the Spanish and United States Forces
WO 33/159 Report …Co … Proposed Alterations in the Military Prison System
WO 33/162 Report of the Committee on the Duties and Training of RE Field Units
WO 33/167 Reports of the Committee on Garrison Artillery Instruction and Training
WO 33/175 Report of the Co on Barrack Accommodation
WO 33/179 System of Training of Staff Officers in Foreign Armies
WO 33/181 Grierson Report on the German Contingent China 11/12/00
WO 33/182 Grierson Notes on the French Contingent China 1/2/01
WO 33/192 Report of Special Co on Horse and Field Artillery Equipments 1901
WO 33/194 Report of the Remount Co 1901
WO 33/195 Recommendations of the Committee directed to consider Sir Thomas Gallwey’s ‘Medical Report of the Campaign in Natal 1899-1900’
WO 33/198 South African Censorship
WO 33/211 Co on Ambulance Design
WO 33/216 Co on Transport Vehicles 1901
WO 33/228 Interim Report of the Committee on the Simplification of Regulations
WO 33/235 Report President Ordnance Co 1901
WO 33/256 Cost of Principal British Wars 1857-1899
WO 33/273 Report President Ordnance Co 1902
WO 33/280 South African Censorship
WO 33/299 Annual Report President Ordnance Committee 1903
WO 33/338 Report Special Co on Horse and Field Artillery Equipments on Special Howitzer Equipments Aug 1904
WO 33/339 1-4th Reports of the Special Co on Horse and Field Artillery Equipments
WO 33/340 5th Report by Special Co on Horse and Field Artillery
WO 33/350 Reports on the Campaign in Manchuria in 1904 by Col Waters
WO 33/362 Further Report on RGA Reorganization
WO 33/379 Final Report of the Co on Heavy Battery Equipment
WO 33/392B Reports Army Expenditure 1904-6
WO 33/425 Extracts From Diaries of Officers Attached to the Japanese Army 1906
WO 33/432 Extracts From Diaries of Officers Attached to the Japanese Army 1907
WO 33/463 Animal Experiments with Bullets 1908
WO 33/492 OB Presidents Report 1909
WO 33/504 Interim Report Co on Automatic Rifles 1910
WO 33/505 Co on Special Reserve
WO 33/506 Report of the Co on Map Reading and Field Sketching
WO 33/508 Report Co Training RE Officers
WO 33/516 Annual Personal Report President OB 1910
WO 33/569 Manual of Combined Naval and Military Operations
WO 33/571 Second Interim Report Co on Automatic Rifles 1910
WO 33/573 Expeditionary Force Tables
WO 33/576 Report of Commission on Horsing the Cavalry Division
WO 33/585 OB Report 1911
WO 33/589 Report of the Co on the Removal of the School of RH and RFA to Salisbury Plain
WO 33/590 Annual Personal Report President OB 1911
WO 33/591 Report on Aeronautical Matters in Foreign Countries for 1911
WO 33/606 Expeditionary Force Tables November 1912
WO 33/608 Mobilization Tables Eastern Command 1912
WO 33/611 Mobilization Appointments Expeditionary Force 1 Apr 1914
WO 33/612 Report of the Co on WEs
WO 33/614 Comparative Table of Artillery Equipments British and Foreign 1912
WO 33/616 Interim Report Co on WT 1913
WO 33/618 Reports on Foreign Manoeuvres 1912
WO 33/621 Interim Report Sub Co of WE Co the Present Military Organization 1913
WO 33/623 OB Report 1912
WO 33/643 Third Interim Report by the Co on Automatic Rifles 8 Jul 1913
WO 33/642 A War Book for the WO
WO 33/646 Final Report Co on WT Sep 1913
WO 33/651 Home Defence
WO 33/699 Interim Report of Major General Hickman's Siege Committee 1914
WO 33/701 Report of the Committee on Siege Artillery Material
WO 33/717 South African Post 1910
WO 33/1838 Report of the Committee on Cavalry Organisation 1904
WO 33/2747 Report on a Conference and Staff Ride ... Staff College Jan 1905
WO 33/2816 Foreign Manoeuvres 1896
WO 33/2817 Notes Trans Siberian Railway
WO 33/2818 Reports... Changes ...Foreign Armies ...1897
WO 33/2819 Foreign Manoeuvres 1898
WO 33/2820 Reports... Changes ...Foreign Armies ...1898
WO 33/2821 Foreign Manoeuvres 1899
WO 33/2822 Foreign Manoeuvres 1900
WO 33/2823 Capt JA Douglas Notes on Russian Troops in China
WO 33/2826 Visit FR Arty July 1908
WO 33/2848 Bridge recce Vaal and Orange Rivers
WO 33/2867 German Cavalry notes 1907
WO 33/2876 Working Natal Railways
WO 33/2888 Report on the Committee for Simplification of Regulations
WO 33/2894 Report Steam Transport South Africa
WO 33/2897 Report Co Punishments Active Service
WO 33/2901 Final Report Co Military Ballooning
WO 33/2907 Report of Co on Regulations for Heavy Artillery Training 1904
WO 33/2911 Report of Co Proposed Establishment Staff College India
WO 33/2913 Co on Soldiers' Consolidated Pay 1904
WO 33/2920 Report of Co Army Schools
WO 33/2943 Report of Co on Organization of Requisitioning Services in the Field
WO 33/2953 Report Co Military Punishments 1906
WO 33/2958 Interim Report of the Co on Search Lights
WO 33/2963 Command of Divisional Arty 1907
WO 33/2967 Final Report of the Co on Search Lights
WO 33/2971 Report Co on Unit Returns
WO 33/2982 Joint Report by Commandant Staff College Camberley and Captain RN
War College Naval and Military Staff Tour Carried Out April-May 1907
WO 33/2986 First Report of the Committee on Siege and Fortress Warfare
WO 33/2987 Second Report of the Committee on Siege and Fortress Warfare
WO 33/2998 RA Co Report Jan-Jun 1908
WO 33/3004 RA Co Report Jul-Dec 1908
WO 33/3007 RA Co Jan-Jun 1909
WO 33/3009 Report Army Mans 1909
WO 33/3013 RA Co Report Jul-Dec 1910
WO 33/3018 Report of Co on Requisitioning and Billeting
WO 33/3021 RA Co Jan-Jul 1911
WO 33/3024 Field Artillery Trials 1911
WO 35/56 Irish Command Mobilization file
WO 79/61 Capt Charteris ‘Relative Advantages of Offensive and Defensive Strategy’
WO 105/5 Roberts Papers South Africa
WO 105/6 Roberts Papers South Africa
WO 105/7 Roberts Papers South Africa
WO 105/8 Roberts Papers South Africa
WO 105/9 Roberts Papers South Africa
WO 105/10 Roberts Papers South Africa
WO 105/11 Roberts Papers South Africa
WO 105/12 Roberts Papers South Africa
WO 105/13 Roberts Papers South Africa
WO 105/14 Roberts Papers South Africa
WO 105/15 Roberts Papers South Africa
WO 105/16 Roberts Papers South Africa
WO 105/17 Roberts Papers South Africa
WO 105/18 Roberts Papers South Africa
WO 105/19 Roberts Papers South Africa
WO 105/20 Roberts Papers South Africa
WO 105/21 Roberts Papers South Africa
WO 105/22 Roberts Papers South Africa
WO 105/23 Roberts Papers South Africa
WO 105/24 Roberts Papers South Africa
WO 105/44 Roberts Papers South Africa
WO 105/45 Roberts Papers South Africa
WO 105/46 Roberts Papers South Africa
WO 106/38 Reports From Russo-Japanese War Observers
WO 106/39 Reports Attaches with Russian Army
WO 106/50 EF Mobilization 1905,1911
WO 106/292 Reports on the Changes in Foreign Armies 1903
WO 106/296 GS Directors Meetings 1913
WO 106/354 Memorandum on Army Organisation
WO 106/1453 Report on the Aldershot Staff Tour
WO 106/5551 Russo-Japanese War Narrative

420
WO 108/277 Extracts from Reports by OCs Units South Africa Blankets etc
WO 108/278 Extracts from Reports by OCs Units South Africa Signals Equipment etc
WO 108/280 Extracts from Reports by COs Units South Africa Clothing etc
WO 108/281 Answers to Questions from Various Branches of QMG's Department by Various Officers... South Africa
WO 108/282 Remounts
WO 108/282 RE History Chapter 1
WO 108/283 RE History Chapter 2
WO 108/284 RE History Chapter 3
WO 108/285 RE History Chapter 4
WO 108/286 RE History Chapter 5
WO 108/287 RE History Chapter 6
WO 108/288 RE History Chapter 7
WO 108/289 RE History Chapter 8
WO 108/290 RE History Chapter 9
WO 108/291 RE History Chapter 10
WO 108/292 RE History Chapter 11
WO 108/293 RE History Chapter 12
WO 108/294 RE History Chapter 13
WO 108/295 RE History Chapter 14
WO 108/296 RE History Chapter 15
WO 108/297 RE History Survey and Mapping
WO 108/299 Detailed History of the Railways South Africa
WO 108/307 Proceedings of the Army Board 1 1899-1900
WO 108/308 Proceedings of the Army Board 2 1901-1902
WO 108/326 Foreign Arms Purchases South Africa
WO 108/350 Printed Documents Pretoria 1896-1899
WO 108/351 Documents Pretoria 1899
WO 108/352 Documents Pretoria 1900
WO 108/354 Ladysmith Int Reports 1899-1900
WO 108/381 Appendices White's Despatches Ladysmith
WO 108/403 Colonial Contingents South Africa
WO 108/408 Army Orders South Africa Oct 1899-Jan 1900
WO 108/412 Defence of Kimberley RE Reports
WO 108/415 Statement of the Intelligence Division
WO 123/40 AOs 1898
WO 123/41 AOs 1899
WO 123/42 AOs 1900
WO 123/43 AOs 1901
WO 123/44 AOs 1902
WO 123/45 AOs 1903
WO 123/46 AOs 1904
WO 123/47 AOs 1905
WO 123/48 AOs 1906
WO 132/6 Buller Papers
WO 132/9 Buller Papers
WO 132/10 Buller Papers
WO 132/12 Buller Papers
WO 132/18 Buller Papers
WO 132/24 Buller Papers
WO 138/16 Buller Personal File
WO 138/23 Warren Personal File
WO 138/28 Dundonald Personal File
WO 138/31 Hutton Personal File
WO 138/37 Shaw Personal File
WO 163/9 Army Council Minutes etc 1904
WO 163/10 Army Council Minutes etc 1905
WO 163/11 Army Council Minutes etc 1906
WO 163/12 Army Council Minutes etc 1907
WO 163/13 Army Council Minutes etc 1908
WO 163/14 Army Council Minutes etc 1909
WO 163/15 Army Council Minutes etc 1910
WO 163/16 Army Council Minutes etc 1911
WO 163/17 Army Council Minutes etc 1912
WO 163/18 Army Council Minutes etc 1913
WO 163/19 Index Army Council 1914-21
WO 163/20 Army Council Minutes etc 1914
WO 242/7 Directors Meetings 1912
WO 242/8 Directors Meetings 1913
WO 279/1 Autumn Manoeuvres Hants 1891
WO 279/2 2 Div Manoeuvres 1893
WO 279/3 Report on the Cavalry Manoeuvres 1894
WO 279/4 Report on the Manoeuvres Held ....in 1898
WO 279/5 Report on the II Army Corps Staff Tour 12-17 Apr 1902
WO 276/6 Report on Staff Ride Eastern District 7-11 Jul 1902
WO 279/7 Report on the Combined Manoeuvres 1903
WO 279/8 Report on Army Manoeuvres 1904
WO 279/9 Report of a Conference and Staff Ride Jan 1906
WO 279/10 Eastern Command Report on Manoeuvres 1906
WO 279/11 Report of A Staff Ride Held by CGS in the Severn Valley 3-7 Sep 1906
WO 279/12 Report on a Siege Staff Ride Held by the Commandant of the School of Gunnery at Shoeburyness 15-19 April and 29th April-2nd May 1907
WO 279/13 Naval and Military Staff Tour April-May 1907. Joint Report of the Commandant Staff College Camberley and the Captain RN War College Portsmouth
WO 279/14 Report of a Staff Ride Held by DSD 27th May-31st May 1907
WO 279/15 Report on a Preliminary Siege Staff Ride held at Chatham 6-10 May 1907 and Subsequent Siege Operations held at Chatham July and August 1907
WO 279/16 Mounted Manoeuvres in Scotland June 1907
WO 279/17 Staff Ride held by CGS Oct 1907
WO 279/18 GS Conference 1908
WO 279/19 Eastern Command Int and Recce Course 1908
WO 279/20 Siege Staff Ride Shoeburyness 1908
WO 279/21 Aldershot Staff Tour and Manoeuvres 1908
WO 279/22 Report on a Staff Tour held by the Chief of the General Staff 26th-30th October 1908
WO 279/23 Report on a Staff Ride held in November 1908 under the Direction of Lt Gen Sir H Plumer
WO 279/24 6 Division Admin Tour Dec 1908
WO 279/25 GS Conference 1909
WO 279/27 Report on a Cavalry Staff Ride held by DSD 1-6 Mar 1909
WO 279/30 Cavalry Divisional Training 1909
WO 279/31 Report on the Army Manoeuvres 1909
WO 279/32 Report of a Staff Tour held in the Irish Command 14-17 March 1910
WO 279/34 Notes on the Staff Tour held at Salisbury under the [CIGS] 6-9 June 1910
WO 279/35 Cavalry Divisional Staff Ride
WO 279/36 Report on the Aldershot Command Staff Tour 27/6-1/7/10
WO 279/37 Report on Manoeuvres for the Training of the [RAMC] Units held in Southern Command
WO 279/38 Report by Col Ludlow on the Billeting Scheme carried out on the Cavalry Divisional Training 1910
WO 279/40 Irish Command Manoeuvres 1910
WO 279/44 Report On the Cavalry Division Staff Tour 1911
WO 279/48 Report of a Conference of General Staff Officers ... 1913
WO 279/50 Siege Operations ...20th and 42nd Companies REs June 1913
WO 279/51 Aldershot Command, GS and Admin Staff Tours 1913
WO 279/52 Report on Army Exercise 1913
WO 279/479 Instructional Tour for Officers of the 3rd West Riding Infantry Brigade 14-16 Oct 1910; also Tour held on same ground on 18 Dec 1910 for [NCOs] 5 Y&Ls.
WO 279/480 Reports of General Officers on the Physical Capacity of TF Troops ...
WO 279/481 Home Counties Division Territorial Force. Report on Senior Officers Autumn Course 1911
WO 279/496 GS Conference 1910
WO 279/498 Army Exercise 1913
WO 279/503 Notes with Regard to the Collection of Intelligence in Peace Time
WO 279/508 Scottish District Staff Ride October 1904
WO 279/509 Eastern Command Staff Tour 1905
WO 279/511 Report of a Staff Tour carried out in the Scottish Command 1905
WO 279/512 Report on a Staff Ride held in Scotland under DSD May 1906
WO 279/515 Report on the Eastern Command Intelligence and Reconnaissance Course
WO 279/516 RUSI Exercises and Training II
WO 279/517 Aldershot Command Staff Tour and Manoeuvres 1907
WO 279/524 Remarks by Lt Gen ...Douglas... on the Training of Troops in the [Southern] Command during 1909
WO 279/525 Aldershot Command 1st Cavalry Brigade Staff Tour 1910
WO 279/527 Report Inter-divisional and Command Mans 1910
WO 279/529 Col Ludlow Cavalry Billeting Exercise 1910
WO 279/530 Report on the Camps of Exercise and Manoeuvres South Africa 1910
WO 279/531 2 Cav Bde Staff Ride
WO 279/533 Aldershot Administrative Tour 1912
WO 279/534 Report on Intelligence Exercise, Army HQ India 1913
WO 279/535 4th Division Staff Exercise March 1914
WO 279/536 Report of the Veterinary Staff Exercise held at Aldershot May 1914
WO 279/537 The Hardwicke Co on the Permanent Establishment of the Mobilisation and Intelligence Division
WO 279/647 Instructions to MAs

Books on National Archive Files

Cavalry Tactics I (HMSO 1913) WO 33/629

1 A volume compiled at the RUSI of articles and exercise papers.
Cavalry Tactics II (HMSO 1913) WO 33/630
Army HQ Pretoria
Extracts from Principal Decisions on Various Subjects during the South African Campaign 10th January 1900-31st May 1902 (Johannesburg Glover & McKowen 1902) WO 108/406
The Hardwicke Co on the Permanent Establishment of the Mobilisation and Intelligence Division (1903) WO 279/537
Capt HA Lawrence The Turco-Greek War 1897 (WO 1898) WO 33/106
Military Notes on the Dutch Republics of S Africa (HMSO 1899) WO 33/154
The Russo Japanese War Selection of Reports from officers attached to the Japanese Forces I (GS WO Apr 1905) WO 33/1518
The Russo Japanese War Selection of Reports from Officers attached to the Japanese Forces II (GS WO Apr 1905) WO 33/1520
Brig Gen Capper Deductions from Accounts of Night Attacks during the Manchurian War with Examples (Simla Government Central Branch Press 1908) WO 106/180
Lessons of the Russo-Japanese War. The Intelligence Department (Simla Government Central Press 1905) WO 106/181
Capt F Culmann French and German Tendencies with Regard to the Preparation and Development of an Action (HMSO 1907) WO 106/6205
Notes on Censorship during the Russo-Japanese War compiled in the Division of the Chief of the Staff Intelligence Branch (Simla 1907) WO 106/6336
Lt Col RL Hippisley History of the Telegraph Operations during the War in South Africa 1899-1902 (HMSO 1903) WO 108/376
Regulations for Mobilization of A Field Force for Service in South Africa 1899 (HMSO 1899) WO 108/395
Report on Steam Transport in South Africa (HMSO 1903) WO 108/377
Report on Surgical Cases... South Africa War (HMSO 1905) WO 108/389
Report on the Medical Arrangements in the South Africa War (HMSO 1904) WO 108/390

Index Of India Office Files

L/MIL 3/1065 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1066 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1067 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1068 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1069 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1070 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1071 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1072 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1073 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1074 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1075 Bengal Mil Dept Letters to BR 1897:
L/MIL 3/1076 Bengal Mil Dept Letters to BR 1897
L/MIL 3/1077 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1078 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1079 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1080 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1081 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1082 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1083 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1084 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1085 Bengal Mil Dept Letters to BR 1898

425
L/MIL 3/1086 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1087 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1088 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1089 Bengal Mil Dept Letters to BR 1898
L/MIL 3/1090 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1091 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1092 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1093 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1094 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1095 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1096 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1097 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1098 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1099 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1100 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1101 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1102 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1103 Bengal Mil Dept Letters to BR 1899
L/MIL 3/1104 Bengal Mil Dept Letters to BR 1900
L/MIL 3/1105 Bengal Mil Dept Letters to BR 1900
L/MIL 3/1106 Bengal Mil Dept Letters to BR 1900
L/MIL 3/2132 Despatches from London to India 1897
L/MIL 3/2133 Despatches from London to India 1898
L/MIL 3/2134 Despatches from London to India 1899
L/MIL 3/2135 Despatches from London to India 1900
L/MIL 3/2166 Secret Despatches to India 1904-8
L/MIL 3/2167 Secret Despatches to India 1909-13
L/MIL/7/1556-1361 Mil Collection 22 Mountain Artillery
L/MIL 7/1558 Artillery Requirements
L/MIL 7/1559 Artillery Requirements
L/MIL 7/1560 Artillery Requirements
L/MIL 7/1561 Artillery Requirements
L/MIL 7/1562 Artillery Requirements
L/MIL 7/1563 Artillery Requirements
L/MIL 7/1564 Artillery Requirements
L/MIL 7/1565 Artillery Requirements
L/MIL 7/1566 Artillery Requirements
L/MIL/7/15761 Tirah
L/MIL/7/2462 Musketry
L/MIL/7/4823 Machine Guns
L/MIL/7/7470 Army Commands and Staff India
L/MIL/7/10139 Reorganisation Artillery
L/MIL/7/10838 Artillery Reports 1898-05
L/MIL/7/10839 Report by the Inspector General of Artillery in India 1904-05
L/MIL/7/10840 Bombay Artillery Reports 1900-01
L/MIL/7/11154 Heavy Field Batteries and Siege Train
L/MIL/7/12026 Small Arms and Ammunition
L/MIL/7/13466 Army Signalling in India
L/MIL/7/15140 Annual Report Inspector General Cavalry 1901-2, Annual Report Inspector General Cavalry 1902-3
L/MIL/7/15730 Tochi Correspondence
L/MIL/7/15732 Tochi Telegrammes

426
L/MIL 17/5/358 Bengal Command Orders 1900
L/MIL 17/5/359 Bengal Command Orders 1901
L/MIL 17/5/369 Punjab Command Orders 1898
L/MIL 17/5/370 Punjab Command Orders 1899
L/MIL 17/5/371 Punjab Command Orders 1900
L/MIL 17/5/372 Punjab Command Orders 1901
L/MIL 17/5/1739 Report of a Co … Military Defence of India dated 24/12/01
L/MIL 17/5/1740 Second Report of a Co … Military Defence of India dated 30/12/02
L/MIL 17/5/1807 Attock Manoeuvres 1900
L/MIL 17/5/1808 Two Cavalry Divisional Staff Rides Dec 1904 and Mar 1905
L/MIL 17/5/1810 Staff Conference Agra 1909
L/MIL 17/5/1812 Military Scheme for the Coronation Durbar Delhi December 1911
L/MIL 17/2462 Musketry
L/MIL 17/4823 Machine Guns
L/MIL 17/11154 Heavy Field Batteries and Siege Train
L/MIL 17/13466 Army Signalling in India
L/MIL 17/15730 Tochi Correspondence
L/MIL 17/15732 Tochi Telegrammes
L/MIL 17/15733 Tochi Correspondence
L/MIL 17/15734 NWF Telegrammes
L/MIL 17/15735 Tochi Operations
L/MIL 17/15738 Tochi Correspondence
L/MIL 17/15739 Tochi Correspondence
L/MIL 17/15740 Tochi Correspondence
L/MIL 17/15741 Tochi Correspondence
L/MIL 17/15742 Tochi Correspondence
L/MIL 17/15857 NWF Operations
L/MIL 17/15860 Malakand Correspondence
L/MIL 17/15862 Malakand FF Mohmand
L/MIL 17/15864 Malakand, Mohmand Telegrammes
L/MIL 17/15865 Tirah Telegrammes
L/MIL 17/15866 Malakand, Mohmand Diaries/ Correspondence
L/MIL 17/15867 Tirah
L/MIL 17/15869 NWF Operations
L/MIL 17/15870 Tirah Telegrammes
L/MIL 17/15881 Bunerwals Telegrammes Reports
L/MIL 17/15882 Court of Enquiry Saran Sar 9 Nov held Maidan 11/11/97
L/MIL 17/15883 Missing Shinkamar
L/MIL 17/15888 Buner Fd Force
L/MIL 17/15889 Plans/Sketches NWF
L/MIL 17/15893 Churchill’s Pay Rate
L/MIL 17/15894 Blood’s Buner Despatch
L/MIL 17/15894 1914 File
L/MIL 17/15896 Reports Discipline Health NWF BR and IA units
L/MIL 17/15897 Misconduct of 12 BI NWF
L/MIL 17/15899 Report Shinkamar
L/MIL 17/17086 Annual Gym Reports India 1902-1914
L/P&S/7/99 Tirah Papers

428
Publications on Indian Military Files

Annual Report 1896-97 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1897) L/MIL/7/10837
Annual Report 1897-98 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1898) L/MIL/7/10837
Annual Report 1898-1899 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1899) L/MIL/7/10837
Annual Report 1899-1900 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1900) L/MIL/7/10837
Annual Report 1900-1901 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1901) L/MIL/7/10839
Annual Report 1901-1902 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1902) L/MIL/7/10839
Annual Report 1902-03 by the Inspector General of Artillery in India (Simla Government Central Printing Office 1903) L/MIL/7/10839
Annual Report of the Royal Artillery Practice Bombay Command 1900-1901 Royal Garrison Artillery L/MIL/7/10840
Annual Report of the Royal Artillery Practice Bombay Command Horse and Field Batteries 1900-1901 L/MIL/7/10840
Conference of Staff Officers Agra Jan 1909 (Simla Government Monotype Press 1909) L/MIL/17/5/1810
Extracts from the Report by Major General LW Parsons, CB, RA Inspector General of Artillery in India for the season 1903-04 L/MIL/7/10839
General Report on the Agra Concentration Jan 1907 (Calcutta Superintendent Government Printing India 1907) L/MIL/17/5/1809
A Godley East India Military Bullet (HMSO 1899) L/MIL/7/12026
The Intelligence Department Lessons of the Russo-Japanese War (Simla 1905) L/MIL/17/20/22
Mountain Warfare (Simla Government Central Printing Office 1900) L/MIL/17/5/2204
Notes for the Guidance of Cavalry Officers by the Inspector General of Cavalry in India 1900 (Simla Government Central Printing Office 1900) L/MIL/7/15140
Brig Gen JW Ottley Report on The Engineer Operations of the Tirah Expeditionary Force 1897-8 (np nd) L/MIL/7/15911
Record of Lord Kitchener’s Administration of the Army in India 1902-1909 (Simla Government Central Branch Press 1909) L/MIL/17/5/1617
Records of the Staff College, Quetta (Simla Government Central Printing Office 1908) L/MIL/17/5/2276
Records of the Staff College, Quetta (Simla Government Central Printing Office 1911) L/MIL/17/5/2276

There are several reports on one file.
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Reprinted from Journal des Sciences Militaires (1905).
Index of Theses Consulted

Dr SD Badsey Fire and the Sword. The British Army and the Arme Blanche Controversy 1871-1921 (Cambridge 1981)
Dr WS Marble The Infantry cannot do with a gun less (KCL 1998)
Dr PA Towle The Influence of the Russo-Japanese War on British Military and Naval Thought (KCL 1973)
Dr TR Moreman “Passing It On:” The Army in India and the Development of Frontier Warfare 1849-1947 (KCL 1995)
Index of Contemporary Maps Consulted

1. Capt H Delme-Radcliffe *Key Map to Show the Positions and Advances on Ladysmith Relief Map* (Stanford 1902).
2. *Siege of Mafeking. Sketch to show the state of the defence at the time of relief.* (Intelligence Division WO August 1900).
3. *Siege of Mafeking. Sketch of typical Boer Field work employed* (Intelligence Division WO August 1900).
4. Capt H Delme-Radcliffe *Military Sketch Map to show Sir R Buller's advance from Chievely to relieve Ladysmith* (Stanford 1902).
5. Intelligence Division WO 1558 *Spion Kop and Vaalkrantz Sheets 1&2* (Southampton Ordnance Survey nd)

*All in the British Library*
Biographical Index

This Index is designed to provide context for this thesis and is not intended as an absolute record. Consequently some individuals' later careers are not covered. Figures such as Winston Churchill have only those details included that are relevant to this thesis. Manchurian MAIs are not recorded here unless they have wider significance, but their details are at Table 28. Civil honours and titles are not recorded unless, like Dundonald, they were acquired during the subject's career. Only military decorations are listed. This Index’s material is derived from *Army Lists*, the *Dictionary of National Biography* supplemented by other works in the Bibliographies.

**Lt Gen EAH Alderson** psc, com Pontius Pilate’s Bodyguard otherwise the 1st Foot from Militia 1878, Adjutant MI 1888, DAAG Aldershot 1897-99, served with MI Mashonaland 1896, MI comd South Africa 1899-1900, Brig Gen MI South Africa 1900-1901, IG MI South Africa 1901-03, Comd 2 Brigade 1903-1907, Division Commander India 1908-12, Divisional and Corps Comd 1914-15, Inspector Infantry 1916-

**FM EHH Allenby** psc, com 6 Dragoons 1882, served in unit South Africa 1899-1900, colm comd 1901-2, Cav Bde comd 1905-1909, IG Cav 1910-1914, Cav Div Comd 1914, Cav Corps then Corps Commander 1914-15, Army Comd BEF 1915-17, CinC Egypt 1917-19.

**Lt Gen EA Altham** psc, com R Scots 1876, Assistant MS and ADC GOC South Africa 1896-7, DAAG Int Army HQ 1897-99, AAG Int South Africa 1900, WO Int 1901-4, GSO 1 South Africa 1906-7, BGS South Africa 1907-8, Brig Gen Admin N Comd 1908-10, Maj Gen Admin S Comd 1911-15, IG Communications 1915-16, Acting QMG India 1917-

**LS Amery** graduate of Balliol, fellow All Souls 1897. Correspondent *Times* South Africa 1899-1900, Editor *THWSA*. MP 1911-, served Intelligence Staff France, Balkans, Gallipoli, Salonika 1914-16, Assistant Secretary to the War Cabinet 1916. Later Cabinet Minister. Interested in Army Reform and anti-Buller, thus the *THWSA* has considerable biases, but these are significant in their own right. Amery received much official help in compiling *THWSA* and serving soldiers wrote Volume VI’s technical chapters. Amery had good links with many senior officers.

**Brig Gen AW Andrew** com from NZ Rifle Vols into Devons 1886, IA Cavalry 1889, Lt Col 1912, Bde Comd 1917-

**Maj Gen JC Ardagh** psc, passed top into Woolwich from Trinity College Dublin, com REs 1839, present Franco-Prussian War, served Balkans and technical delegate Congress of Berlin, instructor SME 1882 but deployed for Egyptian War 1882, served Sudan 1884, appointed AAG WO for mobilization 1887. Private Secretary Viceroy of India 1888-1895, Commandant SME 1895-6. Director of Military Intelligence 1896-1901, the branch was the forerunner of the Directorate of Military Operations. The DMI was the forerunner of the DMO. Ardagh also served at First Hague Conference. Active in quasi-diplomatic and legal roles after retirement from the Army.

**Maj Gen GG Aston** psc, com RM 1879, served Sudan 1884, Professor Fortification RN College Greenwich 1896-9, served South Africa 1899-1900, DS Camberley 1904-7, Staff South Africa 1908-1912. Bde Comd 1914. Latter Military Correspondent *The Times*.

**Maj BFS Baden-Powell** com Scots Guards from Militia 1882, enthusiast for kites, cars and aircraft, served Sudan 1884-5. Served South Africa 1899-1902; used kites to raise a WT aerial there. Editor Army Annual. Brother of:

**Lt Gen RSS Baden-Powell** com direct into 13 Hussars 1876, served South Africa and later Ashanti 1895; the latter apparently at Wolseley’s instigation. Served Matabeleland 1896, CO Dragoon Guards 1897, introducing reconnaissance training. Present in Tirah, SSO South Africa 1899, commanded at Mafeking. Inspector South African Constabulary 1900-02,
appointed IGC 1902. TF Divisional Commander 1908-10; Led the Boy Scouts Movement. This can be seen as part of the post-South African changes. See Bibliography.

**General W Balck** German officer. Tactical authority, friend of Ellison, corresponded with him and Ian Hamilton and indirectly contributed to *IT* 1902. Senior commander German Army 1914-1918. His son Gen H Balck served as a general on the Eastern Front 1941-5.

**Gen EG Barrow** com 102nd Foot 1871, IA 1883, DAA&QMG Indian Contingent Egypt 1882, Int Staff 1884-7, AAG India 1897-9, AAG TEF 1897-98, Col on Staff and DAG India 1899-1901, Chief Staff Officer China Expedition 1900-01, Secretary Military Department 1901-03, District Commander 1904-08, Divisional Commander 1908, Army Comd India 1908-1912, Military Secretary India Department 1914-

**Capt C Battine** com 7 DG from Militia 1887. Retired before South Africa. Sometime Military Correspondent of *The Daily Telegraph*. Corresponded with Allenby during the First World War. See Bibliography.

**Maj Gen HM Bengough** psc, com 77th Foot 1855, served Crimea, Zulu War, Bde Comd Aldershot 1894-97.


**FM WR Birdwood** DSO, qs, com 12 Lancers 1885, IA 1886, Deputy Provost Marshal TEF 1897-8, SSO South Africa 1899-1900, BM South Africa 1900-2, Mil Secretary CinC South Africa 1902, Staff India 1902-09, Brigade Comd India 1909-1912, QMG India 1912, Secretary Army Department 1912-14, Comd ANZAC Corps 1914-15, CinC Mediterranean Expeditionary Force 1915-6, Australian Corps Comd 1916-18, Comd 5 Army 1918.

**I Bloch** Russian magnate and financier. His military predictions were more accurate than the soldiers, but his economic and logistical conclusions completely failed to realise that sustained attritional war was practical.

**Gen B Blood** com REs 1860. Several Frontier campaigns, Zulu War, Egypt 1882, COS Chitral Relief Force 1895, Commander Malakand Field Force, personally shot a ghazi following an attack during a truce, later commanded Buner Field Force 1897-8, divisional commander India 1898-1900, served South Africa 1901. Commander Punjab 1901-1907. Friend of Winston Churchill.

**Maj Gen JP Brabazon** qs, com 16 Lancers 1862, transferred to Guards, retired 1870, gentleman volunteer Ashanti ranked as Captain, reinstated in the Army, BM Afghanistan 1879-80, served Sudan 1884-5, Winston Churchill's CO 4th Hussars, Comd Cav Bde 1899, Cav Bde Comd South Africa 1899-1900, fell out with French in South Africa over his criticisms of the latter's morals or lack of them. Inspector Yeomanry South Africa 1900. He has been seen as typical cavalry reactionary, though his views on small arms were ahead of his time. Elecetrified the RCWSA with his advocacy of tomahawks as his preferred cavalry steel weapon, perhaps pour épater les bourgeois.

**Gen H Brackenbury** com Canadian Militia 1853, RA 1856, Served Mutiny, observed Franco-Prussian War, served Ashanti and accompanied Wolseley to Natal 1875 and 1879, Private Secretary Viceroy India 1880-881, served Ireland 1882 and Sudan 1884-5. Director Military Intelligence 1886-1891. Member Viceroy's Council 1891-1896, President Ordnance Co 1896-99 and Director Ordnance 1899-1904.

**Lt Gen RG Broadwood** psc, com 12 L 1881, served Egypt 1892-99, commanded the Egyptian Cavalry Omdurman, Cav Bde Cmd and Colm Comd South Africa 1900-1902, Colonel on Staff Natal 1902-1904, Brig Gen Orange River Colony 1904-1906. Commander troops South China 1906-10. Comd 57 Div 1916-17, KIA 1917. Buried at his own request
between a soldier and a subaltern.¹

**Mai Gen CED Budworth** com RA 1889, Adjutant HAC 1899-1904, served CIV South Africa 1900, Gunnery Instr 1904-1908, CRA 1915, Mai Gen 1916.-

**Gen R Buller** VC, com KRC 1858, served under Hawley, a noted exemplar of the principles of Shorncliffe, served Red River Rebellion, attended but did not graduate from Camberley being instead sent to Ashanti 1873, South Africa 1878-9, Egypt 1882, Sudan 1884-5, Special Commissioner Ireland 1886, QMG 1887-1890, did much to found ASC 1888, AG 1890-97, fell out with Wolseley when Buller looked likely to succeed Cambridge as CinC in 1895. Comd Aldershot 1898-9, Comd SAFF 1899-1900, after relief by Roberts Comd Natal 1900. Resumed Command Aldershot 1901, then GOC 1 Corps 1901 but dismissed following an incautious statement to the press.²

**Brig Gen JF Burn-Murdoch** psc, com 1 Dgns from Militia 1878, BM 1 Cavalry Bde Aldershot 1891-4, Egypt 1894-6, Cavalry Bde Comd South Africa 1900, served till 1902 in theatre. District Comd South Africa 1902-1906.

**Lt Gen CJ Burnett** psc, com 15th Foot 1863, served Ashanti, BM Afghan Campaign. GOC E District 1896-98, acting QMG 1898, Maj General India 1898-1903, Chief MA Japanese Forces Manchuria 1905. GOC Western District 1907-.


**Capt WE Cairnes** com Militia 1882, transferred to 3 DG 1884, then to S Staffs, then R Irish Fusiliers, Volunteer adjutant 1897-1902, wrote for *The Westminster Gazette* 1899-1901. Did not serve in South Africa. Secretary of the Akers-Douglas Co and the Remount Co, died 1902.

**Mai Gen CE Callwell** psc, com RA 1878, served 2nd Afghan War, SC Int WO 1887-1892, BM RA 1893-6, observer with Greek Army 1897, author *Small Wars*, served Natal as BC heavy bty and then mobile colm comd, wrote *Tactics of To-Day*, DAQMG Int Army HQ 1903-4, GSO 1 and Asst Director MO 1904-7, retired as Col 1909, recalled 1914, promoted and served as DMO 1914-16.

**Mai Gen T Capper** DSO, psc, com East Lancs 1882, attended Camberley 1896-7, Sudan 1898, served Natal 1899-1900 divisional staff, later commanded mobile colm, DS Camberley 1902-05, Commandant Indian Staff College 1906-11, toured Manchuria with them. Bde Comd 1911-1914, ally of Hubert Gough, GOC 7 Division 1914-15, KIA Loos.

**Col FC Carter** com 5th Fusiliers 1878, transferred to R Berks, wrote on Frontier warfare and scouts, served 2nd Afghan War and NW Frontier 1888, 1891 and NE Frontier, Lushai 1889.


**Col N Chamberlain** com Devons 1873, invented Snooker 1875, transferred IA 1876 and served on Roberts’ staff 2nd Afghan War, Private Secretary to Roberts South Africa 1900. Appointed to Royal Irish Constabulary 1901. Sacked 1914.

**Lt WS Churchill:** com 4 Hussars 1895, served Malakand and Tirah 1897-8, attached 21 Lancers Omdurman 1899, resigned 1899, war correspondent South Africa 1899, captured 1899, escaped, com SALH 1900 under Byng. Served in Natal and under Roberts, MP 1900.

**Col GS Clarke** com RE 1868, served Egypt assessing affects bombardment Alexandria and Sudan 1885, Secretary Colonial Defence Co 1885-92, Secretary Hartington Co 1889-90, Superintendent Woolwich 1894-1901, Member Dawkins Co administrative reform WO.

Governor Victoria 1901-1903, Member Esher Committee 1903-4, Secretary CID 1904-7, Governor Bombay 1907-1913, wrote for The Times, see Bibliography.

Lt Gen CF Clery psc, com 32nd Foot 1858, Camberley 1868-1870, instructor RMC 1871-75 and wrote Minor Tactics. Served Zulu War and as BM in Egypt 1882, Staff Gordon Relief Expedition, Commandant Camberley 1888-1893, served WO 1896-99, GOC 2 Division Natal 1899-1900; great reputation as a theorist till the bullets flew.

Maj Gen JT (Talbot) Coke com 21st Foot 1859, fought Canada 1866, Sudan 1888, AAG Ireland 1891-6, AAG then DAG Aldershot 1896-98, Colonel Staff Mauritius 1898-99, Bde Comd South Africa 1899-1900. Acting Divisional Commander at Spion Kop.

Lt Gen HE Colvile com Gren Gds 1870. Served Intelligence Sudan 1884-5 and further staff service Sudan 1884-5. Commissioner Uganda 1893-95, comd Bde Gibraltaar 1899 and Guards Bde South Africa 1899-1900. GOC 9 Division South Africa 1900, stellenbosched by Roberts being blamed for Sannah’s Post and Lindley disasters. Retired 1901. Killed in a motor accident with Rawlinson 1907.

Col EMS Crabbe com Coldstream Guards 1872, served Egypt 1882, Sudan 1884-5, South Africa 1899-1902.

Maj FC Crum com KRRC 1893, served South Africa 1899-1902, mainly with MI. Later MI instructor, retired prewar and became a senior leader Boy Scouts. Recalled 1914-18

Col WL Davidson com RA 1869, 1900-1901 Col on staff RA, with French for relief Kimberley, Col on staff RA NE District 1901.

Maj Gen L Dening DSO com 75th Foot 1867, Bengal Staff Corps 1871. Served 2nd Afghan War, Sudan 1896, NWF 1897-9, Bde Comd India 1902-. Judging by his papers he was keen on training as a formation commander.

Maj Gen JBB Dickson com Bengal Cavalry 1860, transferred 1 Dgns 1875 then 5 Dgns 1885, SSO Cape 1879, DAA&QMG Nile 1884-5, Comd Cav Bde Northern District 1897-99, Col Staff Straits Settlements 1899-1900, Comd 4 Cav Bde South Africa 1900.

Gen CWH Douglas qs, com 92nd Foot 1869, later Gordons, served 2nd Afghan War and marched with Roberts to Kandahar, served 1st Boer War, DAAG Suakin 1884. BM 1 Brigade 1893-1895, 1898-9 AAG Aldershot, AAG Buller’s staff. 1899-1900 Comd 9 Bde South Africa and then colm comd, 1900-01, Comd 1 Bde 1901-2, Comd 2 Division 1902-4, AG 1904-09, GOC Southern Comd 1909-12, IGHF 1912-14, succeeded French as CIGS 1914, but died.


Col FJM Edwards DSO, psc, commissioned R W Surreys 1881, IA 1883, GSO 1 India 1911-13, Bde Commander India 1913-14. Served Mohmand and Tirah 1897-8, China 1900.

3 Not shown as psc but qualified as being a OS at Camberley.
Lt Gen GF Ellison psc, com 1882 North Lancs, Camberley 1888-9, Staff Capt HQ of Army 1894-98, DAAG Aldershot 1898-9, served South Africa 1899-1900, Secretary Esher Co 1903-4. Private Secretary Haldane 1905-8, Director Organisation WO 1908-11, staff IGOF and BGS Mediterranean Command 1911-1914. MGS Central Force UK 1914-15, Staff Mediterranean Expeditionary Force 1915-16, then admin appointments UK 1916-20. Friend of Balck, worked with Henderson on drafting CTrg 1902.

Col FB Emeslie com RA 1875, BC howitzer battery Omdurman. Has been heavily and retrospectively criticised for his fire tactics there. DAAG Ordnance 1899-1901, Deputy Asst Director Ordnance 1901-3. President of the Self-Propelled Lorry Trial 1901.


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**Lt Col MH Grant** com Devons 1892, served Natal staff 1899-1900, DAAG Int SA 1900-1, DAAG Army HQ 1902-5, wrote for *BWM* as “Linesman,” later final official historian South Africa. Retired 1909, Lt Col TF.

**Lt Col FJ Graves** com 20th Hussars 1869, served Sudan 1885, AAG Imperial Yeomanry 1901. Best known for his controversy at the RUSI with Bloch.

**Lt Gen JM Grierson** psc, com RA 1878, DA&QMG Indian Contingent Egypt 1882, Camberley 1884-5, DAAG Int Army HQ 1890-1894, BM RA Aldershot 1895-6, MA Berlin 1896-1900. Bear-led the foreign MAs in South Africa, then became AAG Roberts HQ South Africa 1900, effectively as principal Operations Staff Officer. Staff Officer on Waldersee’s staff China 1900-1901. AQMG then BGS 2 Corps 1901-4, DMO 1904-1906, GOC 1 Div 1906-1910, Commander Aldershot 1910-12, GO CinC Eastern Comd 1912-1914, died on active service 1914 commanding 2 Corps. Victim of many a hard fought battle with knife and fork.

**HA Gwynne:** chief Reuter’s correspondent South Africa, later editor *Morning Post*, had many links to influential soldiers including Roberts and Kitchener. Latterly head of British Union of Fascists.

**FM D Haig** psc, com 7 Hussars 1885, ADC to IG Cav 1894-5, served Sudan 1898, BM Aldershot Cav Bde 1899, DAAG Natal 1899, DAAG Cavalry Division South Africa 1899-1900, AAG South Africa 1900-1901, Column Comd 1901-2, IG Cav India 1903-1906, DMT 1906-7, Chief of Staff and CGS India 1909-1912, GOC Aldershot 1912-14, 1 Corps Comd 1914, 1 Army Comd 1914-15, CinC BEF 1916-1918.

**Lt Gen RCB Haking** psc, com R Hampshires 1881, DAAG Cork 1898-99, DAAG South Africa 1899-1901, DS Camberley 1904-06, GSO 1 Scotland 1908-11, GSO 1 WO 1911-14, Bde Comd 1914, later divisional and Corps Comd BEF. Seen as an ineffective corps commander but his Company Training was influential.


**Col Sir Lonsdale Hale** psc⁴ com RE 1852, Garrison Instr 1870-1878, Professor of Fortification Camberley 1878-1883, Special Service South Africa 1879. Commentator and analyst, edited Haig’s *Cavalry Studies*. See Bibliography. Knighted for his contribution to military science. After his retirement was active at Staff College and RUSI.

**Gen Ian Hamilton** DSO, qs: com 12th Foot 1872, transferred Gordons. Served 1st Boer and 2nd Afghan Wars. Member Roberts’ Ring, friend of White, they were both Gordons. ADC Roberts, AAG Musketry Bengal 1890-1893, Bde Comd Tirah, possibly the first British officer to be x-rayed on operations, keen rifle shot, Comdt Hythe 1898-9, Bde Comd 1898 Mans, tactical commander Elandslaagte and defensive section Ladysmith. Later served under Roberts as comd of corps-sized formation. Corresponded with Maj Balck, British observer with Japanese Army 1904-5, GO CinC Southern Command 1905-9, AG 1909-10, GO CinC Mediterranean & IGOF 1910-1914. CinC Gallipoli; twice missed a VC, once rejected as too junior and the other too senior; see Bibliography.


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⁴ Not shown as psc but qualified as having been a DS there.
Maj Gen AF (Fitzroy) Hart psc, com 31st Foot 1864, served Ashanti, Zulu Campaign and 1st Boer War, Egypt 1882, Brigade commander Aldershot 1897-99 and Natal 1899-1900, South Africa 1901-2; legendarily brave, asked where he could be found, the common view in Natal was: ‘in no man’s land standing on a rock.’ Hart was, however, a cultured soldier who implemented prewar theories on close-order and control. Brother of RC Hart, father of Hart-Synott the Manchurian MA.

Lt Gen RC Hart VC, psc, com RE 1881, Director Mil Education India 1889-1896, Bde Comd India 1896-1901, succeeded Hamilton as bde comd Tirah, a great theoretical student of war but constantly outmanoeuvred by the Afridis. Comdt SME 1902-1905, GOC Thames and Medway Defences 1905-6, GOC and CinC SA 1907-9, 1912-

Lt Col J Haughton com 24th Foot 1871, transferred IA 1876, Russian interpreter, served as SC Int Division WO 1890-1, CO 36 Sikhs Tirah. KIA 1898 at Shinkamar in the aftermath of Tirah.’ Had not seen active service previously.

Maj Gen J Headlam com RA 1883, Instr School Gunnery 1892-1897, DAAG RA South Africa 1900-1902, Asst Director Arty Army HQ 1903-1904, AQMG HQ India 1904-1906, Staff officer then DSD and DMT India 1908-1913, CRA 5 Div 1913-1915. Highly criticised for his command of artillery at Le Cateau, regarded as opponent of Indirect Fire. Maj Gen RA 1915-1916; historian of the RA.

Maj Gen GM Heath, DSO, psc, com REs 1882, DAAG SA 1901-2, Instr SME 1902-6, GSO 1 India 1910-11, BGS SA 1912-

Col CFR Henderson com York & Lancasters 1878, Instructor RMC 1890-92 and Camberley 1892-1899. Toured US Civil War battlefields when stationed at Bermuda. Noted by Brackenbury and Wolseley, correspondent of Roberts, wrote for The Times, Director Intelligence South Africa 1900, evacuated sick after Paardeberg, involved drafting IT 1902 and CT 1902. First historian BROHSA. Died 1903.

Maj Gen HP Hickman com RA 1875, many technical and gunnery instructor’s posts. Wrote a quasi-official pamphlet on howitzer training in 1900. Served South Africa 1901-2. President of a siege committee formed in September 1914 to prepare for besieging the German Rhineland fortresses.

Maj Gen W Hill com 39th Foot 1866, transferred Bengal Staff Corps 1869, AAG Musketry India 1895-1900, served Afghan War 1878-80, NE Frontier, comd Kurram Mobile Colm during Tirah.


Col TH Holdich com REs 1862, Chief Surveyor TEF 1897-8, served Abyssinia and other NE and NW Frontier Expeditions.

Col JM Home psc com RA 1886, transferred to IA 1889, Int Staff India 1904-5, Manchuria (Russians 1904), DAAG Aldershot 1904-9, GSO 1 1914-16, AA & QMG 1916- 

Gen A Hunter DSO, com R Lancs 1874, served Egypt and Sudan 1884-1899, major general India 1899, COS SAFF 1899 but besieged in Ladysmith, Divisional Commander South Africa 1900-1, GOC Scotland 1901-3, Lt Gen and GOC Southern Army India 1903-8, Governor Gibraltar 1910-13.

Lt Gen AG Hunter-Weston DSO, psc, com REs 1884, DAAG Cavalry Division South Africa and to Lt Gen South Africa 1900-01, mobile colm comd 1901, various staff posts

1 NAM 7908-62-1 p 216.

438
1904-14, comd inf bde 1914-15, division and corps commander Gallipoli then France, nicknamed ‘Hunter-Bunter,’ viewed as a ‘dud.’

**Lt Gen HD Hutchinson** com 77th Foot 1867, transferred IA 1869 served with GR. Served Chitral 1895. Director of Mil Education India 1896-1901, sent to Tirah by White as observer and acted as Times correspondent. DSD WO 1904-1907.

**Lt Gen ETH Hutton** psc, com 60th Rifles 1867, served under Hawley, Zulu War, 1st Boer War and Egypt 1882, Sudan 1884-5, MI expert and trained MI at Aldershot 1888-92, commanded New South Wales 1893-6, Canada 1898-9, South Africa 1900. Commanded Australia 1902-4, Maj Gen Admin E Command 1905-6; served briefly as divisional commander 1914-15.

**L. James** Reuters journalist who covered Tirah, South Africa and the Russo-Japanese War, assistant editor THWSA, later TF unit CO.

**Lt Col WH James** psc, late RE author, crammer, tutored WS Churchill and JFC Fuller, lecturer and writer on military subjects.

**Gen T Kelly-Kenny** psc, com 2nd Foot 1858, served China 1860, Abyssinia 1867-8, GOC 6 Division South Africa 1899-1901, fought Dreifontein, AG 1901-1904.

**Brig Gen FJ Kempster** DSO, ADC, com 100th Foot 1875, possibly a protégé of Roberts, served Ashanti 1895-6 and made ADC to Queen, AAG Madras 1897, Divisional Commander not dismissed post-Tirah, but given a damning rating. A contemporary Indian Army saying was: ‘Well I’ll be Kempstered!’ Bde Comd 1914-18.


**Lt Gen FW Kitchener** psc, com 14th Foot 1876, served Afghanistan under Roberts, DAAG Instruction Bengal 1891-6, Special Service Sudan 1896-9, CO 2 W Yorks South Africa 1899-1900 then Bde Comd Natal, Div Comd India 1902-07. Brother of:

**FM HH Kitchener** qs com REs 1871, having visited Franco-Prussian War unofficially. Served Egypt 1886-1899, COS to Roberts 1899-1900, CinC South Africa 1900-1902, CinC India 1900-1909. Agent General Egypt 1911-14, Secretary of State War 1914-16. Probably the most inept tactician to have ever attained a British Field Marshal’s baton,7 KIA 1916. Nicknamed K of Chaos.

**Maj Gen Kitson** psc com 1st Foot 1875, transferred to KRRC 1876, Comdt RMC Kingston Canada 1896-1900 and revived it, MA Washington 1900-1902, Commandant RMC 1902-1907, Bde Comd India 1907-1909, QMG India 1909-1912, GOC Division 1912-1914.

**Lt Gen H de B de Lisle** DSO, psc, com DLI 1883, trainer of polo teams, unique in having piloted the DLI to win the India polo championship to the Cavalry’s chagrin. MI and Colm Comd South Africa 1900-1902. Transferred to the Cavalry 1906. GSO 1 2 Division 1910-1, Comd 4 Cavalry Bde 1911, 2 Cavalry Bde 1911-14, division and corps comd 1914-18.

**Gen WSA Lockhart** com IA 1858, served Abyssinia, NW Frontier, attached Dutch Army Achin various dates 1875-8, served Second Afghan War, Upper Burma, Comd Punjab Field Force 1890-5, Comd TEF 1897-8, CinC India 1898-1900.

**Col CJ Long** com RA 1870, served Afghanistan comd Egyptian Artillery 1897-1898; CRA Natal 1899 and WIA Colenso; very much criticised for his handling of artillery at Colenso. Also blamed for the armoured train fiasco which saw Churchill captured. Contrary to popular myth, Long’s guns neutralised the Boer positions at Colenso without undue casualties before firing off their ammunition. The surviving gun crews were marched off the gunline. Returns show that the casualties were not excessive.8 Afterwards served on Lines of Communication.

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7 WR 4.

8 HedPs ‘Relief of Ladysmith Folder’ ‘Extract Staff Diary’ p 2.
Gen G Luck com 15th Foot 1858, transferred to 6 Dgns 1861, IGC India 1887-1893, IGC 1893-98; formidable drillmaster of Cavalry, but seen by the critical as no better than a superior RSM. Luck, however, was more than a martinet, and to advance to doctrine, drill is probably a necessary foundation.

FM NG Lyttelton com Rifle Bde 1865, served Egypt 1882, Bde Comd Omdurman 1898 and Aldershot 1899, Brigade then Divisional Commander South Africa 1899-1902, CinC South Africa 1902-1904, CGS 1904-1908, viewed as ineffective see DNB, CinC Ireland 1908-1912.

Brig Gen JHA Macdonald: Volunteer officer, comd Forth Infantry Bde, Commandant MVC, correspondent of Wolseley, author On Tactics.


Brig Gen AR Martin com from Militia 1874 to 13th Foot, then IA 1877, 5 GR, served 2nd Afghan War, 5 NW Frontier expeditions, AAG 2 Division Tirah and given Brevet Colonelscy. DAG India 1899-1901, Assistant Military Secretary for IA at WO 1901-.

Lt Col J Masters DSO, psc served 4 GR NW Frontier 1930s. Chindit brigade BM then commander 1944, GSO 1 Indian Division Burma 1944-5, DS Camberley 1946-. Retired and became author in US.

Lt Col FN Maude, psc, late RE author, member The Organisation Society, active at the RUSI, influenced JFC Fuller. Served with volunteers

Maj Gen FB Maurice psc, com Derbyshires 1892, DS Camberley 1913 GSO2 and GSO 1 3 Division BEF 1914-15, selected to head Operations Division GHQ BEF by Robertson 1915, DMO 1916-8. Sacked following his criticisms of Lloyd George 1918, later military journalist and professor Military Studies University of London. Son of:

Maj Gen JF Maurice psc, com RA 1861, winner of Wellington prize essay 1872, served Ashanti, South Africa, Egypt 1882 and Sudan, instructor Camberley 1885-1892, member of the Wolseley Ring. Owned The USM from early 1890s until post-1900, involved National Efficiency Movement post-South Africa. Editor BROHWSA.

Gen FI Maxse qs, com R Fusiliers 1882, transferred to Coldstream Guards 1891, served Sudan and South Africa, Comd 1 Bde 1910-1914, later Division, Corps Commander and IG Training BEF 1918, later GOC Northern Command; brother of Leo Maxse owner of The National Review. Patron of Liddell-Hart. See Bibliography.

Maj Gen ES May psc com RA 1875, Instr RMA 1885-95, served with RHA, DS Camberley 1901-03, GSO1 Mil Education/Training WO 1903-07, Staff Irish Comd 1907-11, Bde Comd India 1913. Div Comd India during 1914-18. See Bibliography.

Lt Gen GF McMunn DSO, psc, qs, com RA 1888, APM South Africa 1900, GSO 2 Army HQ India 1910-12, Deputy Asst Director & Asst Director Remounts WO 1912-15, IG Comms 1916-, later an official historian of the Palestine Campaign.

FM Lord Methuen com Scots Guards 1864, saw Franco-Prussian War, served Ashanti under Evelyn Wood, nominated to Camberley but did not attend. MA Berlin 1878-1880. Served Egypt 1882. Served Bechuanaland 1884-5 as CO improvised unit but saw no combat. Did some work at Camberley under Maurice 1886. 1888 DAAG South Africa and served Rhodesia. GOC Home District 1892-1897 and much involved with Volunteers. Volunteered Tirah 1897 and saw several actions serving as censor. Divisional commander SAFF 1899-
1900. Fought Belmont, Graspan, Modder River, Magersfontein, following which he was nearly sacked. Continued to serve in South Africa until 1902. Wounded, defeated and captured at Tweebosch 1902. GOC 4 Corps 1904-5, GO CinC Eastern Command 1905-1908, GO CinC SA 1908-1912, Governor Natal 1910-12 Governor Malta 1915-19.

Lt Gen HSG Miles psc, com 101st Foot 1869, garrison instructor Aldershot 1881-87, DA&QMG Aldershot 1887-8, DA&QMG HQ Army 1893-98, AAG Aldershot 1898-9. Known irreverently as ‘Miles the soldier’ at Camberley, a pun on the Latin and his lack of war service. Commandant Camberley 1898-99, AAG Corps South Africa 1899, Chief Staff Officer Buller Natal 1900. Sending the Commandant of the Staff College on operations as an AAG suggests that Camberley was not respected. Returned to Camberley 1900-1903, Maj Gen South Africa 1903-1904, Director of Recruiting and Organisation 1904-1908, QMG 1908-.

Lt T Miller Maguire Barrister, military crammer, military lecturer, though he had difficulties sticking to his subject, author see Bibliography. Volunteer officer. Well regarded by some soldiers.

Lt Col AF Mockler-Ferryman com 1876, 43rd Foot 1877, editor OX LIC, friend of Verner and did Peninsular Battlefield tour with him. Served RMC 1892-1900.


FM AA Montgomery-(Massingberd) psc com RA 1891, student at Camberley 1905-6, later DS Quetta and Camberley. Served under Rawlinson for most of war as a staff officer rising to MGS. CIGS 1933-36.

FM Nicholson qs com RE 1865, Mil Secretary CinC India 1890-1892, Member Roberts Ring, COS TEF 1897-1898, AG India 1898-1899, Military Secretary to Roberts South Africa 1899-1900, Director Transport South Africa 1900, Director Mobilisation and Intelligence Army HQ 1901-1904, removed after Esher Co. Senior MA Manchuria 1904-1905, QMG 1905-1908, CGS/CIGS 1908-1912. Nicholson did not get on with Ian Hamilton in Manchuria despite the fact that both had been members of the Roberts Ring.

Maj SL Norris RE, com RE 1878, served Egypt 1882.


Maj Gen TD Pilcher psc, com 22 Foot 1879, early advocate of Indirect Fire, DAAG Dublin 1895-1897, West African Field Force 1897-9, Special Service South Africa 1899-1900, MI and column comd 1900-1902 South Africa, Bde Comd Aldershot Corps 1904-1907, Bde Comd India 1907-1911, Div Comd India Jan 1911. Divisional Commander 1914-18

Brig Gen FH Plowden com 43rd Foot 1872, CO OXLI Tirah, WIA, Comd Bde Attock Mans 1900, no active service pre-1897. Brigade Comd India 1902-.

Lt Col AWA Pollock: com Somerset LI from Militia 1875, served South Africa 1878-9, Sudan 1885, Times Correspondent South Africa 1899-1900, author and contributor to military journals. Recalled to instruct at RMC during South African War, Editor USM 1901, Bde Commander 1914-18.

Col TC Porter com 6 Dgons 1872, Cav Bde Comd South Africa 1900-01.

FM HS Rawlinson psc com KRRC 1884, transferred to Coldstream Gds 1892, BM Aldershot 1895-8, served Sudan staff 1898, DAAG and AAG South Africa 1899-1902, AAG Directorate Mil Education 1903, Commandant Camberley 1903-1906, toured Manchuria and Japan, comd

2 Bde Aldershot 1907-9 GOC 3 Division 1910-1914, divisional, comd corps 1914-5 and Army Commander 1915-1918, Representative Supreme Allied Council 1918, Army Comd 1918-19, later CinC India. Protégé of Roberts.


Lt Col CaC Repington 12 psc: com Rifle Brigade 1878, served Afghanistan 1879, Burma, Int Div under Brackenbury, Sudan 1898, MA Belgium and Holland, DAAG South Africa, retired from the Army following a scandal, Military Correspondent The Times until 1918, involved with THWSA, he aided Amery select the writers of the specialist monographs in Part II of Volume VI,13 later wrote for Morning Post then Daily Telegraph. Inveterate enemy of Henry Wilson. See Bibliography.


FM FS Roberts VC, com Bengal Artillery 1851, later Bengal Horse Artillery, served Mutiny, served QMG Staff India 1859, served NW Frontier, transferred to RA 1861, commanded Kurram Column 1878, captured Kabul 1879, relieved Kandahar 1880, served South Africa 1881, CinC Madras 1881-1885, CinC India 1885-1893, CinC Ireland 1895-1899, CinC South Africa 1899-1900, CinC 1900-1904. Later served on the CID. ‘England’s only other soldier.’

FM W Robertson DSO, psc, 10 years soldier service, comm 3 Dgns 1891, IA Int 1892-1896, DSO Chitral 1895, Int Army HQ 1899-1900, DAAG Roberts’ HQ South Africa 1900, Army HQ 1901-1907, AQMG Aldershot 1907-1910, Commandant Camberley 1910-1913, DMT 1913-1914, QMG BEF 1914-15, later COS BEF, then CIGS 1916-18.

Brig Gen EH Rodwell psc, com 70th Foot 1878, transferred IA 1880, served 1st Punjabis, DAAG Instr India 1897-1901, GSO 1 Army HQ India, Bde Comd 1910-, served NWF 1878-9, 1881, 1894-5. See Bibliography.

Maj Gen C Ross DSO, psc, com R Norfolks from Militia 1884, Div sigs offr SA 1900, DAAG Int SA 1900-02, RMC 1904-8, GSO 2 Camberley 1908-14.

Maj LJ Shadwell psc, com from Militia to East Surreys then Suffolks 1882, DAAG Instruction India 1895-1902, PM and special correspondent in Tirah. See Bibliography.

Gen Smith-Dorrien DSO, psc, com 95th Foot 1876, served Zulu War, Sudan 1885-6 and 1898, Tirah where he commanded several raids, CO unit and Bde Comd South Africa 1899-1901, AG India 1901-1903, Divisional Commander India 1903-1907, Commander Aldershot 1907-1912, CinC Southern Command 1912-1914, GOC 2 Corps 1914. Comd 2 Army BEF 1914-15, fell out with French, sacked 1915, Robertson broke the news to him thus: ‘you’re for Orance.’ Later CinC East Africa.

Maj Gen ED Swinton DSO, com RE 1888, instructor SME 1896-9, served South Africa 1899-1902 as adjutant and then CO engineer unit, edited British Official History Russo-Japanese War. Secretary of the Wood Co on REs 1906. Member The Organisation Society.15 Later official correspondent 1914-5, involved with tank development and CID.

Maj Gen AW Thorneycroft com 21st Foot from Militia 1879, then RS Fusiliers, rode 20 stone, Army racquets champion, machinegun enthusiast. DAAG Natal 1899, then raised and commanded Thorneycroft’s MI. He spent some £ 1200 equipping this unit, presenting it with

12 Often referred to by his previous surname of A Court.
13 Ed LS Amery THWSA VI (1909), pp vi, viii.
14 WO 32/6782 Rimington Memorandum ‘The Arms of the Cavalry.’
15 The Organisation Society Constitution and Rules p 12.
2 machineguns. Appointed to command on Spion Kop at Buller's suggestion. Commanded mobile colm and later a group of colms 1900-02. AAG 7 Division 1902-05, Brigade Commander 1905-09, Later a TF Divisional Commander 1911-

**Maj Gen HF Thuillier** com RE 1887, Bde Comd 1915-16, Special Appointment 1916-17, Ministry Munitions 1917-

**Maj Gen J Vaughan**, DSO, psc. Com 7th Hussars 1891. Did his staff college exam in polo kit, an event of such frequency that one suspects it was de rigueur for the cavalry bloods. Served in South Africa as a staff officer under French and then as a BM of a brigade. Fell out with Scobell in 1904 and resigned as his BM over the latter's inattention to detail and training. Commandant of Cavalry School 1911-14 and thus had the shadow post of GSO 1 of the Cavalry Division. His performance in 1914 has been severely criticised. Though it is possible to suggest that Vaughan's personal priority was pig-sticking, he was keen on training and competent staff officer who faced a hard task coordinating unruly brigadiers with inadequate communications. Promoted to command first a cavalry brigade 1914 and then a cavalry division.

**Col W Verner** psc, com from Militia 1873 to 18th Foot, RB 1874, Editor RBC, DAAG Instr 1885-1892, RMC Instr 1896-1899, DAAG Topography South Africa and SO under Methuen in South Africa 1899; invalided after his horse rolled on him after Graspan. Historian of the RB. Friend of Henderson and Mockler-Ferryman. Did several battlefield tours.

**Brig Gen B Vincent** psc, com RA 1891, served South Africa BM, Observer Manchuria (Japan) 1904-5, transferred to 6 Dragoons 1908, DS Quetta 1910-11 but dismissed probably for health reasons, he suffered from 'gunner ear.' Later toured Manchuria with Barrow. Served as a senior staff officer 1914-18 and is unique in being praised by Fuller who served under him. Later Bde Comd.

**Col H Vincent** MP and volunteer officer, prominent at RUSI.

**Col BR Ward** com REs. 1882, Instr RMA 1897-1900, Instr SME Member of the Efficiency Movement.

**Gen C Warren** attended Sandhurst and passed exam for Woolwich while there. Com REs 1857, served Palestine, South Africa 1876-80, Bechuanaland 1884-1885, Sudan 1886, Commissioner Metropolitan Police 1886-88, criticised for his failure to arrest Jack the Ripper and for insisting on muzzling dogs. Commander Straits Settlements 1889-1894, fell out with the Governor, GOC Thames District 1895-1898, commanded division in 1895 Manoeuvres. GOC 5 Division SAFF 1899-1900, his force attacked Spion Kop, Military Governor North Cape 1900, held dormant commission to take over as CinC if Buller was incapacitated. Had a reputation for being difficult, allegedly put Churchill in arrest at Spion Kop, summarised in a contemporary jingle.

Now Buller devised an unworkable plan,
That he handed to Warren an obstinate man,


**FM AP Wavell** MC, psc: com BW 1900, served South Africa, att Russian Army and interpreter, involved with *British Official History Manchuria*. GSO 3 WO 1912-14, GSO 2 HQ BEF 1914, WIA as BM 1915, Later commanded an experimental infantry brigade, Division, Palestine, Southern Command, CinC Army Middle East, CinC India, Viceroy.

Formidable record as trainer of troops.

**FM GS White** VC, com 27th Foot 1853, transferred to Gordons, served Afghanistan 1879, won VC, member Roberts Ring, friend of Ian Hamilton, they were both Gordons, served
Egypt 1884-5, Bde Comd Burma 1885-9, CinC India 1893-1898, QMG 1898-99, Comd Natal 1899-1900, besieged Ladysmith, Governor Gibraltar 1900-1904.

Lt Col CH (Holmes) Wilson 16 com RA 1890, CO TF Field Artillery unit 1911-, served Natal 1899-1900. Prolific if not particularly profound writer on artillery.

FM HH Wilson DSO, psc, com from Militia to Rifle Bde 1884, Int Army HQ 1895-7, BM Aldershot 1897-1899, BM Lyttelton’s Bde Natal 1899-1900, Staff Roberts’ HQ 1900, HQ of Army 1901-2, DAAG then AAG Training DME and GSO 1 Directorate of SD WO 1903-1906, Commandant Camberley 1907-1910, DMO 1910-1914, Sub Chief GS BEF 1914, GOC 4 Corps, and several liaison posts, CIGS 1918-1922, MP 1922, assassinated. Developed links with Foch during his time at Camberley. Rival of Rawlinson, enemy of Repington, protégée of Roberts. Regarded as a politician and too slippery by half; involved in the Curragh Incident.

HW Wilson: commentator and author on military and naval matters.

FM GJ Wolseley com 12th Foot 1852, served Crimea, Mutiny, China, Canada and visited US Civil War, led Red River Expedition 1870, Ashanti 1873-4 where he formed the Ring, served South Africa 1875, Cyprus 1878-9, South Africa 1879, QMG 1880-82, AG 1882-1890, interrupted by service in Egypt 1882 and the Sudan 1884-5, Irish Command 1890-1895, CinC Army 1895-1900. Rival of Roberts, probably distrusted Buller from 1895 when the latter looked as if he would be the next CinC. ‘England’s only soldier.’

FM HE Wood VC, psc, served in Crimea with RN, transferred to Army and com 13 Light Dragoons 1855, served Mutiny, Ashanti, called to the Bar 1874, served South Africa 1878-79, served 1st Boer War, Egypt 1882, Sirdar Egyptian Army 1882-5, Commander Colchester then Aldershot 1886-93, QMG 1893-97, AG 1897-1901, Commander 2 Corps 1901-1904. See Bibliography.

Maj Gen E Wood com REs 1864. CRE Malta 1894-99, CRE South Africa 1899-1902. Viewed as lacking ability by Roberts.
Glossary of Terms

This thesis contains a number of technical military terms; this Glossary explains the most important.

A: this describes either the AG's staff branch which dealt with personnel matters or the issues themselves such as discipline, manning etc. Formally the A staff were established with the G or General Staff.

Animalmastership: the care of beasts to ensure their military effectiveness.

Appreciation: an estimate, based on logical analysis, of the best course of action in a given situation. Appreciations were introduced to the British Army before 1914.¹

Artillery Superiority: there are two dimensions to be considered in assessing artillery superiority. The first is the absolute scale of attack in terms of weight of shells fired into a given area. For example had the British had one piece in South Africa and the Boers none, though their ratio of superiority relative to the Boer artillery would have been infinite, it would have been immaterial due to the country's vast area. This probably explains Lanchester's surprising claim that artillery was ineffective in South Africa due to the open terrain there. In fact open terrain favours long-range weapons as their fire and observation is unobstructed. Artillery is at a tactical disadvantage in jungle or urban warfare. The relationship between weight of attack and area is significant as it affects neutralisation and destruction of defences and defenders. Artillery in and just after this thesis' period was undergoing a profound switch. Until the introduction of Indirect Fire, artillery fired to hit. But when this was introduced the effect of weight of fire became more important as hitting a point target became much harder and therefore areas known or suspected to hold enemy increasingly became targets. This may explain Lanchester's comment. ² The ratio between pieces on either side is important for CB where tactical conditions are equivalent. But, as Roberts emphasised when recommending dispersion of batteries, tactical conditions were changing.³ The introduction of smokeless ammunition made locating pieces even firing Direct hard. It is also possible to suggest that this ratio was becoming less important as Indirect Fire was adopted. Using the latter required skill, thus crude superiority was less important. However, in some situations it is possible to blanket areas with Indirect CB fire.

Artillery Formation: an arrangement of small columns in a chequered formation designed to reduce casualties from shrapnel by making ranging difficult, while ensuring that dispersal was maintained. It was introduced after 1905 and was probably inspired by MA reports from Manchuria.

Attrition:⁴ the defeat of an enemy by firepower at primarily the tactical level. In attritional land warfare combat tends to be more positional than in manoeuvre and is generally slower in tempo. Casualties over sustained periods of attrition are likely to be greater than in manoeuvre combat. The latter is not, however, cheap, when the forces are matched. But many manoeuvre battles there have been wide disparities of both skill and casualties between the victor and vanquished. In COMPASS and in SICHELSNITT, the winning side had substantial advantages in mobility, in command, in tactics and arguably in technology. In many manoeuvre battles the manoeuvre force has been

¹ Maj Cadell 'On Writing an Appreciation of a Military Situation' PRAIs XXXI (1904-5). However, though this is the first guidance on writing them, they were probably taught at Camberley before.
³ RPs 7101-23-124-3 F646 21/11/02; Chapter 4.
inferior in overall numbers. This was the case in both the operations cited. Numbers were more event in the latter but the Germans were a monolithic force fighting a multilingual coalition, there was an element of practical numerical parity.

**Battle Procedure**: a system whereby concurrent activity allows time to be used to best effect. A simple method is to let commanders move ahead of their units. This allows time for prior reconnaissance. One of the advantages of Double Companies was that their OCs were mounted and thus capable of reconnoitring ahead of the main body of their sub unit. The same argument was made for authorising machinegun officers to be mounted.

**British**: this thesis uses British to represent all forces of the Empire. The exception is in Chapter 2 where distinguishing between British and Indian troops is important; here Imperial is used when a collective description is needed. This thesis follows the practice of many contemporaries from Australia, Canada, New Zealand etc.

**Carbine**: a shorter ranged, lower velocity firearm with an inferior performance to a rifle. Carbines were carried mainly by cavalry, thus putting them at a disadvantage to infantry when fighting dismounted.

**Converging Fire**: tactically such fire is more likely to enfilade the target (T) and it concentrates the firepower of dispersed weapons. Longer-ranges made converging fire more effective. Return fire from T diverges and is thus disadvantageous. Spion Kop demonstrated converging fire's effectiveness.

![Figure 1 To Show Converging Fire](image)

Fire converging from A, B & C is more effective than T to ABC, this scatters and there is less chance of enfilade effect.

**Covering Fire**: fire designed to cover friendly movement or other exposure. Covering fire is a basic tactical principle established in the period. It will not necessarily inflict casualties unless the enemy are forced to expose themselves ie by infantry advancing. Fire unsynchronised with movement wastes ammunition as the enemy quite simply ducks into their trenches and may prejudice surprise. This occurred in several battles in 1899-1900. 'If not cover from fire, then cover by fire.'

**CRE**: the position of the CRE before and during South Africa was difficult. He was treated as purely a technical adviser. This made it harder for him to coordinate engineer operations with other activity.

**Dead Ground**: ground into which observation or aimed flat-trajectory fire is impossible. 'Dead ground, live soldiers.' In Figure 7 there is a considerable area of dead ground at the foot of the kopje. But artillery can fire into dead ground using Indirect Fire providing its trajectories permit.

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6 Lt Col Bethell *Modern Guns and Gunnery* (1907), p 176.
7 Chapter 4.
8 *Tactical maxims* Lt Col, later General W Walker Burma 1944 cited in *A Child at Arms*.
9 *Ibid*.
**Deliberate Method:** the use of ground and cover by artillery to reach a gun position with minimum exposure and with less emphasis on speed than in the Direct. The former method gained importance in South Africa as detecting guns firing smokeless ammunition, even when using Direct Fire, was hard. Pre-1899 the RA put great emphasis on dashing movement into action, sacrificing concealment for speed, using the Direct Method.  

**Depth:** in attack depth of formation facilitates manoeuvre as problems of controlling movement in a linear formation, illustrated at Outflanking below, are avoided. A shallow formation, A-B, is more or less committed when meeting the enemy at C-D. A deeper formation, E-F, at worst is likely to only have troops at E pinned down, leaving the main body, F, free to manoeuvre. Theoretically F’s columnar formation may facilitate this. If troops at E can take fire positions along A-B their fire may pin the enemy and prevent them reacting to outflanking moves to G or H. In defence depth allows the defender time to react and enables him to surprise the attackers who encounter troops whose existence ground based-reconnaissance has been unable to detect.

![Diagram showing depth in manoeuvre](image)

**Destruction:** far more artillery ammunition is necessary to destroy rather than to neutralise defenders and defences. Typically heavier weapons are needed if destruction is to be effected speedily.  

**Detached Duties:** patrols, pickets, outposts, scouting, reconnaissance and similar tactical tasks which, by virtue of their widely dispersed nature, demanded subordinate initiative. In shock action cavalry were concentrated and less initiative was needed.

**Direct Fire:** the layer can see the target through his weapon sight. Till after South Africa most guns were designed for Direct Fire by virtue of their relatively flat trajectories and fixed ammunition which was predominantly shrapnel in the major European armies. Traditional tactics massed guns firing over open sights in long lines to obtain concentration of fire by the firing pieces’ physical proximity. Theoretically C’s may be easier, but passing orders down a line of weapons which are firing and probably...
under attack themselves is challenging. There is also the question of target indication to every individual gunlayer. When targets are at greater ranges, target indication is hard when firing Direct. Firing Indirect the target is simply a bearing and elevation, thus physically designating the target to individual gunlayers is unnecessary.

**Director**: an instrument designed to provide angles of fire to artillery pieces firing Indirect.

**Double Company**: until just before 1914, British battalions were divided into 8 small rifle companies, usually commanded by a captain. This was argued to have benefits in small wars by ensuring that there were many sub units and thus increasing tactical articulation. The drawback was that their commanders were relatively junior and in peacetime their OCs' initiative was restricted. Furthermore in Britain company strengths were so small, sometimes as little as 20-30 men, that realistic training was impossible in peacetime. By doubling the size of the company this disadvantage was partly overcome. As the double company commanders were somewhat more senior, usually majors, they were more likely to be allowed initiative. Another advantage was that the career pattern was improved and the gap between becoming a company commander and CO was less. Organisationally the companies were stronger with a 2ic, CSM and CQMS. Furthermore command was eased as the CO had only to deal with 4 and not 8 OCs. Double company organisation facilitated battle procedure. Double companies were adopted in the Indian Army first, but they were often used in training in Britain from 1902.

**Drift**: South African for a ford. Usually drifts formed bottlenecks for vehicles as their approaches were often steep and narrow. This made it necessary for engineers to start work on them as soon as possible.

**Enfilade**: the tactical maxim is: 'enfilade fire from defilade positions.' In the Figure 3 A is defiladed from D. This maximises protection from enemy covering fire. In turn A enfilades enemy troops at B-C. It is particularly effective when machineguns are used as their cone of fire may cover right down the line B-C.

*Figure 3 To Illustrate Enfilade

A weapon at A enfilades troops lined BC. When a machine gun is used casualties will be substantial. Most effective is when A is defiladed from supporting troops for example at D who cannot give covering fire.

Longer ranged weapons increases the effect as there are more positions from which defences can be enfiladed.

**Extension**: either the distance between elements of a force or troops or the act of deploying, typically from marching to fighting formations. Generally armies manoeuvre in column and fight in line. The transition is critical, as premature deployment causes delay, while late deployment is lethal. In tactical extension between individuals hard and fast rules are impossible to prescribe definitively. Generally a more extended formation allows ground to be used for cover more effectively than a close formation. But at night or in very dense cover the latter may be necessary and in some cases a close formation may enable ground to be used more effectively. Generally when a close formation is

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13 RCWSA Report (1903), p 56 outlines the organisational benefits and describes the RA's system.

14 Maj Gen Maurice BROHSA (1906), Glossary for all South African topographical words.

15 WO 1 (RSM) J Davey 15/10/70.

16 Maj Gen Swinton The Defence of Duffer's Drift (Debra Dun nd), pp 40-1.
used, subordinates have no need to decide how best to use ground and little initiative. It is a perennial feature of poorly trained troops that they find difficulty in fighting in extended formations. This is true of New Army units on the Somme, German students in the _Kindermord_ or Russian conscripts in Manchuria in 1904-5 or in 1941.

**False Front:** a deployment of troops in a position forward of the main defensive line designed to deceive the enemy and make him waste time and ammunition in assaulting a position from which the defender has withdrawn. The overall effect is similar to putting one's foot on a non-existent step. Smokeless ammunition naturally made using false fronts easier.

**Field:** a term used to distinguish between weapons used in field combat and those deployed in siege warfare.

**Field Artillery:** a generic term for artillery that usually supported Infantry or Cavalry ie the RHA and RFA. The 4.7", 5" and 60 Pounder Gun batteries were heavy artillery manned by the RGA, generally used for formation tasks. Horse artillery, the RHA or RFA are referred to specifically when the distinction is important.

**Fieldcraft:** the use of ground, extension, cover and concealment for protection and surprise to enable unscathed movement or fire. Fieldcraft blends into low-level tactics. Smokeless ammunition made fieldcraft much easier. It is important to note that movement makes objects significantly easier to detect. When static objects are exposed at a distance frequently they cannot be detected. The general effect of smokeless ammunition and long ranges was to aid the defence and to increase the importance of initiative.

**Field Firing:** this involves the combination of fieldcraft and shooting in a simple tactical setting. Such field firing takes place on a range representing real country, or even in countryside cleared specially for firing. This is unlike less advanced shooting which uses a gallery or equivalent range.

**Figure of Merit:** an average, usually applied to annual range firing. Because the Figure of Merit was published Army-wide and performance reflected on the unit, artificialities were encouraged. This particularly applied to shooting.

**Fire and Manoeuvre:** the close integration of fire and movement to execute a plan.

**Firing over Cover:** as Figure 4 shows, firing over cover (A) is far more visible than firing round it as in (B). The firer is also better protected. Similarly anyone standing on a skyline is far more exposed.

![Figure 4](image-url)

**Figure 4** Firing round or over cover. In A the firer's head and shoulders are silhouetted over the top of cover. In B there is more protection and less visibility.
**Fixed Ammunition**: used of artillery, this consists of projectile and propellant fixed into a metallic cartridge case like a small arms round. Fixed ammunition, combined with QF weapons, resulted in faster firing. There was, however, a drawback the trajectory could not be adjusted by altering the power of the propellant charge. The only way to adjust the trajectory was via the piece’s elevation. In consequence it was much more difficult to engage defiladed targets, a prime requirement of Indirect Fire, with fixed ammunition-firing pieces.

**Flat-Trajectory Fire**: on the whole the higher the muzzle velocity the flatter the trajectory and the greater the range. As can be seen from Figure 11 many targets are best engaged by flat trajectory fire and the flatter the fire the less important estimating the correct range is. But due to accidents of ground etc, flat trajectory fire is rarely useful over extended distances. Newtonian physics suggests that as muzzle velocities rise calibres and projectile weights tend to drop if recoil is to be minimised. This is true of small arms, but artillery which can minimise recoil, is not so constrained. For the tactical effects see Plunging Fire.

**Forage**: logistically forage is inconvenient compared to petrol. It is bulky, and bulk is often a more critical logistic dimension than weight. It decays, suffers from exposure to water, vermin eat it and it has a lower calorific value. Handling forage is often inconvenient. A realistic horse ration is some 12-22 lbs per day. It can be seen from Table 42 that far more forage was imported into South Africa than artillery ammunition. One of the great advantages of oxen in South Africa was that they could live by grazing and thus did not require forage to be carried for them. But they moved slowly in consequence.

**Formation**: the physical deployment of troops in a tactical formation on the ground. Secondly a brigade, division, corps or army formed of units and sub-units of more than one branch of the Army. Military theory emphasises that formations should not be unnecessarily disrupted. For French and German Infantry divisions in 1914, organised in two brigades, this meant that to generate a formation reserve, either a complete brigade had to be allocated, wasting combat power as 50% of the division was thus committed or a brigade had to be split. Reliance on an over-large formation means either that these have to be divided, straining C3, as occurred in South Africa with the Army Corps, or that routes are choked. This happened in Tirah due to the use of divisions. Similarly it is necessary to ensure that formations have the right proportion of arms within them. A weakness of the British Infantry division before 1899 was that it had only one artillery unit to support 2 brigades of Infantry. This meant that if both brigades were to be supported the gunner unit had to be broken down impairing its performance. Similarly howitzer brigade divisions were broken down in South Africa and Hamilton-Gordon’s battery was split at times. This impaired effectiveness as there were insufficient signallers, while unit commanders and BCs were unable to provide the specialist advice to ensure howitzers’ effectiveness.

**Frontal and Flanking Attack**: in general flanking are preferable to frontal attacks for the reasons advanced under Manoeuvre below. But the movement needed to reach a flanking position means delay. Furthermore there comes a point at which even most flanking attacks become frontal as the enemy retains his ability to switch troops on internal lines. There is also the very real need to break through an enemy line of defence to allow for subsequent outflanking and exploitation. The Army’s greater stress on frontal assault after Manchuria may paradoxically have benefited manoeuvre as with greater emphasis on frontal attacks when an outflanking force encounters resistance an

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17 DOAE *Engagement Ranges Western Europe (West Byfleet nd)* states that in Western Europe in only 5% of terrain is it possible to see over 4000 metres.
immediate frontal attack maintains momentum and tempo better than further outflanking.

Figure 5. Breakthrough and Exploitation.

**Frontier:** for this thesis there is only one Frontier, the NW.

**G:** this describes the G or General Staff Branch, concerned with operations. Though the G Branch was superior and coordinated that activities of A and Q in practical terms: ‘G proposes, Q disposes.’ Ultimately operations depend on logistics.

**Gun:** a flat-trajectory, high-velocity artillery piece, optimised for shrapnel, long-range or Direct Fire. However, many use the term incorrectly as a generic description for all artillery weapons. When the generic term is required this thesis uses piece, rather than the anachronistic ‘barrel’ or the ugly ‘tube.’ As can be see in Figure 6 below, when the arrival of an HE round is at a relatively shallow angle (A), typical of guns, many splinters go harmlessly into the air or earth and this is on the assumption, invalid till the development of sensitive fuzing, that detonation is at impact. HE is more effective at (B), but such angles are more typical of mortar and howitzer trajectories.

Figure 6 Gun angle of impact (A) and Howitzer (B); B is exaggerated but makes the point. Fire in Case B is more likely to inflict casualties as the splinters are better distributed.

**Heavy:** this thesis uses heavy in relation to artillery pieces in the same way that contemporaries writing during the period of this thesis did. Heavy artillery in the period encompassed everything greater than field artillery. There is a shade of difference in

19 Col Lee *Introduction to Battlefield Weapons Systems and Technology* (1985), pp 61-2 & Figure 5 suggests that the steeper the descent trajectory the better the fragment distribution.
20 Goad and Halsey *Ammunition* pp 29, 36.
heavy fieldguns. Contemporaries saw these as implying guns firing shells of 25 lbs weight. There was debate after South Africa when some gunners argued that the 18 Pounder had sacrificed firepower for mobility.21

**Holding Attack**: an attack designed to hold the enemy in position or prevent him taking other action. Generally troops would not make a final assault and the aim was not to suffer undue casualties.

**Howitzer**: a lower velocity weapon with a more curved trajectory than a gun and thus more suited to Indirect Fire and searching into cover or dead ground. Typically its elevation is much greater and it is designed to engage targets behind cover, see Figure 7 unlike guns. Howitzers are more suited to firing HE shells as the steeper angle of descent maximises the shells' efficiency.22 Howitzers used variable charges unlike many guns in the period, which used fixed ammunition, and therefore were better suited to Indirect Fire. But not all high-trajectory fire is Indirect.

**Human Factors**: initiative, morale and discipline and the like.

**Independent Cavalry**: a cavalry formation, in Britain usually of divisional strength, deployed on independent missions directly under the CinC. Normally this involved operational-level reconnaissance. They were termed Independent as they necessarily enjoyed a very wide degree of initiative.

**Indirect Fire**: the gunlayer cannot see his target and is directed by an FOO or uses predicted data. This latter was unusual in the period. The adoption of Indirect Fire by artillery in the period was one of the most significant tactical changes between 1899-1914. Initially it was slower and less effective at destroying point targets than Direct Fire. It has an excellent neutralising effect largely because it is distributed over an area due to inaccuracies. Due to its area coverage and artillery’s relatively heavy ammunition, it is logistically demanding. As Figure 7 illustrates, it needs more elaborate C3 than Direct Fire. As with so many tactical issues the argument is not which is best but which is most effective in the given circumstances. Knocking out a single machinegun firing from an emplacement is probably best dealt with by a rifle grenade or tank firing Direct, neutralising an area by artillery firing Indirect. The former might take 5 rounds to secure a hit, the latter will take far more as the projectiles are subject to far greater atmospheric and other influences on their more curved trajectory, while longer range fire means that propellant and firing inconsistencies are magnified and thus the SSKP is far less.23 As technology had developed the advantages of each type of fire have altered; today with projectile terminal guidance Indirect Fire is capable of destroying point targets. Pieces firing Indirect remain less vulnerable to CB and are less constrained by enemy action than those firing Direct. In the thesis’ period Indirect-firing artillery was largely immune to CB. Target indication is much easier when firing Indirect as it is simply a range and bearing. Firing Direct targets have to be individually pointed out to all gunlayers. But it should not be automatically assumed that firing with a curved rather than a flat trajectory is automatically Indirect Fire. Some weapons, typically light mortars, may find high-trajectory fire more effective than flat, even though the target is in sight of the No 1.

21 Brig Gen Wolfe-Murray ‘Do we require Field Artillery?’ *PRAI* XXIX (1902-3).
**Figure 7 Indirect Fire**

A howitzer at A can engage a target, B, firing Indirect. due to a curved trajectory while a gun at A would be incapable unless C lower.

An FOO would be needed in the area of D to observe

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**Internal Discipline**: based on factors internal to the soldier, eg morale, regimental feeling, patriotism, cohesion with comrades and so on. It contrasts with External, ie discipline imposed by the chain of command.  

**Jawan**: the IA designation for an Indian soldier. Used generically it includes Ghurkhas.  

**Kop or Kopje**: South African for a hill, often isolated and rising steeply from the veldt.  

This meant that defenders found it difficult to engage troops at the base. Kopje is the diminutive.  

**Krantz**: South African for a cliff.  

**Laager**: a camp or bivouac. The term has entered British Army terminology from the 1st South African War.  

**Leapfrog**: a static unit covers the movement of another which advances beyond it. The concept also involves a change in artillery tactics which saw batteries moving alternately. This enabled fire to be kept up continuously. Previously the RA had emphasised that batteries should move together to present massed targets against enemy Direct Fire CB.

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**Figure 8. Leapfrogging.** Unit A moves to C covered by fire from B.

**LI**: used as a generic term for Light Infantry or Rifle units and specifically for units such as the KOYLI.  

**Light Company**: these were companies in non-LI infantry units trained as skirmishers. The other specialist company were grenadiers. This organisation was at its height in the Napoleonic era. By 1897 Light Companies not longer existed in the British or Indian Armies.  

**Linearity**: this is used in Chapter 5 in two senses. Firstly it is used to express the mathematical idea that firepower is capable of achieving effects proportionate to inputs. Secondly the idea that attritional, firepower intense battles tend to be geographically linear in nature. There is a connection between the two senses of linearity as can be deduced from Figures 9 and 9a below. In 9 a fire engagement will result in prolonged

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24 M. Janowitz *The Professional Soldier* (Glencoe 1964), Chapter 3.  
25 M van Creveld, KS Brower & S Canby *Air Power and Maneuver Warfare* (Honolulu 2002), p 9  

453
attrition until the result is ground out. In 9a manoeuvre allows fire to enfilade the enemy and to concentrate strength against weakness. Here the value of the manoeuvre force’s fire is considerably increased. However, it is much harder to quantify the psychological effects on enemy commanders and soldiers. Manoeuvre may overwhelm weak commanders psychologically, or dynamically overload inefficient C³ systems. This is clearly far less easy to represent mathematically.

**Magazine**: usually a boxlike structure typically mounted underneath the Lee-Metford and Enfield rifles, capable of holding a number of rounds, typically 10. The magazine meant that rounds did not have to be individually loaded in crises. This substantially increased firepower. Later in the Lee-Enfield, the magazine could be loaded with a clip holding a number of rounds further increasing the rate of fire. The Boer Mauser was a cliploading magazine rifle and could be reloaded faster than the Lee-Metford.

**Manoeuvre**: the purposeful exploitation of mobility to implement a commander’s plan for defeating the enemy. Manoeuvre allows concentration against weakness. At the tactical level it may make fire much more effective. Flanking or reverse fire from positions gained by manoeuvre has considerable surprise value. Manoeuvre tends to stress time more than positional warfare and because in the period before widespread RT, signal communications were imperfect, it put a premium on subordinate initiative to speed tempo. Inevitably manoeuvre stresses ground-based reconnaissance more than positional warfare. In the latter, the period 1915-18 forms an example, there is such a density of troops, that apart from patrolling in no man’s land there is little opportunity for ground-based reconnaissance. Manoeuvre generally is over considerable distances. Examples are Marlborough’s advance to the Danube in 1704, SICHELSCNITT, COMPASS, the Allied breakout from Normandy or the Soviet attack on Manchuria in 1945. This has implications for logistics as a manoeuvre which runs out of gas in midstream is doomed. Here examples run from the Ardennes in 1944 to the Japanese attack on Imphal. Patton summed up the problem well: ‘my troops can eat their belts but my tanks have got to have gas.’ Slim’s attack on Deir es Zor is instructive. Manoeuvre poses tougher challenges for logistics than attrition despite the latter’s scale.

In attrition there is greater ability to tailor combat to logistic reality. In operational level manoeuvre in the period of this thesis the most significant subordinate command level was probably the divisional. Divisions were at about the level where responsiveness and the ability to coordinate were balanced. Corps-based resources were too far back and the distance from the point of contact meant delay. But in firepower-heavy attrition the need to coordinate a heavy weight of fire focused on the corps level; this was the experience of firepower intense attrition between 1915-18.

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26 Col Henderson *Art of Reconnaissance* (1907), p 1. Henderson tied his emphasis to manoeuvre battles. The argument can however be proved from basic principles: two forces locked in attritional combat do not have the space available for ground reconnaissance.

Figure 9. Frontal Fire. Fire from A-B to C-D and the reverse is likely to result in gradual attrition over a long period as neither side has a significant advantage and fire is frontal.

![Diagram of Frontal Fire]

Figure 9a. Manoeuvre to enhance Fire.

![Diagram of Manoeuvre to enhance Fire]

Manoeuvre to E enfilades C-D and makes fire far more effective. There is also the effect of surprise and that troops assaulting from A-B or E can be given covering fire for longer.

**March Discipline**: a system of common low-level procedures eg fixed halt times, closed-up columns and standard gaps between bodies which maximise mobility.

**MI**: Infantry mounted or carried to increase their mobility. Pre-1899 MI undertook no mounted combat. MI could also be carried in carts and on MT and borne by camels. British commentators pre-1899 were adamant that MI were distinctive to the British Empire. Professor Holmes has justly pointed out that Cossacks and French colonial forces contained equivalents; the British saw Cossacks as cavalry, while they felt that British MI were unique as they would be used in major warfare and were regular Infantrymen. Whether contemporary British commentators were correct or not is immaterial, but they certainly thought they were. British instructions emphasised that MI soldiers were to be high quality, and MI theorists eg Hutton saw them as a corps d’elite.

**Mutual Support**: used of defensive positions sited so that no position can be attacked without the assailants being fired at from another position. In attack covering fire between sub units or units may represent mutual support.

Figure 10. An enemy advancing on Position A from B is enfiladed by fire from Position C. In attack troops advancing on B from A can be covered by fire from C. Similarly, troops advancing from C to D can be supported from A. Using intermediate positions the troops advancing from A and C can offer each other mutual support.
Nek: South African for a pass or low ground between hills.

Neutralisation: the use of fire either to prevent enemy activity, or describing the endstate so achieved. Neutralisation is likely to be for a specified period eg to cover other troops moving and is less logistically demanding than destruction. Typically to neutralise an enemy platoon position for 5 minutes might require a battery firing at rate 3 to cover an infantry assault. The total weight of ammunition is as follows:

6 guns firing 3 rounds per minute for 5 minutes = 6x 3x5 = 90 rounds or 90x 25 lbs or about a ton (it should be noted that an allowance must be made for packaging and cartridge cases). To destroy the same target a medium battery, using Soviet norms would have to fire 670 rounds of much heavier ammunition or 670x 120 lbs = some 32 tons. The time taken would be considerably longer. Due to the fact that heavier rounds are used and that these take far more effort to shift on the gun position; the rate will probably be 2 rpg per minute at best. This assumes that such weapons had recoil mechanisms. Destruction will therefore take: 600/(6x2) = 50 minutes. But a straight arithmetical calculation that equivalent destruction to medium artillery fire can be made by firing the same weight of ammunition from fieldguns is incorrect. Such ammunition contains less explosive than medium artillery’s shells, and though fired at a higher muzzle velocity, this flatter trajectory fire is less effective at delivering HE.

Normal Formation: a standard template formation of troops in which ground and threat are less emphasised than regularity and control by superiors.

Operational: capable troops or serviceable equipment. Alternatively warlike activity or describing the intermediate level of war between tactics and strategy. The latter was not a term recognised by contemporaries, but, like M Jourdan’s prose, existed.

Order of March: the location of combat and administrative units in a logical sequence speeds reactions and enhances administrative efficiency. It is sensible to start cavalry off first as their pace is not checked by following slower-moving infantry. Tactically it usually makes sense to station most artillery well up in the order of movement as their long-range fire early in an engagement covers the remainder’s deployment and pins the enemy in position. Sappers well forward are able to undertake tasks in time to ease the movement of the main body. Logistical transport moves logically behind fighting troops as with primitive routes wheeled vehicles are more likely to cause delays. When combat is anticipated ammunition and ambulances should lead the transport columns. when it is not, ration wagons are needed first so that troops can be fed as soon as possible after marching.

Organisation: the organisation of units and formations has considerable effect on their potential for combat and mobility. Over-many subordinate HQs complicate command. As troops usually move in column, overlarge formations may cause delay as their extended columns take more time to pass a point. Another important aspect of organisation is the appropriate grouping of arms and services. For example organisation a formation without bridging equipment would severely impede mobility, particularly in Western Europe. Artillery has great firepower but its columns are long and its ammunition usage is insatiable. Overmuch artillery therefore impedes manoeuvre. Mobility also depends on sappers. A land-based formation without or with few sappers would have deeply impaired mobility. The influence of traffic is another factor affecting mobility. As a key dimension is the ratio between routes and vehicle numbers, this suggests that larger forces are more likely to have their mobility impaired. A significant organisational flaw before 1899 was that the Infantry Division only had one artillery unit to support two brigades. This meant that there were too few guns for effective support, but it also meant that the unit had to be divided if both brigades were to be supported. Brigade divisions were not designed to be divided; they were the accepted tactical unit. Furthermore their division meant that they were comparative strangers to the units they were supporting.

Overhead Fire: fire which is directly above friendly troops. By its very nature such fire is likely to be high trajectory, due to safety requirements, and is possibly Indirect. Contemporary field guns were poor at providing such fire due to their flat-trajectories. The use of overhead fire before 1897 was very unusual.

Outflanking and Extension: a widely extended line has geometrically greater capability to outflank.

<table>
<thead>
<tr>
<th>Enemy Position</th>
<th>Enemy Position</th>
</tr>
</thead>
</table>
| .................. | (5 paces extension) | .................. | (10 paces).

Against this must be balanced the fact that the further extended the line the greater the difficulty of command and manoeuvre and the less depth for the same number of men.

Picket: a group deployed for the protection of a camp on the Frontier or convoy. During Tirah the system changed with pickets pushed further out to counter modern rifles' longer ranges.

Pointing: a sword designed to kill with the point rather than a cutting weapon or hybrid. The pointing British cavalry sword, introduced after South Africa was seen as an excellent weapon.

Pom Pom: a transitional weapon produced by Vickers of 37 mm calibre. It was basically an up-scaled machinegun, firing a small explosive shell. Originally fielded by the Boers, the British deployed them to counter the Boer weapons. The pom pom was QF. It proved useful in South Africa's open terrain, but it had neither the range nor the firepower of gun, yet needed almost as many crewmen and was not much more mobile.

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29 As suggested by the Army's brief experimental use of task forces in the 1970s and Buller's failure to form his mounted troops in a division in 1899. The former eliminated the brigade level of command was found to be unworkable as the span of command was too wide.

30 I (BR) Corps Terrain Study (nd) suggests that there is on average an obstacle that needs bridging ever 10 kilometres travelled in NW Europe with larger ones 50 kilometres apart. Even in the desert bridging is needed as the 8th Army found at Mareth, Brig ISO Playfair and Brig CJ Molony The Mediterranean and Middle East IV (1966), pp 339-40.

It was disliked by senior gunners and was later passed to the Cavalry, where it was found to complicate training. Pom poms were eventually used as AA weapons in 1914. **Plunging Fire**: though positions on hilltops may be tactically advantageous, flat trajectory fire from them is wasted against targets on level ground. Consequently hills are often poor positions for small arms whose flat-trajectory fire is far more effective when delivered over level ground. Initial assaults on Boer positions sited on top of kopjes were consequently protected while the defenders furnished a good target for artillery.\(^{32}\)

**Figure 11. To Show Plunging Fire**

![Figure 11. To Show Plunging Fire](image)

Fire from B is dangerous all along the line BC and beyond to D. From A only C is at risk.

**QF**: the French 75mm was the first true QF fieldgun. A recoil system meant that the carriage was motionless only the barrel recoiling. The guncrew was spared the task of repositioning the weapon and relaying was much simplified. The crew was not forced to move away from the piece when it was fired. This meant that the rate of fire could be more rapid. As only the barrel instead of the whole piece recoiled, this meant that some of the guncrew could use the shield’s protection. QFs fired fixed ammunition in the period raising the rate of fire, though this limited trajectories and the resulting ability to search into cover.\(^{33}\) The Army’s next fieldgun, the 25 Pounder, had a variable charge system.

**Regimental Transport System**: this was based on each unit being supplied with its own dedicated unit transport to move combat supplies.\(^{34}\) The problem which Roberts felt was an argument not to adopt it in South Africa was that units on static tasks still in theory kept their transport. This meant that the transport bill was bigger than with a more centralised system.

**Reverse Slope**: in Figure 11 troops at E are on the reverse slope to enemy at D and are shielded from Direct and observed Indirect Fire. Enemy artillery may be unable to shell E due to problems of crest clearance. Their fire will also be undirected and is thus unlikely to inflict serious casualties.

**Royal Artillery**: the Royal Regiment of Artillery poses terminological problems. Though a regiment, it was not an arm that was regimentally based, ie one in which soldiers served in one or two linked units for their entire career. Gunners, particularly officers were transferred between units and sometimes between branches; an officer might start in a field battery and then serve in a fortress and then transfer to mountain artillery. By virtue of the RA’s size, the fact that officers were enlisted from the more educated entrants and because of the RA’s central institutions the average gunner was more exposed to Army-wide forces and encouraged to develop a more professional and general outlook. The RA, particularly in its field and mounted branches delegated more

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\(^{32}\) WS Churchill *From London to Ladysmith* (1900), pp 317-8. See Chapter 3 for the early battles when hilltop Boer positions favoured British attacks by providing approaches in dead ground.

\(^{33}\) QF development and technology is summarised by JW Ryan *Guns, Rockets and Mortars* (Oxford 1982), pp 4-6. Its Figure 5 on p 18 illustrates the effects of different charges on trajectories.

\(^{34}\) Col Richardson *With the [ASC] in South Africa* (1903), pp 83-4, 105-6 suggests the Regimental System’s problems there. Richardson was a senior ASC officer who had served in South Africa.
freely to juniors. In the period the RA’s field branches were very centred on batteries. The RHA was the most prestigious of the 3 RA branches, and it is perhaps more than coincidental that many senior First World War gunners were RHA, despite the fact that the war was very much a heavy artillery war.

**Sangar**: a raised defensive structure usually of rough stones and adopted by the British from the Frontier tribes. The term has entered into British Army terminology for a raised defensive structure.

**Shelter Trench**: a shallow protective scrape. It can be seen that, due to its length and shallowness, it was very vulnerable to shrapnel fire. The spoil heap at the front was prominent.

![Shelter Trench Diagram](image)

Figure 12. A Shelter Trench. Shrapnel searches into long shallow defences easily.

**Shikar**: stalking for usually big game, a shikari is either the hunter or his professional guide. Big game shooting was a popular officer recreation and officers saw it as giving excellent training in fieldcraft and marksmanship.

**Shrapnel**: an AP munition, which projected shrapnel balls forward using the parent projectile’s residual velocity and a small burster charge designed to open the shell but not propel the shrapnel balls. High velocities and flat trajectories increased shrapnel’s efficiency at targets in the open and on flat ground. It is thus best suited for flat-trajectory fire. As it is an airburst munition with wide area coverage, shrapnel is more effective than groundburst HE, see Figure 6, at exposed targets in the open and for neutralising men in cover. Shrapnel was usually detonated by a time fuze but could be set to initiate on impact and had a limited effect on structures. Considerable skill was required to burst shrapnel at the optimum height. In contrast HE fragmentation and fuzing were very inefficient till well into the First World War. Even modern groundburst HE sends 50% of its splinters into the ground or skywards.

---

35 Bidwell *Gunners*, Chapter 3.
36 *IDB 1896* Plate XVI.
37 Goad and Halsey *Ammunition* p 137 shows a diagram of a shrapnel shell.
Figure 13. To show shrapnel’s effectiveness on open ground. A narrow, deep trench will give a high degree of cover against frontal shrapnel fire if the defenders are not forced to expose themselves, eg by infantry assaulting. Shrapnel will however neutralise entrenched defenders even though it does not inflict casualties by pinning them down.

**Skirmishing**: low-level fire and manoeuvre requiring individual initiative, independent fire and fieldcraft. Plowden’s definition in Chapter 2 encompasses its elements.

**Small-bore**: the thesis uses this term as it was used in about 1900 to differentiate between the generation of rifles comprising the .450 MH and the .577 Snider and the current .303 and .276 generation of weapons.

**Smokeless Ammunition**: the new propellant such as Cordite were not entirely smokeless, but, as can be contrasted between Plates I and II of Noble’s work, it is much less visible than black powder. They were more energetic and this meant that trajectories were flatter, thus increasing Direct Fire hit-probabilities. They left less fouling in the barrel and less smoke on firing. Typically they produced 70% gas and 30% solid residue, gunpowder produces 35% and 65% respectively. Both enabled rates of fire to increase. The more energetic propellants and higher velocities meant that ammunition could be lighter so more could be carried.

**Span of Command**: correct organisations make command and staffwork easier. A commander will find it easier to deal with 4 rather than 8 subordinates, a point made for double companies. Secondy it is easier for a superior HQ to deal with a division rather than individual brigades. Forming brigades into divisions also means that the resulting formation is better able to tackle higher-level tasks than individual brigades as there is a senior commander immediately at hand to coordinate action. For example had GHQ tried to command cavalry brigades directly, as WEs 1898 implied, this would probably have meant the freedom of the brigades would have been limited as GHQ tried to maintain control with primitive communications.

**Squadron System**: the British instituted the Squadron System in the 1890s. Previously there was no squadron-level in cavalry. It should in theory have promoted decentralisation and initiative by increasing the power of squadron leaders at the expense of COs. In practice many regiments implemented the system poorly.

**Staff Duties**: the standardised vocabulary, formats, abbreviations etc which enable staffwork to be clear and concise.

41 Here the lack of coordination between western German armies in 1914 suggests the point. Moltke was acting as the western theatre commander and effectively as supreme commander.
**Staffwork**: the procedures and products which enable the staff to coordinate and synchronise military activity. Examples include operational orders or movement graphics developed in the period.

**Stellenbosch**: the South African equivalent of Limoger. Like Limoges it was a town remote from combat where the incompetent or simply unlucky could do little damage.

**Swingletree**: a term used of hippophile RA, usually RHA officers who had no interest aft of the swingletree, the point at which the piece is attached to the limber. Swingletree gunners' tactical ethos was based on simple dashing tactics. Indirect Fire which was slow and scientific was anathema to them. Bidwell cites a distinguished gunner who advised his son that, with the advent of elementary mathematics, the RA was no longer the profession for a gentleman. 42

**Tactics**: the conduct of combat; Clausewitz's comments on potential combats should be noted.

**Tempo**: a relative time advantage over the enemy, produced by a combination of C3, movement and so on. 43

**Traversing**: By zigzagging trenches, enfilade is prevented in A. In B all troops are vulnerable to fire searching down the trench. Though traversing had long been employed in siege warfare, it was not a usual feature of Infantry trenches until South Africa.

![Figure 14. Traversing.](image)

**Two-Sided Exercises**: these have an enemy force with a wide degree of freedom and are therefore better at promoting initiative than when the enemy is rigidly controlled. But such exercises may not bring out those lessons that commanders want to instil.

**Unit**: A regiment of cavalry, battalion of Infantry or brigade division of artillery usually commanded by a lieutenant colonel. Batteries, companies and squadrons were sub units.

**Veld or Veldt**: the high rolling plateau covering large parts of South Africa. Intervisibility is much greater than in Western Europe. Many regiments adopted the veldtschoen as their officers' formal shoe after South Africa.

**Wall Battering**: the target area diminishes as the projectile's angle of impact approaches the vertical (E), while more horizontal fire (B) tolerates greater margins of error in ranging. Furthermore the correct target is the base of the wall as gravity assists the undercutting effect of the shells. Even shells landing short of the wall at (F) may ricochet and detonate effectively thus increasing the margin of error in ranging.

---

42 Bidwell *Gunners* p 16.
Wing System: Indian infantry units were formally organised into half battalion wings. This naturally reduced the span of command to either the CO controlling 2 wings or the CO and 2ic each controlling one each. Control was eased at the expense of combat power. Rejection of wings effectively delegated initiative from 2 wing to 4 double company commanders. This improved the career structure. Though wings were not formally instituted in the British Army there are frequent references to half-battalion deployments or even to wings themselves.

Glossary of Operation Titles

Operation COMPASS. Wavell and O'Connor's offensive against the Italians in 1940-1. Made with few resources against a numerically far superior enemy it led to the Italians' crushing defeat.


Operation GERICHT. The German attack on Verdun in 1916, probably intended to inflict attrition on the French Army.

Operation SICHELSCHNITT. The German attack on France, Belgium and Holland in 1940. Dr Todman points out that SICHELSCHNITT was not an official designation. This author feels that the title was used reasonably contemporaneously to describe the German operational plan and has retained it in this thesis for convenience. The question of whether the title should be capitalised has been referred to the SD team at the JSSC.
### Abbreviations

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<th>Description</th>
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<tr>
<td>95 I'm Ninety Five</td>
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</tr>
<tr>
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<td>Army Code</td>
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<td>Army Field Manual</td>
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</tr>
<tr>
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<td>(NA reference)</td>
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</tr>
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<td>AVD</td>
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<td>BA</td>
<td>Broad Arrow</td>
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<td>British Library or Breech Loading</td>
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</tr>
<tr>
<td>BMGO</td>
<td>Brigade Machinegun Officer</td>
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<td>Command, Control, Communications and Intelligence (and permutations)</td>
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<td>Cape Archive</td>
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<tr>
<td>CAB</td>
<td>Cabinet (NA reference)</td>
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<tr>
<td>CB</td>
<td>Counter Battery/Bombardment</td>
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<tr>
<td>Cd Command</td>
<td>Command (published by Command)</td>
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<th>Abbreviation</th>
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<td>Cavalry Drillbook</td>
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<td>CE</td>
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<td>Chief of the GS</td>
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<td>CHM</td>
<td>Cornhill Magazine</td>
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<td>CI</td>
<td>Chief Instructor</td>
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<td>Committee of Imperial Defence</td>
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<td>CIGS</td>
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<td>Deductions from accounts of night attacks during the Manchurian War</td>
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<td>De Lisle Papers</td>
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<td>Directorate of Military Education</td>
</tr>
<tr>
<td>DMO</td>
<td>Director/ate Military Operations</td>
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<td>DMOs</td>
<td>Design for Military Operations</td>
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<tr>
<td>D(M)MI</td>
<td>Director/ate (Mobilisation and) Military Intelligence</td>
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<td>DMT</td>
<td>Director/ate Military Training</td>
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<td>DOAE</td>
<td>Defence Operational Analysis Establishment</td>
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<tr>
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<td>DPS</td>
<td>Director/ate of Personnel Services</td>
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<td>DSD</td>
<td>Director/ate Staff Duties</td>
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<td>FOM</td>
<td>Figure of Merit</td>
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<td>FOO</td>
<td>Forward Observation Officer</td>
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<td>fps</td>
<td>feet per second</td>
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<td>FSPB</td>
<td>Field Service Pocket Book</td>
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PRO Public Records Office (NA reference)
psc passed staff college
PT Physical Training
Q Question, also QMG’s staff branch concerned with logistics
QF Quick Firing
QMAWC Queen Mary and Westfield College
QMG Quartermaster General
QOG Queen’s Own Gazette
QR The Quarterly Review
QFQ Quick Firing
QMA WC Queen Mary and Westfield College
QMG QM General
QMG Queen Mary and Westfield College
QMGQ Queen’s Own Gazette
QOR The Quarterly Review
QOS qualified staff
RA Royal Artillery
RAC Royal Armoured Corps
RAI RA Institute
RAL RA Library
RAMC Royal Army Medical Corps
RASC Royal Army Service Corps
RAVC Royal Army Veterinary Corps
RBC Rifle Brigade Chronicle
RCTTEF Report on the Commissariat Transport Arrangements of the Tirah Expeditionary Force
RCWSA Royal Commission on the War in South Africa
RE Royal Engineer(s)
REI Royal Engineers Journal
REI RE Institute
REL RE Library
REOTEF Report on The Engineer Operations of the Tirah Expeditionary Force
RFA Royal Field Artillery
RFC Royal Flying Corps
RGA Royal Garrison Artillery
RHA Royal Horse Artillery
RHS Royal Historical Society
RLKAI Record of Lord Kitchener’s Administration of the Army in India 1902-1909
RM Royal Marines
RMA Royal Military Academy (Woolwich), or Revolution in Military Affairs
RMC Royal Military College (Sandhurst)
RML Rifled Muzzle Loading
RMMISAs Reports and Memoranda on Military and Inter Service Affairs (BalPs)
ROBP’s Robertson Papers (LHCMA)
RPs Roberts Papers (NAM)
RPs Remount Proceedings
RRCTWSA Report of the Royal Commission ... upon the Care and Treatment of the Sick and Wounded during the South African Campaign
RSM Regimental Sergeant Major.
RSO Railway Staff Officer
RT Radio Telephony
RUSI Royal United Services Institute
RWORC Report of the War Office (Reconstitution) Committee
S Section

3 Used when citing from the RCWSA and similar long reports.
4 Used when citing from British manuals.

SA South Africa
SAD South African Despatches
SAFF SA Field Force
SCSI Strategic and Combat Studies Institute
SL Scottish Life
SHPs Shea Papers (LHCMA)
SIULRs Special Instructions for the Utilization of the Local Resources of a Country, 1911
SKDs Spion Kop Despatches
SLR Self Loading Rifle
SM Scribner’s Magazine
SME School of Military Engineering
SMLE Short Magazine Lee Enfield
SNCO Senior NCO
SO Standing Order or Staff Officer
SP Spectator
SR Saturday Review
SRO Scottish Record Office
SSKP Single Shot Kill Probability
SSM Squadron Sergeant Major
SUPP Supply (NA reference)
SWPs Spencer Wilkinson Papers (LHCMA)
TA The Antelope
TE The Eagle
TEF Tirah Expeditionary Force
TEWT Tactical Exercise without Troops
TF Territorial Force
THWSA Times History of the War in South Africa
TRADOC Training and Doctrine Command (US)
TVA Transvaal Archive
USG United Service Gazette
USM United Services Magazine
VDPs von Donop Papers (IWM)
VS Victorian Studies
WE War Establishment (also an official work WEs)
WO War Office
WOL WO List
WPs White Papers (IOL)
WR Web Reference
WT Wireless Telegraphy
WYNPs Wynne Papers (NAM)
19C The 19th Century (and After)

5 Usually a reference at the NA.
6 These are listed, each citation has been given a unique number which is used in the footnotes, eg WR 1.
Many Tirah veterans would have fought in South Africa, even if the unit listed in Column (b) did not, due to their mobilisation in the linked British-based battalion. A crude arithmetical calculation would suggest that with generally 7 years regular colour service some 1/7 of a unit's privates would pass to the reserve.

Table 2. pscs South Africa mid-1900.\(^{11}\)

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<th>Pscs</th>
<th>% (d) / (c)</th>
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<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>CinCs</td>
<td>2(^{12})</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Divisional Commanders</td>
<td>13</td>
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<td>3</td>
<td>Brigadiers</td>
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<td>HQ Combatant Staff</td>
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<td>24</td>
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<td>5</td>
<td>Divisions and Brigades Staffs *(^1)</td>
<td>83</td>
<td>42</td>
<td>51%</td>
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\(^{1}\) Capt HF Walters *Operations of the Tirah Expeditionary Force 1897-8* (Simla 1900).
\(^{2}\) DPs 7810-106-40 '1899 Attock Report.'
\(^{3}\) J Stirling *Our Regiments in South Africa 1899-1902* (Edinburgh 1903).
\(^{4}\) The CO was Smith-Dorrien, a Tirah veteran.
\(^{5}\) Both the CO and 2ic were Tirah veterans, *GHG VII* (1900), p 147.
\(^{6}\) 600 Tirah veterans present in unit, *RCWSA Evidence II* (1903), Q 19557.
\(^{7}\) Unit attended Dalhousie 1900 Manoeuvres; *OXLI Chronicle* (1900), pp 219-221.
\(^{8}\) Ibid p 32 announced that 25 NWF medals had been distributed in the 1\(^{st}\) Bn.
\(^{9}\) *The One and All XI* (1900), p 204 notes Tirah veterans serving in the unit.
\(^{10}\) Ed A Harfield *The Life and Times of a Victorian Officer* (Wincanton 1986), p 206. Col Donne served in Tirah as 2ic of the 2\(^{nd}\) Bn transferring to 1\(^{st}\) Bn as CO.
\(^{11}\) Col Hale 'The Staff Work in the War' *JHC XLVIII* (1900), p 365 with Col (e) and Sers 8 and 9 added.
\(^{12}\) Buller attended but did not graduate from Camberley.
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<th>Of which pcs</th>
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<td>(e)</td>
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<td>1</td>
<td>CinC</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Corps Commanders</td>
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<td>11</td>
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<tr>
<td>7</td>
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<td>44</td>
<td>38</td>
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Table 3. BEF key appointments and pcs 1914.13

Table 4. The 1914-1918 Elite. South African and Tirah Service15

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<th>Ser</th>
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<th>Tirah Service</th>
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<th>Later Influential Appointments</th>
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<tr>
<td>(a)</td>
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<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>Kitchener</td>
<td>No</td>
<td>Yes</td>
<td>Command16</td>
<td>CinC India, SoS</td>
</tr>
<tr>
<td>2</td>
<td>Wolfe-Murray</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>QMG, MGO, CIGS</td>
</tr>
<tr>
<td>3</td>
<td>Robertson</td>
<td>No19</td>
<td>Yes</td>
<td>Staff</td>
<td>See Biographies</td>
</tr>
<tr>
<td>4</td>
<td>Douglas</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>Div Commander, AG, IGHF, CIGS</td>
</tr>
<tr>
<td>5</td>
<td>Murray</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>DMT, Inspector Infantry, Div Commander, later CIGS</td>
</tr>
<tr>
<td>6</td>
<td>Wilson</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>See Biographies</td>
</tr>
<tr>
<td>7</td>
<td>Milne</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>CinC Salonica</td>
</tr>
<tr>
<td>8</td>
<td>Beauchamp-Duff</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>AG India, CinC India</td>
</tr>
</tbody>
</table>

13 Based on BJ Bond The Staff and the Staff College (1972), Appendix V.
14 There were 5 corps but includes Grierson who died on active service.
15 J Terraine The Smoke and the Fire (1992), Table H.
16 QJL Jul 1914.
17 QJL Jan 1914.
18 Nominally COS but never employed so.
19 Served NWF 1895, won DSO there.
<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>9</td>
<td>French</td>
<td>No</td>
<td>Yes</td>
<td>Command</td>
<td>See Biographies</td>
<td></td>
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<tr>
<td>10</td>
<td>Haig</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>See Biographies</td>
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<tr>
<td>11</td>
<td>Allenby</td>
<td>No</td>
<td>Yes</td>
<td>Regt/Command</td>
<td>See Biographies</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Hamilton</td>
<td>Yes</td>
<td>Yes</td>
<td>Staff/Command/ Staff/Command</td>
<td>See Biographies</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Cavan</td>
<td>No</td>
<td>Yes</td>
<td>Command</td>
<td>CinC Italy, CIGS</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Nixon</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
<td>CinC Mesopotamia</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Lake</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
<td>CinC Mesopotamia</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Maxwell</td>
<td>No</td>
<td>Yes</td>
<td>SSO/Command</td>
<td>IGF’s staff, GS Mediterranean, CinC Egypt</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Monro</td>
<td>Yes</td>
<td>Yes</td>
<td>Staff</td>
<td>See Biographies</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Maude</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>CinC Mesopotamia</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Lawrence</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>COS BEF</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Kiggell</td>
<td>No</td>
<td>Yes</td>
<td>Staff</td>
<td>DSD, Commandant Camberley, later COS BEF</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Horne</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>Army Commander BEF</td>
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</tr>
<tr>
<td>22</td>
<td>H Gough</td>
<td>Yes</td>
<td>Yes</td>
<td>Regt/Command</td>
<td>See Biographies</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Byng</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>Div. Corps and Army Commander</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Birdwood</td>
<td>Yes</td>
<td>Yes</td>
<td>SSO/Staff/ Command</td>
<td>Staff India, corps and Army Comd</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Smith- Dorrien</td>
<td>Yes</td>
<td>Yes</td>
<td>Regt/Command</td>
<td>See Biographies</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Plumer</td>
<td>No</td>
<td>Yes</td>
<td>Command</td>
<td>QMG, Divisional Commander, Corps and Army Comd BEF</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Rawlinson</td>
<td>No</td>
<td>Yes</td>
<td>Staff/Command</td>
<td>See Biographies</td>
<td></td>
</tr>
</tbody>
</table>

Regt = subordinate service in unit, Command = CO unit/column or formation.
Table 5. Serving Major Generals in 1914 with South African or NW Frontier Service.20

<table>
<thead>
<tr>
<th>Ser</th>
<th>Arm</th>
<th>All War Service</th>
<th>Of which South Africa</th>
<th>NWF 1897-8</th>
<th>No War Service</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>Cavalry</td>
<td>7</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Infantry</td>
<td>47</td>
<td>34</td>
<td>4</td>
<td>-</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>RA</td>
<td>17</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>RE</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>ASC</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>IA</td>
<td>23</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>RM</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Totals</td>
<td>109</td>
<td>65</td>
<td>16</td>
<td>5</td>
<td>114</td>
</tr>
<tr>
<td>9</td>
<td>Total BR Army only</td>
<td>82</td>
<td>60</td>
<td>7</td>
<td>2</td>
<td>84</td>
</tr>
</tbody>
</table>

Roughly 60% had served in South Africa, when the IA and RM are removed; the proportion is some 75%. Some 15% (less RM and ASC) served on the NWF 1897-8.

Table 6 Official Reports 1899-1902.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Short Title</th>
<th>NA Reference</th>
<th>Initiated by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>AOD</td>
<td>108/244</td>
<td>SA</td>
<td>nd1</td>
</tr>
<tr>
<td>2</td>
<td>AOD</td>
<td>108/245</td>
<td>WO</td>
<td>5/10/0021</td>
</tr>
<tr>
<td>3</td>
<td>Engineer Arm</td>
<td>108/246</td>
<td>WO/SA</td>
<td>21 Jul 1900</td>
</tr>
<tr>
<td>4</td>
<td>Steam Road Transport</td>
<td>108/247</td>
<td>WO/SA</td>
<td>5/10/0021</td>
</tr>
<tr>
<td>5</td>
<td>Organisation and Equipment Engineer Arm (Auxiliary Forces)</td>
<td>108/248</td>
<td>WO/SA22</td>
<td>1900</td>
</tr>
<tr>
<td>6</td>
<td>Steam Transport ...Heavy Guns</td>
<td>108/249</td>
<td>WO/SA</td>
<td>8-16/11/0023</td>
</tr>
<tr>
<td>7</td>
<td>Cavalry</td>
<td>108/250</td>
<td>SA</td>
<td>16/7/00</td>
</tr>
<tr>
<td>8</td>
<td>Lines of Communication</td>
<td>108/251</td>
<td>SA</td>
<td>17/7/00</td>
</tr>
<tr>
<td>9</td>
<td>Medical</td>
<td>108/252</td>
<td>SA</td>
<td>26/7/00</td>
</tr>
<tr>
<td>10</td>
<td>11 Division</td>
<td>108/253</td>
<td>SA</td>
<td>10/7/00</td>
</tr>
<tr>
<td>11</td>
<td>7 Division</td>
<td>108/254</td>
<td>SA</td>
<td>14/7/00</td>
</tr>
<tr>
<td>12</td>
<td>Chaplain's Department</td>
<td>108/255</td>
<td>SA</td>
<td>14/7/00</td>
</tr>
<tr>
<td>13</td>
<td>Signalling</td>
<td>108/256</td>
<td>SA</td>
<td>17/7/00</td>
</tr>
<tr>
<td>14</td>
<td>Postal</td>
<td>108/257</td>
<td>SA</td>
<td>15/7/00</td>
</tr>
<tr>
<td>15</td>
<td>Transport Services</td>
<td>108/258</td>
<td>SA</td>
<td>15/7/00</td>
</tr>
<tr>
<td>16</td>
<td>Provost Marshal</td>
<td>108/259</td>
<td>SA</td>
<td>15/7/00</td>
</tr>
<tr>
<td>17</td>
<td>AG’s Dept</td>
<td>108/260</td>
<td>SA</td>
<td>14/7/00</td>
</tr>
<tr>
<td>18</td>
<td>Remounts</td>
<td>108/261</td>
<td>SA</td>
<td>17/7/00</td>
</tr>
<tr>
<td>19</td>
<td>Press Censorship</td>
<td>108/262</td>
<td>SA?</td>
<td>7/00</td>
</tr>
</tbody>
</table>

20 AL 1914.
21 Date sent by Roberts.
22 Much data from RE main report. This version printed 1901, compilation in 1900.
23 WO 108/250 p 2 states 1901, in view of other letters, this date was a typographic error.
<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
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<tbody>
<tr>
<td>20</td>
<td>Imperial Yeomanry</td>
<td>108/263</td>
<td>SA</td>
<td>16/10/00</td>
</tr>
<tr>
<td>21</td>
<td>Casualties</td>
<td>108/264</td>
<td>SA</td>
<td>13/11/00</td>
</tr>
<tr>
<td>22</td>
<td>AVD</td>
<td>RCWSA \footnote{24}</td>
<td>SA</td>
<td>15/7/00</td>
</tr>
<tr>
<td>23</td>
<td>Pom Poms</td>
<td>108/265</td>
<td>WO</td>
<td>1900 *1</td>
</tr>
<tr>
<td>24</td>
<td>Pom Poms</td>
<td>25</td>
<td>SA</td>
<td>1900?</td>
</tr>
<tr>
<td>25</td>
<td>Heavy Artillery</td>
<td>108/266</td>
<td>WO</td>
<td>nd*7</td>
</tr>
<tr>
<td>26</td>
<td>Machine Guns</td>
<td>108/267</td>
<td>WO</td>
<td>1900</td>
</tr>
<tr>
<td>27</td>
<td>LsotC Natal</td>
<td>108/268</td>
<td>SA?</td>
<td>Dec 1900</td>
</tr>
<tr>
<td>28</td>
<td>Medical Report ... Natal</td>
<td>26</td>
<td>SA?</td>
<td>1/1/01</td>
</tr>
<tr>
<td>29</td>
<td>Field Intelligence Nov 1900-1902</td>
<td>108/269</td>
<td>SA \footnote{24}</td>
<td>13/6/02</td>
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<tr>
<td>30</td>
<td>Field Intelligence</td>
<td>108/270</td>
<td>SA?</td>
<td>Jul 1900?</td>
</tr>
<tr>
<td>31</td>
<td>Pigeon Posts</td>
<td>108/271</td>
<td>SA?</td>
<td>19/9/02</td>
</tr>
<tr>
<td>32</td>
<td>Reports by OCs Units SA 1899-1901</td>
<td>108/272</td>
<td>WO</td>
<td>18/6/01</td>
</tr>
<tr>
<td>33</td>
<td>&quot; &quot; &quot; &quot; &quot; Swords, Lances, Pistols</td>
<td>108/273</td>
<td>WO</td>
<td>9/9/01</td>
</tr>
<tr>
<td>34</td>
<td>&quot; &quot; &quot; &quot; &quot; Valise Equipment etc</td>
<td>108/274</td>
<td>WO</td>
<td>nd*</td>
</tr>
<tr>
<td>35</td>
<td>&quot; &quot; &quot; &quot; &quot; Mule Harnesses etc</td>
<td>108/275</td>
<td>WO</td>
<td>nd*4</td>
</tr>
<tr>
<td>36</td>
<td>&quot; &quot; &quot; &quot; &quot; Vehicles</td>
<td>108/276</td>
<td>WO</td>
<td>nd*3</td>
</tr>
<tr>
<td>37</td>
<td>&quot; &quot; &quot; &quot; &quot; Blankets etc</td>
<td>108/277</td>
<td>WO</td>
<td>nd*5</td>
</tr>
<tr>
<td>38</td>
<td>&quot; &quot; &quot; &quot; &quot; Signals Equipment etc</td>
<td>108/278</td>
<td>WO</td>
<td>nd*6</td>
</tr>
<tr>
<td>39</td>
<td>&quot; &quot; &quot; &quot; &quot; Guncotton etc</td>
<td>108/279</td>
<td>WO</td>
<td>nd*6</td>
</tr>
<tr>
<td>40</td>
<td>&quot; &quot; &quot; &quot; &quot; Clothing</td>
<td>108/280</td>
<td>WO</td>
<td>(1901)</td>
</tr>
<tr>
<td>41</td>
<td>Answers to Questions from Various Branches of QMG's Department by Various Officers .. [SA]</td>
<td>108/281</td>
<td>WO</td>
<td>(1901)</td>
</tr>
<tr>
<td>42</td>
<td>Remounts</td>
<td>108/282</td>
<td>WO</td>
<td>5/9/02</td>
</tr>
<tr>
<td>43</td>
<td>History of the Telegraph Operations During the War in [SA] 1899-1902</td>
<td>108/376</td>
<td>WO</td>
<td>(1903)</td>
</tr>
<tr>
<td>44</td>
<td>Report on Steam Transport in [SA]</td>
<td>108/377</td>
<td>WO</td>
<td>(1903) \footnote{26}</td>
</tr>
<tr>
<td>46</td>
<td>Report... Medical Arrangements... [SA] War</td>
<td>108/390</td>
<td>WO</td>
<td>(1904)</td>
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<tr>
<td>47</td>
<td>Lt Gen Lyttelton's Reports on Horses Supplied during the [SA]War</td>
<td>\footnote{29}</td>
<td>WO</td>
<td>5/7/02 \footnote{30}</td>
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</tbody>
</table>

\footnote{24} RCWSA Appendices pp 101-2. It does not apparently survive elsewhere.
\footnote{25} WO 108/265 refers. It was typed by July 1900 and probably was part of the SA series. It does not seem to have survived.
\footnote{26} Contained within WO 108/390.
\footnote{27} The signature block is South African, but the WO may have demanded it.
\footnote{28} Report signed 27/9/02 at Capetown.
\footnote{29} Not apparently in NA but Appx 58 RCWSA Appendices reproduces it.
\footnote{30} Data requested by SA AO 12/2/02. The WO later asked for information on 9/5/02. The format was apparently a questionnaire to column commanders.
<p>| | | | | | |</p>
<table>
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</thead>
<tbody>
<tr>
<td>48</td>
<td>Report by Field-Marshal ...Roberts... on the Field Transport</td>
<td>RCWSA Appendices</td>
<td>WO</td>
<td>25/3 '01</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>* A Report on the Demobilization of the South African Field Force 1st June 1902-28th February 1903 HQ Pretoria 1 April 1903 (Pretoria J Keith 1903)</td>
<td>TVA</td>
<td>SA</td>
<td>1'4/03</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>* Recommendations of the Committee directed to consider Sir Thomas Gallywe's Medical Report of the Campaign in Natal 1899-1900</td>
<td>WO 33/195</td>
<td>BR?</td>
<td>27/7/01</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Report upon the Organisation and Equipment of Medical Units ... South Africa</td>
<td>WO 33/195</td>
<td>SA</td>
<td>7/7/00</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Lt Col Girouard History of the Railways During the War in South Africa 1899-1902 (1903)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Report on the Working of Armoured Trains</td>
<td>WO 108/414</td>
<td>SA</td>
<td>17/1/02</td>
<td></td>
</tr>
</tbody>
</table>

*1 5/01 may be date printed. *2 9/01 may be date printed, contains a report made on 16/7/00 following a letter of 9/6/00. *3 9/01 may be date printed *4 (E&S 8/01) went to press 13/8/01. *5 (E&S 10/01) may be date printed. *6(E&S 11/01). *7 (E&S 5/01) South Africa Circular Letter forwarded 11/1/01. *8 E&S 8/01 to press 12/8/01*9 to press 9/9/01

Table 7. Disciplinary Offences 1898-1912.33

<table>
<thead>
<tr>
<th>Ser</th>
<th>Year</th>
<th>Average Strength</th>
<th>Number CMs</th>
<th>CM Offences</th>
<th>Number Imprisoned</th>
<th>% of Army CMed</th>
<th>% of men fined drunk</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
<td>(h)</td>
</tr>
<tr>
<td>1.</td>
<td>1898</td>
<td>225,027</td>
<td>9676</td>
<td>14,044</td>
<td>8001</td>
<td>4.47%</td>
<td>6.6%</td>
</tr>
<tr>
<td>2*</td>
<td>1904</td>
<td>287,240</td>
<td>12,017</td>
<td>16,382</td>
<td>10243</td>
<td>4.5%</td>
<td>5%</td>
</tr>
<tr>
<td>3</td>
<td>1906</td>
<td>263,117</td>
<td>8125</td>
<td>11053</td>
<td>6725</td>
<td>3.24%</td>
<td>4.5%</td>
</tr>
<tr>
<td>4</td>
<td>1908</td>
<td>251,324</td>
<td>7181</td>
<td>10083</td>
<td>6338</td>
<td>3.11%</td>
<td>6.8%</td>
</tr>
<tr>
<td>5</td>
<td>1910</td>
<td>252,686</td>
<td>6433</td>
<td>9404</td>
<td>6345</td>
<td>2.72%</td>
<td>5.00%</td>
</tr>
<tr>
<td>6</td>
<td>1912</td>
<td>253,762</td>
<td>5161</td>
<td>7557</td>
<td>4380</td>
<td>2.18%</td>
<td>4.62%</td>
</tr>
</tbody>
</table>

* Incomplete data 1899-1903.

31 Does not contain report just comments.  
32 Does not contain report just comments.  
33 GARS 1898, 1904, 1912.
Table 8. Education Certificates 1903-1912.\textsuperscript{34}

<table>
<thead>
<tr>
<th>Ser</th>
<th>Year</th>
<th>Average Strength</th>
<th>NCOs and Men on Regt Strength with Education Certificates</th>
<th>% (d) of (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1.</td>
<td>1903</td>
<td>303,600</td>
<td>79,860</td>
<td>26.3</td>
</tr>
<tr>
<td>2</td>
<td>1904</td>
<td>267,601</td>
<td>111,928</td>
<td>26.3</td>
</tr>
<tr>
<td>3</td>
<td>1905</td>
<td>254,748</td>
<td>120,754</td>
<td>47.4</td>
</tr>
<tr>
<td>4</td>
<td>1906</td>
<td>245,978</td>
<td>128,749</td>
<td>52.3</td>
</tr>
<tr>
<td>5</td>
<td>1907</td>
<td>232,154</td>
<td>129,308</td>
<td>55.7</td>
</tr>
<tr>
<td>6</td>
<td>1908</td>
<td>235,409</td>
<td>139,065</td>
<td>59.0</td>
</tr>
<tr>
<td>7</td>
<td>1909</td>
<td>237,205</td>
<td>148,025</td>
<td>62.4</td>
</tr>
<tr>
<td>8</td>
<td>1910</td>
<td>236,496</td>
<td>159,778</td>
<td>67.6</td>
</tr>
<tr>
<td>9</td>
<td>1911</td>
<td>237,722</td>
<td>168,148</td>
<td>70.7</td>
</tr>
<tr>
<td>10</td>
<td>1912</td>
<td>234,901</td>
<td>172,670</td>
<td>73.5</td>
</tr>
</tbody>
</table>

The totals in Cols (c) of Tables 7 and 8 do not agree. The author is satisfied that he has copied correctly and suspects that Table 7 involves the Army's total strength while Table 8 just totals soldiers, perhaps less recruits; officers were assumed, correctly or not, to be educated.

Table 9. Cavalry Ratios Western Front August 1914.\textsuperscript{35}

<table>
<thead>
<tr>
<th>Ser</th>
<th>Formation</th>
<th>Britain</th>
<th>France</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Infantry Divisions</td>
<td>6</td>
<td>62</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>Cavalry Divisions</td>
<td>3 *1</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Ratio</td>
<td>1:2</td>
<td>1:7</td>
<td>1:7</td>
</tr>
</tbody>
</table>

*1 The British total is expressed in continental cavalry division equivalents (ie a 6 regiment cavalry division). The British cavalry division of 4 brigades was double the French and German and is treated as 2 divisions. The third divisional equivalent consists of an independent brigade, 3 units acting as divisional cavalry and army mounted troops. If cyclist companies are added this would add a further 1½ units. It has not been possible to include German and French divisional cavalry in the totals in ser 2. Even if these were included, the ratio would be unlikely to approach 1:6.

Table 10. To Illustrate Mobility versus Staffwork.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Hours Elapsed</th>
<th>Distance travelled at 4 Kph</th>
<th>Distance travelled at 4.4 Kph</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4.4</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>8</td>
<td>8.8</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>12</td>
<td>13.2</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>16</td>
<td>17.6</td>
</tr>
</tbody>
</table>

After 4 hours the faster force will have gained 1.6 kms or a time interval of 24

\textsuperscript{34} GARs 1909 & 1912.

\textsuperscript{35} MOFB I Appendices 2, 3, 6.
minutes. But superior staff and communications which allow faster decisions say saving an hour will gain 4 kms. Saving time means less expenditure of effort, unlike faster marching.

**Table 11. South Africa. Views on Machine Guns.**[^36]

<table>
<thead>
<tr>
<th>Ser</th>
<th>Arm of Respondent</th>
<th>Number</th>
<th>Positive</th>
<th>Undecided/No Reply</th>
<th>Anti</th>
<th>% (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>Cavalry</td>
<td>24</td>
<td>18</td>
<td>4</td>
<td>2*1</td>
<td>75%</td>
</tr>
<tr>
<td>2</td>
<td>MI</td>
<td>19</td>
<td>13</td>
<td>5</td>
<td>1*2</td>
<td>68%</td>
</tr>
<tr>
<td>3</td>
<td>Infantry</td>
<td>119</td>
<td>69</td>
<td>35*3</td>
<td>15</td>
<td>58%</td>
</tr>
<tr>
<td>4</td>
<td>RA</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1*4</td>
<td>*5</td>
</tr>
<tr>
<td>5</td>
<td>Total</td>
<td>164</td>
<td>100</td>
<td>45</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
*1 Lt Col Miles, one of those critical, had his unit’s weapons withdrawn but felt that ‘each ... battalion should have two.’
*2 Maj Gen Hutton noted their theoretical value but commented that, due to carriage defects, they were of ‘small value’. He was incorrectly recorded as cavalry; in fact he was a rifleman and MI expert. *320 had not used the weapon in action or used it only once. *4 Possibly due to this unit’s obsolescent .45 cal Maxims. *5 Too small for statistical confidence.

**Table 12 Brigadiers and above South Africa. Views on Machine Guns.**[^37]

<table>
<thead>
<tr>
<th>Ser</th>
<th>Arm</th>
<th>Total</th>
<th>Positive</th>
<th>Undecided/No Reply</th>
<th>Anti</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>Cavalry</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>MI</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Infantry</td>
<td>18</td>
<td>10</td>
<td>4*1</td>
<td>4*2</td>
</tr>
<tr>
<td>4</td>
<td>Total</td>
<td>22</td>
<td>12</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Notes:
*1 One admitted to little experience, another commented on machine guns’ size problem in attack.
*2 Methuen criticised machine guns’ handling and commented that South African conditions were unsuited to the weapons but felt they had defensive value as did Maj Gen Jones.

**Table 13 Cavalry Views of Carbine Accuracy.**[^38]

<table>
<thead>
<tr>
<th>Ser</th>
<th>Group</th>
<th>Total</th>
<th>Satisfied</th>
<th>No reply/Comment</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>Cavalry</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Cavalry COs</td>
<td>30</td>
<td>7</td>
<td>13 (39)</td>
<td>10</td>
</tr>
</tbody>
</table>

[^37]: Ibid.
[^38]: WO 108/272.
[^39]: Ibid pp 146-8, Nos 72, 75, 91.
Table 14. Increases in the Arms between 1899/1900 to 1904/1905.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Item</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>Cav Regts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>RHA Btys</td>
<td>+ 9</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>RFA Btys</td>
<td>+ 55</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>RGA Coys</td>
<td>+ 4</td>
<td>- 2 Mtn Btys</td>
</tr>
<tr>
<td>5</td>
<td>Engr Tps, Coys</td>
<td>+21 ½</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Bns Inf</td>
<td>+ 14</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>ASC</td>
<td>+ 1263 Pers</td>
<td></td>
</tr>
</tbody>
</table>

There were reductions in batteries and battalions after 1905; what is significant, however, is the trend.

Table 15. Guns/Men Ratio 1896-1914 in Major Armies.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Nation</th>
<th>Guns/1000 bayonets in army corps 1896</th>
<th>Guns/1000men 1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>Britain</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>2</td>
<td>France</td>
<td>4.5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Austria</td>
<td>3</td>
<td>3.25</td>
</tr>
<tr>
<td></td>
<td>Hungary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Russia</td>
<td>2.9</td>
<td>4.4</td>
</tr>
<tr>
<td>5</td>
<td>Germany</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>6</td>
<td>Average</td>
<td>3.8 or 4.5 for sers1,2,5 only.</td>
<td>4.8 or 5.4 for sers1,2,5 only.</td>
</tr>
</tbody>
</table>

40 AFPs 50314 ‘Marker Memorandum.’
41 RCWSA Appendix VI p 226.
42 FSPB 1914 p 258.
43 Maj Bailey Field Artillery and Firepower (Oxford 1989), Figure 3.
44 FSPB 1914 disagrees with Bailey, who gives the French 4.8 guns, and Germany 6.4.
Table 16. Methods of Transport Compared, based on moving an Infantry Division's Supplies.45

<table>
<thead>
<tr>
<th>Ser</th>
<th>Means</th>
<th>Men Needed</th>
<th>Animals Needed</th>
<th>Vehicles Needed</th>
<th>Speed (mph)</th>
<th>Max Daily Distance (Miles)</th>
<th>Column Length (Yards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
<td>(h)</td>
</tr>
<tr>
<td>1</td>
<td>Current (horsed)</td>
<td>1910</td>
<td>3820</td>
<td>436</td>
<td>3</td>
<td>30</td>
<td>6445</td>
</tr>
<tr>
<td>2</td>
<td>140 Lorries</td>
<td>280</td>
<td>-</td>
<td>280 (includes 140 trailers)</td>
<td>6</td>
<td>100</td>
<td>2100</td>
</tr>
<tr>
<td>3</td>
<td>47 traction trains</td>
<td>94</td>
<td>-</td>
<td>188</td>
<td>4</td>
<td>60</td>
<td>1410</td>
</tr>
<tr>
<td>4</td>
<td>Pack Horses</td>
<td>1900</td>
<td>7600</td>
<td>-</td>
<td>4</td>
<td>30</td>
<td>45,600</td>
</tr>
<tr>
<td>5</td>
<td>Porters</td>
<td>56,000</td>
<td>-</td>
<td>-</td>
<td>2.5</td>
<td>?</td>
<td>56,000</td>
</tr>
</tbody>
</table>

Ser 1 shows the current means of moving supplies, sers 2-5 show other types of transport moving the same quantities of supplies.

Table 17. Musketry Comparison 1898-1903.

<table>
<thead>
<tr>
<th>1898 Trained Men Range Course46</th>
<th>1903 Trained Men Range Course47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ser</td>
<td>Type of Fire</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
</tr>
<tr>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>1</td>
<td>Deliberate Individual</td>
</tr>
<tr>
<td>2</td>
<td>Deliberate Volleys</td>
</tr>
<tr>
<td>3</td>
<td>Rapid Volleys</td>
</tr>
<tr>
<td>4</td>
<td>Rapid Independent</td>
</tr>
<tr>
<td>5</td>
<td>Attack Practice</td>
</tr>
<tr>
<td>6</td>
<td>Moving</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Totals</td>
</tr>
</tbody>
</table>

Cols (e) and (i) refer to the relevant practice in MRs.

*1 Includes magazine practices.
*2 Marksmen and 1st Class Shots only 800 yds.
*3 Discretionary practice, no ammunition scale.48

46 MRs 1898 pp 26-7.
47 MRs 1903 pp 9-11.
48 MRs 1898 p 103.
Table 18. Use of Cover Trained Soldiers’ Practices 1898-1903. 49

<table>
<thead>
<tr>
<th>Ser</th>
<th>Type</th>
<th>1898 Practices</th>
<th>1903 Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Lying</td>
<td>3, 5, 6, 13, 14</td>
<td>8, 19</td>
</tr>
<tr>
<td>2</td>
<td>Lying using cover</td>
<td>-</td>
<td>4, 7, 9, 12</td>
</tr>
<tr>
<td>3</td>
<td>Using other cover</td>
<td>-</td>
<td>2, 11, 13, 15, 16</td>
</tr>
</tbody>
</table>

Numbers in cols (c) and (d) refer to practices in MRs. Attack and skirmishing practices have not been included.

Table 19 Range Comparison Trained Soldiers’ Practices 1898-1903. 50

<table>
<thead>
<tr>
<th>Ser and Practice No</th>
<th>1898 Range</th>
<th>1903 Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>500</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>500</td>
<td>300</td>
</tr>
<tr>
<td>5</td>
<td>600</td>
<td>400</td>
</tr>
<tr>
<td>6</td>
<td>800</td>
<td>500</td>
</tr>
<tr>
<td>7</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>8</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>9</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>10</td>
<td>500</td>
<td>150</td>
</tr>
<tr>
<td>11</td>
<td>500</td>
<td>150</td>
</tr>
<tr>
<td>12</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>13</td>
<td>600</td>
<td>200</td>
</tr>
<tr>
<td>14</td>
<td>800</td>
<td>150</td>
</tr>
<tr>
<td>15</td>
<td>200-800</td>
<td>200</td>
</tr>
<tr>
<td>16</td>
<td>-</td>
<td>200</td>
</tr>
<tr>
<td>17</td>
<td>*1</td>
<td>200</td>
</tr>
<tr>
<td>18</td>
<td>-</td>
<td>200</td>
</tr>
<tr>
<td>19</td>
<td>-</td>
<td>800 *2</td>
</tr>
</tbody>
</table>

*1 Attack Practice no range given. It is likely that this involved some use of cover but as conditions varied with the ranges used there is no certainty of this. *2 Marksmen and 1st Class Shots only.

It is apparent that ranges were considerably less in the 1903 practices.

49 MRs 1898&1903.
50 MRs 1898&1903.
Table 20. Artillery Increases in Formations 1899-1908.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Type</th>
<th>1899</th>
<th>1902</th>
<th>1908</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td>1</td>
<td>Infantry Division Fieldguns</td>
<td>18</td>
<td>36</td>
<td>54</td>
<td>Col (e) sers 5,6 are divisional figures, cols(c) and (d) sers 7 and 8 include a share of corps artillery.</td>
</tr>
<tr>
<td>2</td>
<td>Corps RHA</td>
<td>12</td>
<td>12</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Corps Fieldguns</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Corps 5&quot; Howitzers</td>
<td>18</td>
<td>18</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Divisional 4.5&quot; Howitzers</td>
<td>-</td>
<td>-</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Heavy Guns</td>
<td>-</td>
<td>12*1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3 divisions' guns + Corps pieces</td>
<td>54 (3x18) + 48 (corps wpns) = 102</td>
<td>108(36x3) + 42(corps wpns) = 150</td>
<td>76x 3 = 228</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Barrels per division</td>
<td>34</td>
<td>50</td>
<td>76</td>
<td></td>
</tr>
</tbody>
</table>

Howitzers in 1899 were 17% of ser 7 col (c), in 1908 25% of total in ser 7 col (e). Furthermore the 4.5" Howitzer was qualitatively much superior to the 5" Howitzer being QF. There was also an increase in heavy artillery, while with the elimination of the Corps RHA the average calibre rose. For ser 7 it has been assumed that like the SAFF, the corps contained 3 divisions. Continental practice was usually for 2 divisions; however WEs I898 does not specify this. The 1908 total is unaffected by this issue as there were no corps based pieces. In 1902 assuming a 2 division corps there would have been 57 pieces per division.

*1 Corps weapons.

Table 21 Artillery Engagement Ranges in Training.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Year</th>
<th>Range</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>1897</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1898</td>
<td>1540</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1899</td>
<td>2148</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1900</td>
<td>2329</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1901</td>
<td>2648</td>
<td>12 batteries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3209</td>
<td>10 &quot;</td>
</tr>
</tbody>
</table>

In India 11 batteries of one command fired at an average of 4210 yards in 1901-2.

51 FAD 1896 p 2.  
52 FAT 1902 pp 1-2.  
53 FAT 1914.  
54 Depends whether 3 or 2 divisions in the corps.  
55 RCWSA Evidence 1 p79.  
56 L/MIL/7/15890 ‘IAR 1901-2’ p 4 para15. Artillery ranges in India had more terrain.
Table 22. Planned Ranges in Action 1896

<table>
<thead>
<tr>
<th>Ser</th>
<th>Type</th>
<th>Range (yds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Distant Artillery</td>
<td>3500-2500</td>
</tr>
<tr>
<td>2</td>
<td>Medium Artillery /Long Infantry</td>
<td>2500-1500</td>
</tr>
<tr>
<td>3</td>
<td>Decisive Artillery/Infantry</td>
<td>0-1500</td>
</tr>
</tbody>
</table>

Table 23. Planned Ranges in Action 1902

<table>
<thead>
<tr>
<th>Ser</th>
<th>Type</th>
<th>Rifle (yds)</th>
<th>Field Gun (yds)</th>
<th>Heavy Gun (yds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>Distant</td>
<td>3000-2000</td>
<td>6000-4500</td>
<td>10,000-6000</td>
</tr>
<tr>
<td>2</td>
<td>Long</td>
<td>2000-1500</td>
<td>4500-3500</td>
<td>6000-4000</td>
</tr>
<tr>
<td>3</td>
<td>Effective</td>
<td>1500-800</td>
<td>3500-2000</td>
<td>4000-2500</td>
</tr>
<tr>
<td>4</td>
<td>Decisive</td>
<td>800-0</td>
<td>2000-0</td>
<td>2500-0</td>
</tr>
</tbody>
</table>

Table 24. British, French and German Field Guns.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>18 Pounder**</th>
<th>75mm***</th>
<th>1896 <strong>-mm</strong>**</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>Max elevation</td>
<td>+16° to -5°</td>
<td>+12° to -5.5°</td>
<td>+16° to -12°</td>
</tr>
<tr>
<td>Max Range (yards)</td>
<td>6200</td>
<td>6010 shrapnel</td>
<td>7655 shrapnel*</td>
</tr>
<tr>
<td>Weight of Gun</td>
<td>25.1 cwt</td>
<td>18.75 cwt</td>
<td>19.3 cwt</td>
</tr>
<tr>
<td>Ammunition Natures and shell weights</td>
<td>Shrapnel 18.5 lbs</td>
<td>Shrapnel 16 lbs</td>
<td>Shrapnel ] 15 lbs</td>
</tr>
<tr>
<td>Rounds per gun*</td>
<td>176</td>
<td>312 **</td>
<td>792 **</td>
</tr>
<tr>
<td>Ammunition Type (see Glossary)</td>
<td>Fixed</td>
<td>Fixed</td>
<td>Fixed</td>
</tr>
<tr>
<td>Shield Thickness</td>
<td>.125 in</td>
<td>.197 in</td>
<td>.154 in</td>
</tr>
<tr>
<td>Muzzle Velocity (fps)</td>
<td>1590</td>
<td>1736</td>
<td>1526</td>
</tr>
</tbody>
</table>

** This is the rounds per gun held in the battery first line scale.
* 36 were HE (WO 33/614). Using the carriage figures (sers 167-171 of the reference) and the vehicle holdings (ser 186) per battery: I calculate that this as 172 rpg, 792 rpg could not have been carried with the transport listed in the document.**
WO 33/614 notes the maximum sight setting as 6600 and the maximum fuse range as 5500 yards.**
** FAT 1914 gives no starshell scale. It can possibly be deduced that the French and Germans intended to fire Direct at closer ranges than the British due to the greater armour thickness on their gun-shields.**
36 were HE.

** FAD 1896
** FAD 1902
** WO 33 614 'Comparative Table Artillery Equipment 1912'
**** Handbook of the German Army in War (1918). The weapon had changed significantly since 1896.
### Table 25. The Ages of Selected Officers 1900.62

<table>
<thead>
<tr>
<th>Ser</th>
<th>Name</th>
<th>Age 1900</th>
<th>Subsequent Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>Roberts</td>
<td>68</td>
<td>CinC, member CID</td>
</tr>
<tr>
<td>2</td>
<td>White</td>
<td>65</td>
<td>Governor Gibraltar</td>
</tr>
<tr>
<td>3</td>
<td>Clery</td>
<td>62</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Buller</td>
<td>61</td>
<td>Briefly reverted to CinC Aldershot</td>
</tr>
<tr>
<td>5</td>
<td>Kelly-Kenny</td>
<td>60</td>
<td>AG</td>
</tr>
<tr>
<td>6</td>
<td>Warren</td>
<td>60</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>Gatacre</td>
<td>57</td>
<td>Briefly reverted to Eastern District</td>
</tr>
<tr>
<td>8</td>
<td>Methuen</td>
<td>55</td>
<td>Corps then CinC S Africa</td>
</tr>
<tr>
<td>9</td>
<td>Kitchener</td>
<td>50</td>
<td>CinC India, Egypt, Secretary of State War</td>
</tr>
<tr>
<td>10</td>
<td>French</td>
<td>48</td>
<td>CinC Aldershot, IGF, CIGS, CinC BEF</td>
</tr>
<tr>
<td>11</td>
<td>I Hamilton</td>
<td>47</td>
<td>MS, MA Manchuria, GOC S Command, AG, IGOF &amp; CinC Med, CinC Gallipoli</td>
</tr>
<tr>
<td>12</td>
<td>Smith Dorrien</td>
<td>43</td>
<td>Div Command India, CinC Aldershot, Corps and Army Comd BEF, CinC East Africa</td>
</tr>
<tr>
<td>13</td>
<td>Haig</td>
<td>40</td>
<td>Corps, Army and CinC BEF</td>
</tr>
<tr>
<td>14</td>
<td>H Gough</td>
<td>30</td>
<td>Brigade-Army Commander BEF</td>
</tr>
<tr>
<td>15</td>
<td>Rimington</td>
<td>42</td>
<td>Bde Comd, IGC India, Cavalry Division</td>
</tr>
<tr>
<td>16</td>
<td>Robertson</td>
<td>41</td>
<td>Staff, QMG and COS BEF</td>
</tr>
</tbody>
</table>

### Table 26. Education Statistics Recruits OXLI 1907-11.63

<table>
<thead>
<tr>
<th>Ser</th>
<th>Standard</th>
<th>1907</th>
<th>1908</th>
<th>1909</th>
<th>1910</th>
<th>1911</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)*1</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>Good</td>
<td>-</td>
<td>2</td>
<td>12</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fair</td>
<td>72</td>
<td>14</td>
<td>45</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
<td>138</td>
<td>85</td>
<td>27</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Inferior</td>
<td>7</td>
<td>123</td>
<td>51</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Illiterate</td>
<td>1</td>
<td>162</td>
<td>14</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Untested</td>
<td>10</td>
<td>8</td>
<td>-</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Gained Certificates in Special Reserve</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

*1 Not available.

---


63 OXLI for respective year.

479
Table 27. Education Recruit Sappers after dismissal from Drill 1910-11.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Section</th>
<th>After dismissal from Drill Education FOM</th>
<th>Final Education FOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>42.9</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>44.3</td>
<td>45.9</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>37.5</td>
<td>55.5</td>
</tr>
</tbody>
</table>

Col (b) represents the division of the intake into 4 sections.
In Cols (c) and (d) a 1st Class Certificate counted 100 marks
2nd " " " " 70 " "
3rd " " " " 50 " "
Sub-categories of 3rd Class ranged from 50-10.

Table 28 British Officers Observing the Russo-Japanese War or in the Theatre.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Name</th>
<th>Affiliation</th>
<th>Attached</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>Capt DS Robertson**</td>
<td>RS Fusiliers</td>
<td>Japan</td>
<td>Later psc</td>
</tr>
<tr>
<td>2</td>
<td>Lt Col AL Haldane psc Int</td>
<td>GS and Gordons</td>
<td>Japan</td>
<td>Later Corps commander</td>
</tr>
<tr>
<td>3</td>
<td>Col JWG Tulloch</td>
<td>IA</td>
<td>Japan</td>
<td>Indian representative</td>
</tr>
<tr>
<td>4</td>
<td>Lt Gen I Hamilton qs</td>
<td>Gordons</td>
<td>Japan</td>
<td>&quot; &quot; &quot;</td>
</tr>
<tr>
<td>5</td>
<td>Capt JB Jardine*</td>
<td>5 Lancers</td>
<td>Japan</td>
<td>Bde Comd 14-18</td>
</tr>
<tr>
<td>6</td>
<td>Capt AHS Hart-Synott psc * FR Int</td>
<td>E Surreys</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Brevet Col WH Birkbeck psc</td>
<td>1 DG</td>
<td>Japan</td>
<td>Later major general</td>
</tr>
<tr>
<td>8</td>
<td>Lt Col CV Hume psc</td>
<td>RA</td>
<td>Japan</td>
<td>MA Tokyo &amp; Korea</td>
</tr>
<tr>
<td>9</td>
<td>Capt B Vincent*</td>
<td>RA later Cavalry</td>
<td>Japan</td>
<td>Later psc, DS Quetta. Senior staff officer and bde comd 1914</td>
</tr>
<tr>
<td>10</td>
<td>Capt CAL Yate psc FR GE Int</td>
<td>KOYLI</td>
<td>Japan</td>
<td>KIA 1914 won VC</td>
</tr>
<tr>
<td>11</td>
<td>Col W A Smith psc</td>
<td>RA</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Maj CM Crawford</td>
<td>5 Ghurkhas</td>
<td>Japan</td>
<td>Indian rep</td>
</tr>
</tbody>
</table>

64Ward Standardisation pp 6-8.
65Based on ALs and FO 46/592 Schedule.
66FO 46/592 listed Indian SSO.
67Served Tirah.
68Hume had served under Roberts as an ADC and as senior IO in South Africa. See WO 105 19 File Cinc/792 Note 27 Aug 1900. Described as MA Tokyo and Korea Army List 1905.
69Served Boxer Rising. Later DS Quetta; has the rare distinction of attracting JFC Fuller's praise!
70Served China 1900-01.

480
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Capt Sir A Bannerman&lt;sup&gt;71&lt;/sup&gt;</td>
<td>RE</td>
<td>Japan</td>
<td>Later DS Camberley</td>
</tr>
<tr>
<td>14</td>
<td>Lt Gen CJ Burnett psc&lt;sup&gt;72&lt;/sup&gt;</td>
<td>Late E Yorks</td>
<td>Japan</td>
<td>Later GOC Western Dist</td>
</tr>
<tr>
<td>15</td>
<td>Lt Gen WG Nicholson qs Int</td>
<td>Late RE</td>
<td>Japan</td>
<td>later CIGS</td>
</tr>
<tr>
<td>16</td>
<td>Lt Col E Agar psc RU Int</td>
<td>RE</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Maj JM Home psc RU GE Int</td>
<td>Commissioned RA transferred IA Infantry</td>
<td>Russia</td>
<td>Only 4 years in RA</td>
</tr>
<tr>
<td>18</td>
<td>Col WHH Waters psc RU GE FR Int</td>
<td>Late RA</td>
<td>Russia</td>
<td>MA Berlin and Russia</td>
</tr>
<tr>
<td>19</td>
<td>Gen M Gerrard RU, Int</td>
<td>6 years RA, then IA cavalry</td>
<td>Russia</td>
<td>MA Russia 1892-3</td>
</tr>
<tr>
<td>20</td>
<td>Maj GHG Mockler&lt;sup&gt;73&lt;/sup&gt;</td>
<td>IA</td>
<td>Russia</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Capt Eyres RN&lt;sup&gt;74&lt;/sup&gt;</td>
<td>RN</td>
<td>Russia</td>
<td>MA with Far East Fleet.</td>
</tr>
<tr>
<td>22</td>
<td>Lt Col WG Macpherson&lt;sup&gt;75&lt;/sup&gt;</td>
<td>RAMC</td>
<td>Japan</td>
<td>GS Medical adviser, lectured Quetta</td>
</tr>
<tr>
<td>23</td>
<td>Maj RW Boger psc&lt;sup&gt;76&lt;/sup&gt;</td>
<td>RA</td>
<td>Japan</td>
<td>Later MA Tokyo</td>
</tr>
<tr>
<td>24</td>
<td>Cdr EW Wemyss</td>
<td>RN</td>
<td>Japan</td>
<td>witnessed landing</td>
</tr>
<tr>
<td>25</td>
<td>Lt H Edwards</td>
<td>RN</td>
<td>Japan</td>
<td>witnessed landing</td>
</tr>
<tr>
<td>26</td>
<td>Lt AC Barnaby</td>
<td>RMLI</td>
<td>Japan</td>
<td>witnessed landing</td>
</tr>
<tr>
<td>27</td>
<td>Capt HC Holman psc&lt;sup&gt;77&lt;/sup&gt; Int RU</td>
<td>IA (cavalry)</td>
<td>Russia</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Maj RT Toke&lt;sup&gt;78&lt;/sup&gt; *</td>
<td>Infantry</td>
<td>Japan</td>
<td>AMA Tokyo</td>
</tr>
<tr>
<td>32</td>
<td>Maj GE Pereira&lt;sup&gt;79&lt;/sup&gt;</td>
<td>Infantry</td>
<td>Japan</td>
<td>MA Seoul</td>
</tr>
<tr>
<td>33</td>
<td>Col R Bannatine-Allason&lt;sup&gt;80&lt;/sup&gt;</td>
<td>RA</td>
<td>Japan</td>
<td></td>
</tr>
</tbody>
</table>

<sup>71</sup> First CO the Air Battalion, appointed GS Jan 1908.
<sup>72</sup> MA Japanese Army 01/03/05-2/12/05.
<sup>73</sup> Served China 1900-02.
<sup>74</sup> Attempted to join Russian fleet at Port Arthur and entered Japanese lines, causing dismay in Russia.
<sup>75</sup> Attached Japanese 24/03/04-21/12/05. Later PMO 4 Division Quetta and lecturer at Quetta.
<sup>76</sup> No mention in BORs but mentioned in Haldane (AMS 3/4/06). He served with 2 Japanese Army. Boger died while MA Tokyo 1911.
<sup>77</sup> Previously did 2 Intelligence jobs, one in China.
<sup>78</sup> AMA Tokyo 19/4/04-27/11/05 then special employment Tokyo Feb-Mar 06. Had served in China during Boxer Rising.
<sup>79</sup> Served in China 1900. Later qualified in Chinese though not by 1906.
<sup>80</sup> ANG (1909), p 53, served Manchuria Apr-Dec 1905.
<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Capt Thacker(^{81})</td>
<td>Canadian Artillery</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Lt Col GH Fowke(^{82})</td>
<td>RE</td>
<td>Japan</td>
<td>Later general</td>
</tr>
<tr>
<td>36</td>
<td>Maj CM Crawford</td>
<td>IA (Inf)</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Col Hoad(^{83})</td>
<td>Australia</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Col Lewis(^{84})</td>
<td>RE</td>
<td>Japan</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Capt WA Adams(^{**})</td>
<td>5L</td>
<td>Japan</td>
<td>Language student</td>
</tr>
<tr>
<td>40</td>
<td>Lt FSG Piggott(^{***})</td>
<td>RE</td>
<td>Japan</td>
<td>Language student</td>
</tr>
<tr>
<td>41</td>
<td>Lt WA Harrison</td>
<td>RE(^{85})</td>
<td>Japan</td>
<td>Language student</td>
</tr>
<tr>
<td>42</td>
<td>Capt EF Calthorp (^{***})</td>
<td>RA</td>
<td>Japan</td>
<td>Language student</td>
</tr>
</tbody>
</table>

Only those RN and RM officers who either made reports on army operations or were ashore for long periods are included.

\(^{**}\) Listed Schedule FO 46/592 as Language Officer

\(^{***}\) Listed Schedule FO 46/592 as Language Officer

* Qualified JA see \(AL 1906\)

** Qualified Japanese and Chinese see \(AL 1906\)

GE German interpreter

FR French interpreter

RU Russian interpreter


\(^{82}\) REI IV (1906), p 163, accompanied Nicholson, present at the siege and capture of Port Arthur.

\(^{83}\) HuPs 50086 Hutton/Nicholson 8/4/04. Hoad was apparently appointed for political reasons. He later had an influential career in the Australian Army.

\(^{84}\) In Japan 1905 and corresponded with WO, FO 46/592 but not on schedule.

\(^{85}\) Piggott Thread p 25.
<table>
<thead>
<tr>
<th>Ser</th>
<th>Name</th>
<th>Post</th>
<th>psc</th>
<th>Previous Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>Gen Buller</td>
<td>GOC Corps</td>
<td>no</td>
<td>GOC Aldershot</td>
</tr>
<tr>
<td>2</td>
<td>Col Stopford</td>
<td>Mil Sec to GOC</td>
<td>yes</td>
<td>WO</td>
</tr>
<tr>
<td>3</td>
<td>Maj Gen Hunter</td>
<td>COS Corps</td>
<td>no</td>
<td>None given (GOC Quetta)</td>
</tr>
<tr>
<td>4</td>
<td>Col Wynne</td>
<td>Deputy AG Corps</td>
<td>no</td>
<td>AMS WO</td>
</tr>
<tr>
<td>5</td>
<td>Col Miles</td>
<td>AAG Corps</td>
<td>yes</td>
<td>Comdt Camberley</td>
</tr>
<tr>
<td>6</td>
<td>Col Douglas</td>
<td>AAG Corps</td>
<td>no</td>
<td>AAG Aldershot</td>
</tr>
<tr>
<td>7</td>
<td>Lt Col à Court</td>
<td>DAAG Corps</td>
<td>yes</td>
<td>MA Brussels</td>
</tr>
<tr>
<td>8</td>
<td>Maj Kiggell</td>
<td>DAAG Corps</td>
<td>yes</td>
<td>DAAG Instr Dover</td>
</tr>
<tr>
<td>9</td>
<td>Maj Lewis</td>
<td>DAAG Corps (ASC)</td>
<td>no</td>
<td>Portsmouth</td>
</tr>
<tr>
<td>10</td>
<td>Maj Thomas</td>
<td>DAAG Corps (ASC)</td>
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<td>Not given</td>
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<td>11</td>
<td>Maj Byng</td>
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<td>DAAG Aldershot</td>
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<td>12</td>
<td>Maj Altham</td>
<td>AAG Int, Corps</td>
<td>yes</td>
<td>DAAG Int Army HQ</td>
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<tr>
<td>13</td>
<td>Maj Evans</td>
<td>DAAG Int, Corps</td>
<td>yes</td>
<td>DAAG Instr York</td>
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<tr>
<td>14</td>
<td>Capt Gordon</td>
<td>DAAG Int, Corps</td>
<td>yes</td>
<td>BM Malta</td>
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<td>15</td>
<td>Lt Col Verner</td>
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<td>yes</td>
<td>RMC instructor</td>
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<tr>
<td>16</td>
<td>Maj Sclater</td>
<td>SO RA Corps</td>
<td>no</td>
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<td>17</td>
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<td>18</td>
<td>Maj Jones</td>
<td>Censor Corps</td>
<td>yes</td>
<td>&quot;</td>
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<td>19</td>
<td>Maj Rhodes</td>
<td>Director Sigs Corps</td>
<td>no</td>
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<td>20</td>
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<td>GOC 1 Div</td>
<td>no</td>
<td>Corsham Court</td>
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<td>21</td>
<td>Col Mainwaring</td>
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<td>AAG Portsmouth</td>
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<td>22</td>
<td>Lt Col Northcott</td>
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<td>yes</td>
<td>Commissioner Gold Coast (on leave)</td>
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<tr>
<td>23</td>
<td>Maj Warner</td>
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<td>Devonport</td>
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<tr>
<td>24</td>
<td>Maj Gen Colvile</td>
<td>Comd 1 Bde 1 Div</td>
<td>no</td>
<td>Comd Inf Bde Gibraltar</td>
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<td>25</td>
<td>Capt Ruggles-</td>
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<td>yes</td>
<td>BM &quot; &quot;</td>
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<tr>
<td>26</td>
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<td>27</td>
<td>Maj Monro</td>
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<td>28</td>
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<td>yes</td>
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<td>29</td>
<td>Maj Cooper</td>
<td>ADC GOC 2 Div</td>
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<td>DAAG Int WO</td>
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<td>30</td>
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<td>Depot E YORKS Beverley</td>
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<td>Hamilton</td>
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<td>31</td>
<td>Capt Gogarty</td>
<td>DAAG 2 Div</td>
<td>yes</td>
<td>BM Shorncliffe</td>
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<td>32</td>
<td>Capt Boyce</td>
<td>DAAG 2 Div (ASC)</td>
<td>no</td>
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86 WYNPs 7508-32; signed Coleridge Grove 2/10/99.
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<td>DAAG Instr Aldershot</td>
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<td>34</td>
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<td>35</td>
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<td>36</td>
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<td>Comd 4 Bde 2 Div</td>
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<td>Comd 2 Bde Aldershot</td>
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<td>37</td>
<td>Capt Wilson</td>
<td>BM 4 Bde 2 Div</td>
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<td>38</td>
<td>Maj Gen Gatacre</td>
<td>GOC 3 Div</td>
<td>yes</td>
<td>GOC Eastern District</td>
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<td>42</td>
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<td>43</td>
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<tr>
<td>44</td>
<td>Maj MacGrigor</td>
<td>BM 5 Bde 3 Div</td>
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<td>BM Aldershot</td>
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<td>45</td>
<td>Maj Gen Barton</td>
<td>Comd 6 Bde 3 Div</td>
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<tr>
<td>46</td>
<td>Capt MacBean</td>
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<td>yes</td>
<td>Army and Navy Club</td>
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<td>Col French</td>
<td>GOC Cav Div</td>
<td>no</td>
<td>Comd Cav Bde Aldershot</td>
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<tr>
<td>48</td>
<td>Col Gough</td>
<td>AAG Cav Div</td>
<td>yes</td>
<td>WO 89</td>
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<tr>
<td>49</td>
<td>Maj Haig</td>
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<td>yes</td>
<td>BM Cav Bde Aldershot</td>
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<td>50</td>
<td>Maj Welch</td>
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<td>Edinburgh</td>
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<td>51</td>
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<td>yes</td>
<td>DAAG Int wo</td>
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<tr>
<td>52</td>
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<td>Temporarily comd Cav Bde Aldershot</td>
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<tr>
<td>53</td>
<td>Capt Briggs</td>
<td>BM 1 Cav Bde</td>
<td>no</td>
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<tr>
<td>54</td>
<td>Col Brabazon</td>
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<td>Comd 2 Cav Bde</td>
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<tr>
<td>55</td>
<td>Capt Brand</td>
<td>BM 2 Cav Bde</td>
<td>no</td>
<td>BM Cav Bde</td>
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</table>

Table 30 Organisation of Divisions Britain, France and Germany 1914. 90

**Britain**

*Infantry Division* of 3 Brigades, each brigade of 4 battalions, each battalion of 4 rifle companies. Two battalion machine guns. Total 12 battalions.

Divisional Artillery 3 Field Artillery Brigades, each of 3 batteries, each of 6 x 18 Pdr.

88 One assumes this was a leave address.
89 RPs 7101-23-110-2 F297 Roberts/Lansdowne 1/1/00, Buller had not allowed Gough to take over as AAG due to his excitability, he had been viewed as insane since the 1880s!
90 MOFB 1914 I (1922), Appendices 2, 4, 7.
Guns.
1 Field Artillery Brigade of 3 batteries, each with 6 x 4.5" Howitzers
RGA Battery of 4 x 60 Pdr Guns Total 76 pieces.
2 Field Companies RE
1 Signal Company RE
1 Squadron Cavalry
1 Company Cyclists

Cavalry Division 4 brigades, each of 3 regiments, each of 3 squadrons, each of 4 troops. 2 machine guns per regiment.
Divisional Artillery of 2 RHA Brigades, each of 2 batteries, each of 6x 13 Pdr Guns
1 Division Signals Squadron
1 Field Squadron RE

France

Infantry Division of 2 Brigades, each of 2 regiments, each regiment of 3 battalions.
Total 12 battalions
Each battalion of 4 rifle companies and 2 unit machine guns.
3 Artillery groups, each of 3 batteries each with 4 guns (36 guns)
1 Cavalry Squadron
1 Engineer Company

Cavalry Division 3 cavalry brigades, each of 2 regiments
1 Horse artillery brigade of 2x 4 gun batteries
Cyclists 324 soldiers

Germany

Infantry Division 2 Infantry brigades, each of 2 regiments, each regiment of 3 battalions. Total 12 battalions. Machine gun company (6 guns) for each regiment.
Artillery Brigade (72 guns and light howitzers)
Cavalry Regiment.
1 and ½ companies pioneers. 91

Cavalry Division 3 cavalry brigades of 2 regiments each
Horse Artillery Abteilung 3x4 gun batteries
Battalion Jaegers and machine gun company. (12 machine guns) 92

Both French and German Infantry organisations were clumsy as there was an additional level of command which meant additional staff officers, staffwork and slower passage of orders.

91 One division had 2 companies and the other one. Pioneers unlike British sappers were not tradesmen
92 Some divisions had more jager battalions. Edmonds does not include the jager machineguns. A correct total is included here. Some jaegers were lorry-borne.
Table 32. All Staff Rides, Tours and Similar Exercises held between 1893-1899.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Dates</th>
<th>Location</th>
<th>Reference</th>
<th>Type</th>
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<tr>
<td>1</td>
<td>7-11/9/74</td>
<td>Chichester</td>
<td>Hamley93</td>
<td>Exercise</td>
<td>Staff College</td>
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<tr>
<td>2</td>
<td>Sep 1874</td>
<td>Sussex</td>
<td>Hamley94</td>
<td>Exercise</td>
<td>Staff College</td>
</tr>
<tr>
<td>3</td>
<td>1892</td>
<td>Leith Hill</td>
<td>JRUSI</td>
<td>TEWT</td>
<td>HDTTS</td>
</tr>
<tr>
<td>4</td>
<td>1893</td>
<td>Reading</td>
<td>JRUSI</td>
<td>TEWT</td>
<td>HDTTS</td>
</tr>
<tr>
<td>5</td>
<td>1894</td>
<td>Sussex</td>
<td>BA</td>
<td>TEWT</td>
<td>HDTTS</td>
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<tr>
<td>6</td>
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<td>TEWT</td>
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<tr>
<td>7</td>
<td>1895</td>
<td>Sussex</td>
<td>MePs</td>
<td>Staff Ride</td>
<td>Led by Buller</td>
</tr>
<tr>
<td>8</td>
<td>1895</td>
<td>Ascot</td>
<td>MePs</td>
<td>TEWT</td>
<td>Probably Home District</td>
</tr>
<tr>
<td>9</td>
<td>1897</td>
<td>Ireland</td>
<td>HuPs</td>
<td>Staff Ride</td>
<td>Irish Command, probably first ride held in Ireland.</td>
</tr>
<tr>
<td>10</td>
<td>1897</td>
<td>Goring</td>
<td>ANG</td>
<td>Cavalry Staff Tour</td>
<td>Haig chief SO95</td>
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<td>11</td>
<td>1898</td>
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<td>USG96</td>
<td>Staff Ride</td>
<td>Aldershot Command</td>
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<td>1898</td>
<td>Ireland</td>
<td>HuPs</td>
<td>Staff Ride</td>
<td>Irish Command</td>
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<tr>
<td>13</td>
<td>1899</td>
<td>India</td>
<td>JUSII</td>
<td>Staff Ride</td>
<td>District level led by Brig Gen Hart</td>
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<tr>
<td>14</td>
<td>1-5 Apr 1899</td>
<td>Sussex</td>
<td>BA97</td>
<td>Army Staff Tour</td>
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Table 33. To Show Staff Rides, Tours etc 1902-1914.

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<th>Location</th>
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<tr>
<td>1</td>
<td>17-19/2/02</td>
<td>Bombay</td>
<td>OXLIC</td>
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<tr>
<td>2</td>
<td>12-17/4/02</td>
<td>Hastings/ Seven Oaks</td>
<td>Wo 279/5</td>
<td>Staff Tour</td>
<td>II Army Corps</td>
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<tr>
<td>3</td>
<td>7-11/7/02</td>
<td>East Anglia</td>
<td>Wo 279/6</td>
<td>Staff Ride</td>
<td>Eastern District</td>
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<tr>
<td>4</td>
<td>1-5/9/02</td>
<td>Somerset Devon</td>
<td>Report98</td>
<td>District Staff Ride</td>
<td>Conducted Lt Gen Butler</td>
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<td>5</td>
<td>29/3-4/4/03</td>
<td>Salisbury-Andover</td>
<td>Wo 279/51699</td>
<td>Corps GS officers Staff Ride</td>
<td>Led by CSO</td>
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<tr>
<td>6</td>
<td>27/4-2/5/03</td>
<td>Calne-Amesbury</td>
<td>Wo 279/516100</td>
<td>Selected generals others</td>
<td>Led by Wood</td>
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</table>

93 Col Hamley Staff College Exercises 1874 (Edinburgh 1875). pp 10-72.
94 Ibid pp 73-110.
95 HPs 3155-32a 'Scheme for a Staff Tour 4-9/10/97’ may refer to this tour.
96 USG 26/3/98 p 248 claims it as the first held at Aldershot.
97 BA 18/3/99 p 304.
98 Lt Gen Butler Record of the Western District Staff Ride Conducted 1" to 5" September (1902 np).
99 II Corps Report on Preliminary Training 13/10/03 p 3.
100 Ibid.

486
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<td>7</td>
<td>22-27/2/04</td>
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<td><em>Cavalry Studies</em></td>
<td>Cavalry Staff Ride</td>
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<td>8</td>
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<td>1&lt;sup&gt;st&lt;/sup&gt; Army Corps</td>
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<td>Under Gen Hart</td>
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<td>Dorchester</td>
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<sup>101</sup> *ANG XLV (27/2/04)*, p 195.

<sup>102</sup> *BA 72 (26/3/04)*, p 376.

<sup>103</sup> *BA 72 (14/5/04)*, p 583.

<sup>104</sup> *Extracts from a Report on a Staff Ride ... Disembarkation and Establishment of a Base (1904).* This was almost certainly triggered by the 1904 Essex manœuvres which involved a major landing exercise.

<sup>105</sup> *BA 73(24/9/04).*

<sup>106</sup> Ibid.

<sup>107</sup> Capt Napier Nunn 'Outline of [ASC] Duties on a Staff Ride' *ASCQ I* (1907), pp 643-4.

<sup>108</sup> Ibid pp 110-130.

<sup>109</sup> *BA LXXIV (1905)*, p 123.

<sup>110</sup> *Cavalry Studies* pp 156-179

<sup>111</sup> *ANG XLVI* (23/9/05), p 895.

<sup>112</sup> *Cavalry Studies* pp 208-222.
<table>
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<tr>
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<td>E Comd</td>
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<td>Staff Ride</td>
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<td>Feb 1906</td>
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<td>BA114</td>
<td>Staff Ride</td>
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<td>28</td>
<td>Mar 1906</td>
<td>S Comd</td>
<td>BA115</td>
<td>Yeomanry Staff Ride.</td>
<td>Set by Haig</td>
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<td>29</td>
<td>18-24/3/06</td>
<td>Attock</td>
<td>Cavalry</td>
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<td>30</td>
<td>14-19/5/06</td>
<td>Scotland</td>
<td>WO 279/512</td>
<td>Modified Staff Ride</td>
<td>Hutchinson DSD</td>
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<td>Director, Col Robertson assists</td>
</tr>
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<td>31</td>
<td>Jun 1906</td>
<td>Tunbridge</td>
<td>BA117</td>
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<td>33</td>
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<td>Severn Valley</td>
<td>WO 279/11119</td>
<td>Staff Ride</td>
<td>Held by CGS</td>
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<td>34</td>
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<td>10-16 Sep 1906</td>
<td>S Coast</td>
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<td>Aldershot Corps maritime Staff</td>
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<td>36</td>
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<td>Plymouth</td>
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<td>15-19/4/07 &amp;</td>
<td>Shoeburyness</td>
<td>WO 279/12</td>
<td>Siege Staff Ride</td>
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<td>29/4-2/5/07</td>
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<td>42</td>
<td>8-10/4 &amp;13-18/5/07</td>
<td>South Coast</td>
<td>WO 33/2982</td>
<td>Naval and Military Staff Tour</td>
<td>experiments as well as staff tour</td>
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<td>43</td>
<td>6-10/5/07</td>
<td>Chatham</td>
<td>WO 279/15</td>
<td>Siege Staff Ride</td>
<td>Siege Manoeuvres later Chatham</td>
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113 BA 76 (13/1/06), p 53.
114 BA 74 (23/12/05).
115 BA 76 (31/3/06), p 361.
116 Cavalry Studies pp 280-318.
117 BA 176 (1906), p 648.
118 BA 76 (27/1/06), p 108
119 Also published as a book; FM Wilson’s copy is in the RUSI Library.
120 BA 77 (1/9/06), p 245.
121 Aldershot Army—Corps Staff Tour and Operations 1906.
122 BA 77 (22/9/06), p 328.
123 BA 77 (29/9/06), p 356.
124 BA 77 (22/9/06), p 328.
125 BA 77 (3/11/06).
126 Brig Gen EC Bethune ‘The Cavalry School Staff Ride’ CJ III (1907).
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<td>WO 279/14</td>
<td>Staff Ride</td>
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<td>1907</td>
<td>Cambridge</td>
<td>BA 79 (14/9/07)</td>
<td>Staff Ride</td>
<td>Pre Aldershot Manoeuvres</td>
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<td>7-12/10/07</td>
<td>W Midlands</td>
<td>WO 279/17</td>
<td>Staff Ride</td>
<td>Held by CGS</td>
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<td>47</td>
<td>13- 16/4/08</td>
<td>Essex</td>
<td>WO 279/20</td>
<td>WO Siege Staff</td>
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<td>3-8 Jun 1907</td>
<td>Suffolk</td>
<td>BA 127</td>
<td>Thames Dist staff Tour</td>
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<td>7- 16/9/1908</td>
<td>Wessex</td>
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<td>followed by manoeuvres</td>
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<td>50</td>
<td>19- 21/9/08</td>
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<td>WO 279/522</td>
<td>IGF’s Staff Ride</td>
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<td>51</td>
<td>26- 30/10/08</td>
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<td>WO 279/22</td>
<td>Staff Tour</td>
<td>Held by CGS. validating FSRs</td>
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<td>Sep 1908</td>
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<td>WO 279/522</td>
<td>Staff led by IGF</td>
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<td>WO 279/520</td>
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<td>Nov 1908</td>
<td>Ireland</td>
<td>WO 279/23</td>
<td>Logistic Staff</td>
<td>Led Plumer</td>
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<td>55</td>
<td>Nov 1908</td>
<td>Ireland</td>
<td>WO 279/522</td>
<td>Logistic Staff</td>
<td>Developed from IGF’s September Ride</td>
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<td>Quetta</td>
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<td>57</td>
<td>27- 30/1/09</td>
<td>Ulster</td>
<td>WO 279/26</td>
<td>HQ Staff Ride</td>
<td>Army Medical Service</td>
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<tr>
<td>58</td>
<td>1-6/3/09</td>
<td>Berkshire</td>
<td>WO 279/27</td>
<td>Cavalry Staff Ride</td>
<td>Held by DSD</td>
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<td>59</td>
<td>21-6/6/09</td>
<td>Wilts</td>
<td>WO 279/29</td>
<td>2nd “” “” “”</td>
<td>Held by DSD</td>
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<td>60</td>
<td>20-3/09</td>
<td>Ireland</td>
<td>WO 279/28</td>
<td>Irish Command Staff Ride</td>
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<tr>
<td>61</td>
<td>14- 17/3/10</td>
<td>Ireland</td>
<td>WO 279/32</td>
<td>Irish Command Staff Ride.</td>
<td>Lyttelton Director</td>
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<td>62</td>
<td>20- 22/4/10</td>
<td>East Anglia</td>
<td>WO 279/525</td>
<td>1st Cavalry Bde Staff Tour</td>
<td>Had an NW Europe Scenario</td>
</tr>
<tr>
<td>63</td>
<td>6-9/6/10</td>
<td>Salisbury</td>
<td>WO 279/34</td>
<td>Staff Tour</td>
<td>CIGS led; probably emphasised logistics</td>
</tr>
<tr>
<td>64</td>
<td>19- 23/6/10</td>
<td>Wessex</td>
<td>WO 279/35</td>
<td>Cavalry Division Staff Ride</td>
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127 BA 78 (1/6/07), p 621.
128 Bond Staff p 205.
<p>| | | | | | |</p>
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<tr>
<td>65</td>
<td>27/6-1/7/10</td>
<td>Northants</td>
<td>WO 279/36</td>
<td>Aldershot Command Staff</td>
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<tr>
<td>66</td>
<td>14-16/10 &amp; 18/123/10</td>
<td>Yorkshire</td>
<td>WO 279/479</td>
<td>Instructional Tour 3rd West Riding Bde</td>
<td>Also NCOs 5 Y&amp;Ls.</td>
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<td>67</td>
<td>16-20/5-1911</td>
<td>Home Counties</td>
<td>WO 279/44 Allenby Papers</td>
<td>Cavalry Division Staff Tour</td>
<td>Led by Allenby, Vaughan, Ansell and Howell DS</td>
</tr>
<tr>
<td>68</td>
<td>7-10/3/11</td>
<td>Canterbury</td>
<td>WO 279/531</td>
<td>2 Cav Bde Staff</td>
<td>Possibly based on ser 66 above.</td>
</tr>
<tr>
<td>69</td>
<td>22-25/6/11</td>
<td>Cheltenham</td>
<td>Report MMPs</td>
<td>Aldershot Command Staff</td>
<td>Much on MT resupply</td>
</tr>
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<td>70</td>
<td>Nov 1911</td>
<td>Quetta</td>
<td>Orders 9/5/12</td>
<td>Staff Tour Held by CIGS</td>
<td>Quetta reports arrival of 22 copies report on ride</td>
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<td>71</td>
<td>22-25/4/12</td>
<td>Oxford</td>
<td>WO 279/533</td>
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<td>72</td>
<td>1912</td>
<td>East Anglia</td>
<td>WO106/1453</td>
<td>Aldershot Staff</td>
<td>Army mans in same area</td>
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<tr>
<td>73</td>
<td>21-23/4/13</td>
<td>Berks MXPs 6</td>
<td>1 Division Staff Tour</td>
<td></td>
<td>Probably relates to later Comd Tour</td>
</tr>
<tr>
<td>74</td>
<td>22-25/7/12</td>
<td>Berks/Wilts Hants</td>
<td>WO 27/508 IGF report 1912</td>
<td>Ride for 2x Divs and 2 Cav Bdes</td>
<td>Led by IGHF, represents BEF style problem</td>
</tr>
<tr>
<td>75</td>
<td>7-13/6/13</td>
<td>Berks</td>
<td>WO 279/51</td>
<td>Aldershot Comd GS Staff Tour</td>
<td>Probably related to Ser 74 below</td>
</tr>
<tr>
<td>76</td>
<td>23-26/6/13</td>
<td>Berks</td>
<td>WO 279/51</td>
<td>Aldershot Admin Staff Tour</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>March 1914</td>
<td>Eastern District</td>
<td>EDPs VS/11</td>
<td>4 Div Staff Exercise</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-5/6/14</td>
<td>Aldershot</td>
<td>AIR 1/796/204/4/956</td>
<td>Staff Exercise</td>
<td>Involved the RFC</td>
</tr>
</tbody>
</table>

It should be noted that almost certainly more occurred. Staff Colleges’ tours and rides have not been included. The most significant deduction from the two tables is not the total but the contrast between the numbers before and after South Africa.

129 APs 6/5 Bird/Wavell 1/137. Bird was invited to set a staff tour for the cavalry division in 1911 representing the BEF’s combating a German invasion of Belgium.
Table 34. Later Careers Camberley DS Before and After South Africa.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Commandant</th>
<th>DS</th>
<th>Later Career&lt;sup&gt;130&lt;/sup&gt;</th>
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<tr>
<td></td>
<td></td>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>1</td>
<td>Col HSG Miles</td>
<td>-</td>
<td>Staff SAFF, returned Camberley, QMG, Governor Gibraltar 1913.</td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>Lt Col GFR Henderson</td>
<td>DMI South Africa 1900, Col, CB, died 1903.</td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>Lt Col HCC Walker</td>
<td>Retired 1903 as Brevet Colonel, Commandant Siege Camp Lydd 1901.</td>
</tr>
<tr>
<td>4</td>
<td>&quot;</td>
<td>Lt Col RW Fleming</td>
<td>Not serving 1914.</td>
</tr>
<tr>
<td>5</td>
<td>&quot;</td>
<td>Capt ES Heard</td>
<td>GSO 2 and 1 New Zealand, Bde Comd 1915, Col 1915.</td>
</tr>
<tr>
<td>6</td>
<td>&quot;</td>
<td>Col RCB Lawrence</td>
<td>Comd TF Mtd Bde.</td>
</tr>
<tr>
<td>7</td>
<td>Henry Wilson initial&lt;sup&gt;131&lt;/sup&gt;</td>
<td>-</td>
<td>DMO, CIGS, Field Marshal.</td>
</tr>
<tr>
<td>8</td>
<td>&quot;</td>
<td>Col JP Du Cane</td>
<td>Lt Gen.</td>
</tr>
<tr>
<td>9</td>
<td>&quot;</td>
<td>Col GG Aston</td>
<td>Maj Gen.</td>
</tr>
<tr>
<td>10</td>
<td>&quot;</td>
<td>Lt Col L Stopford</td>
<td>Maj Gen.</td>
</tr>
<tr>
<td>11</td>
<td>&quot;</td>
<td>Lt Col W Braithwaite</td>
<td>Lt Gen.</td>
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<td>12</td>
<td>&quot;</td>
<td>Maj C Sackville-West</td>
<td>Maj Gen 1922.</td>
</tr>
<tr>
<td>13</td>
<td>Wilson later</td>
<td>Maj G Harper</td>
<td>GSO 1 DMO, Lt Gen, Corps Comd BEF.</td>
</tr>
<tr>
<td>14</td>
<td>&quot;</td>
<td>Lt Col EM Perceval</td>
<td>Lt Gen.</td>
</tr>
<tr>
<td>15</td>
<td>&quot;</td>
<td>Maj G Barrow</td>
<td>Lt Gen.</td>
</tr>
<tr>
<td>16</td>
<td>&quot;</td>
<td>Maj W Furse</td>
<td>Lt Gen.</td>
</tr>
<tr>
<td>17</td>
<td>&quot;</td>
<td>Lt Col C Ross</td>
<td>Maj Gen.</td>
</tr>
<tr>
<td>18</td>
<td>Wilson last</td>
<td>Col JE Gough</td>
<td>Brig Gen KIA 1915 on the point of taking over a division.</td>
</tr>
<tr>
<td>19</td>
<td>&quot;</td>
<td>Maj CG Stewart</td>
<td>Col.</td>
</tr>
<tr>
<td>20</td>
<td>&quot;</td>
<td>Lt Col R Whigham</td>
<td>Lt Gen.</td>
</tr>
</tbody>
</table>

Before 1899 the posts were really backwaters, even Miles the Commandant was not appointed to a senior staff position in the SAFF.

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<sup>130</sup> Col (d) based on QALs (various dates).
<sup>131</sup> Maj Gen Callwell *Field Marshal Sir Henry Wilson I* (1927), pp 68,74.
Table 35 Major Manoeuvres in Britain 1890-99.

The table below lists formation sized manoeuvres.

<table>
<thead>
<tr>
<th>Ser</th>
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<th>Reference</th>
<th>Description</th>
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<td>1890</td>
<td>Hutton 132</td>
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<td>2</td>
<td>Autumn 1891</td>
<td>WO 279/1</td>
<td>Manoeuvres Hants</td>
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<td>3</td>
<td>1892</td>
<td>Airlie 133</td>
<td>Cav bde v cav bde</td>
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<td>4</td>
<td>1893</td>
<td>WO 279/2</td>
<td>2 Div Manoeuvres</td>
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<td>5</td>
<td>1894</td>
<td>WO 279/3</td>
<td>Cavalry Manoeuvres</td>
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<td>6</td>
<td>1895</td>
<td>BA 134</td>
<td>Ireland</td>
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<tr>
<td>7</td>
<td>1895</td>
<td>BA 135</td>
<td>Cav Manoeuvres</td>
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<td>8</td>
<td>1895</td>
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<td>1896</td>
<td>ANG 137</td>
<td>Aldershot</td>
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<td>ANG 138</td>
<td>South of Ireland Manoeuvres</td>
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<td>11</td>
<td>1896</td>
<td>ANG 139</td>
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<td>1896</td>
<td>ANG 140</td>
<td>Curragh Manoeuvres</td>
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<td>1896</td>
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<td>1896</td>
<td>BA 142</td>
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<td>1896</td>
<td>ANG 144</td>
<td>South of Ireland</td>
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<td>1897</td>
<td>BHG 145</td>
<td>Cavalry Concentration</td>
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<td>1897</td>
<td>BA 146</td>
<td>Kelly Kenny’s mans</td>
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<td>Buller v Connaught</td>
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<td>BA 152</td>
<td>Irish Mans</td>
</tr>
<tr>
<td>25</td>
<td>1899</td>
<td>BA 153</td>
<td>Aldershot mans</td>
</tr>
<tr>
<td>26</td>
<td>1899</td>
<td>BA 154</td>
<td>SPTA Mans</td>
</tr>
</tbody>
</table>

133 Anon *The Happy Warrior* (Winchester 1901), p 45.
134 BA LV (13/7/95).
135 BA LV (17/8/95).
136 BA LV (24/8/95).
137 ANG XXXVII (11/7/96).
138 ANG XXXVII (25/7/96).
139 ANG XXXVII (4/1/96).
140 ANG XXXVII (4/1/96).
141 BA LVI (1/8/96).
142 Ibid.
143 BA LVII (12/9/96).
144 ANG XXXVII (25/7/96).
145 BHG III (1897), p 5.
146 BA LIX (5/6/97).
147 BA LIX (21/8/97).
148 Ibid.
149 BA LIX (4/9/97).
150 ANG XL (20/8/98).
151 ANG XXXIX (11/6/98).
152 BA LXIII (19/8/99).
153 BA LXIII (2/9/99).
Manoeuvres Post 1900

From 1903 manoeuvres generally up to corps level were held each year, with divisional and brigade manoeuvres beforehand. Major manoeuvres were held in 1904, 1907, 1910, 1912 and 1913. The total is far greater than in the period 1890-1899. From contemporary accounts manoeuvres became harder with fewer non-tactical halts while marches were long.

Table 36. Covering Fire Pieters and Colenso.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Pieter’s Pieces and Covering Fire</th>
<th>Infantry Supported at Pieter’s</th>
<th>Colenso Pieces and Covering Fire</th>
<th>Infantry Supported at Colenso</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>4x 4.7” RN guns</td>
<td>3 Brigades but as attacks were sequential pieces were in theory able to support each brigade.</td>
<td>2x4.7” RN guns</td>
<td>As Hart’s, Hilyard’s and Dundonald’s brigades were attacking more or less at once and far apart, guns had to be divided. The battlefield measures some 5 miles across, Pieter’s measures about half of this.</td>
</tr>
<tr>
<td>2</td>
<td>8x 12 Pdr RN</td>
<td></td>
<td>10x 12 Pdr RN*1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6x 5” Hows,</td>
<td></td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4x5” guns</td>
<td></td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6x 2.5”RML Mtn Guns</td>
<td>30x 15 Pdr guns</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6x 12 Pdr RHA guns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>42x 15 Pdr guns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Two bns, Dundonald’s brigade + machineguns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>8 Heavy 62 Field Pieces 6 Mtn Guns 76 Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It should be noted that there were far more HE-capable pieces at Pieter’s, further more there were howitzers better suited to give support.

*1 Taken from Maj Gen Maurice BROHSA II (1907), p 649. Amery states 8.

Ammunition expenditure was far greater during the Relief than beforehand, Ibid Appendix 12. 4.7” RN and 5” guns are regarded as heavy pieces.

---

154 Ibid.
155 Amery THWSA III (1905), pp 534-5. WO 132/10 ‘Naval Bde Report of Operations 2/3/00’ states that there were also 1x 6”, 2x4.7” and 10x 12 Pdrs in the area but not directly supporting the attack. SAD II (1901), pp 44-5 suggests that these weapons were used to deceive the Boers. At least one 4.7 supporting the attack was platform-mounted and firing at ranges just over 2000 yards.
156 THWSA II (1902), pp 422,426.
157 This was not apparently intended; Barton had been told that the attacks were to be simultaneous.
158 ‘5 Division Operation Order 27/2/00’ in Maj Gen Maurice BROHWSA II (1907), p 508.
Table 37. Artillery South Africa.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Weapon</th>
<th>In SA 1/6/99&lt;sup&gt;159&lt;/sup&gt;</th>
<th>To SA 1/6/99-1/6/02&lt;sup&gt;160&lt;/sup&gt;</th>
<th>Misc Wpns/RN&lt;sup&gt;161&lt;/sup&gt;</th>
<th>Totals</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>15 Pdr BL</td>
<td>27</td>
<td>-</td>
<td>6</td>
<td>355</td>
<td>Standard fieldgun</td>
</tr>
<tr>
<td>2</td>
<td>6.3&quot; RML How</td>
<td>2</td>
<td>322</td>
<td>-</td>
<td>2</td>
<td>Used Ladysmith</td>
</tr>
<tr>
<td>3</td>
<td>12 Pdr RBL</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>RML 7,9 Pdr and 2.5&quot; guns</td>
<td>52</td>
<td>7</td>
<td>-</td>
<td>59&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Obsolete, black powder ammo</td>
</tr>
<tr>
<td>5</td>
<td>3 Pdr QF gun</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>7&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Ex-coast defence</td>
</tr>
<tr>
<td>6</td>
<td>Machineguns</td>
<td>46</td>
<td>315</td>
<td>27&lt;sup&gt;162&lt;/sup&gt;</td>
<td>388&lt;sup&gt;1&lt;/sup&gt;</td>
<td>RN and private weapons not included</td>
</tr>
<tr>
<td>7</td>
<td>9.45&quot; How</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>Austrian weapons siege train</td>
</tr>
<tr>
<td>8</td>
<td>6&quot; BL How</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>12</td>
<td>8 with siege train</td>
</tr>
<tr>
<td>9</td>
<td>5&quot; BL How</td>
<td>-</td>
<td>39</td>
<td>-</td>
<td>39</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>5&quot; Gun</td>
<td>-</td>
<td>18</td>
<td>-</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>4.7&quot; QF Gun</td>
<td>-</td>
<td>24</td>
<td>18</td>
<td>42</td>
<td>4 guns with siege train</td>
</tr>
<tr>
<td>12</td>
<td>12 Pdr QF 12 Cwt Gun</td>
<td>-</td>
<td>18 + 4</td>
<td>42&lt;sup&gt;2&lt;/sup&gt;</td>
<td>64</td>
<td>4 in col (d) for Elswick Bty</td>
</tr>
<tr>
<td>13</td>
<td>12 Pdr BL 6 Cwt Gun</td>
<td>-</td>
<td>78</td>
<td>18&lt;sup&gt;3&lt;/sup&gt;</td>
<td>78</td>
<td>Standard RHA gun</td>
</tr>
<tr>
<td>14</td>
<td>12.5 Pdr QF Gun</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>CIV Battery</td>
</tr>
<tr>
<td>15</td>
<td>Pom Poms</td>
<td>-</td>
<td>57</td>
<td>-</td>
<td>57&lt;sup&gt;1&lt;/sup&gt;</td>
<td>+ captured weapons</td>
</tr>
<tr>
<td>16</td>
<td>76mm Hotchkiss Gun</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>Private with Colonial unit</td>
</tr>
<tr>
<td>17</td>
<td>9.2&quot; Gun</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>Ex coast defences</td>
</tr>
<tr>
<td>18</td>
<td>6&quot; Gun QF</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>19</td>
<td>Misc</td>
<td>4&lt;sup&gt;4&lt;/sup&gt;</td>
<td>3&lt;sup&gt;5&lt;/sup&gt;</td>
<td>-</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>20</td>
<td>6 Pdr QF</td>
<td>-</td>
<td>-</td>
<td>4&lt;sup&gt;163&lt;/sup&gt;</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>21</td>
<td>Totals of pieces (less sers 4,5,6,15 and improvised weapons ser 19 less that made at Kimberley)</td>
<td>722</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>159</sup> Some weapons Colonial. Table derived from *RCWSA Appendices* (1903), p 191.

<sup>160</sup> Ibid p 192. No RN Weapons included.

<sup>161</sup> Ibid p 469.

<sup>162</sup> *RCWSA Appendices* (1903), p 190 Table D.

<sup>163</sup> Headlam *RA III* (Woolwich 1940), Appendix F. Probably ex-coast defences.
The total in ser 21 is unlikely to be totally accurate as too many sources have been used in compiling this Table. But it has been devised to provide data for Table 38's comparison and the inaccuracies are unlikely to throw the ratio out significantly.

*1 Not included in totals at ser 21.
*2 Some RN weapons of slightly different specification and one SB BP gun found at Mafeking.
*3 Canadian unit
*4 2 Captured at Elandslaagte. 2 other 75 mm Krupp captured. Headlam R.A. III, Appendix F
*5 2 Home made guns. One each at Kimberley and Mafeking. Only the Kimberley weapon is counted in Col (f).
*6 Headlam R.A. III p 486; Australian Battery.

Table 38. To show the Ratio of Field to Heavy Artillery in South Africa

<table>
<thead>
<tr>
<th>Ser</th>
<th>Indicator</th>
<th>Number</th>
<th>Ratio</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>South Africa Field Artillery</td>
<td>544</td>
<td>5:1</td>
<td>5&quot;Howitzer treated as field weapon</td>
</tr>
<tr>
<td>2</td>
<td>South Africa Heavy Artillery</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Standard Corps Field Artillery</td>
<td>102</td>
<td>102: -</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Standard Corps Heavy Artillery</td>
<td>Nil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the above table the miscellaneous small calibre guns eg sers 4, 5 and 6 in Table 37 have been ignored as obsolete, as have pom poms and 3 Pdr QFs. These weapons were not field artillery. The aim has been to show how pieces used in the became heavier. The Siege Train sent to South Africa has been ignored; it was a feature of other campaigns and to include it in ser 2 would distort. Sers 3 and 4 above are based on the SAFF corps organisation.

Table 39 Frontage of an Infantry Division in Defence 1898.¹⁶⁴

<table>
<thead>
<tr>
<th>Ser</th>
<th>Designation</th>
<th>Strength</th>
<th>Frontage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>1</td>
<td>Infantry Division</td>
<td>8072</td>
<td>8072/5= 1614 paces</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Infantry Division</td>
<td>9792</td>
<td>9792/5=1958 paces</td>
<td>Less chaplains and medical personnel</td>
</tr>
<tr>
<td>3</td>
<td>Infantry Division</td>
<td>9792</td>
<td>1958 paces + 300 yards¹⁶⁵</td>
<td>This assumes the guns were in the first line.</td>
</tr>
</tbody>
</table>

It should be noted that the layout included considerable depth, see Chapter 6. Serials 1, 2 and 3 reflect different strengths. For practical purposes the pace as used in the field can be taken to be one yard. The most important conclusion is that long-range Infantry fire exceeded the divisional frontage.

¹⁶⁴ WEs 1898 Table LVIII p 149 and a 5 man/pace norm. NB the pace has been taken as equivalent to a yard though it was slightly less.
¹⁶⁵ FAD 1896 p 127 gives a battery frontage as 100 yards.
Table 40. To Show Relative Proportion Cavalry/Infantry Major European Armies
Armies 1901.  

<table>
<thead>
<tr>
<th>Ser</th>
<th>Nation</th>
<th>Infantrymen per cavalryman</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Austria Hungary</td>
<td>3.8</td>
</tr>
<tr>
<td>2</td>
<td>Russia</td>
<td>4.2</td>
</tr>
<tr>
<td>3</td>
<td>France</td>
<td>4.4</td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>4.5</td>
</tr>
<tr>
<td>5</td>
<td>Britain</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Table 41. Relative Strengths/ Perimeter Length Ladysmith, Kimberley, Mafeking.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Town</th>
<th>Length Perimeter (miles)</th>
<th>Garrison</th>
<th>Artillery</th>
<th>Ratio Miles/Men</th>
<th>Ratio Miles/Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>Ladysmith</td>
<td>14</td>
<td>12,000</td>
<td>36 x 15 Pdr, 2x 4.7&quot; and 4x12 Pdr RN, 2x 6.3&quot; hows, 2x 9 Pdr RMLs, 2 ex-Boer 12Pdr, 2x3 Pdr</td>
<td>1/860</td>
<td>1/3.5</td>
</tr>
<tr>
<td>2</td>
<td>Kimberley</td>
<td>11.75 later 20</td>
<td>4721</td>
<td>14 RML 7 Pdr later 1x 28 Pdr RBL home made gun</td>
<td>1/400</td>
<td>1/1.2</td>
</tr>
<tr>
<td>3</td>
<td>Mafeking</td>
<td>6 miles later 10 miles</td>
<td>1000, many armed with Martini Henrys</td>
<td>4x7Pdr RML, 1x2&quot;, 1x1Pdr, 1x home made how and 1 SB ML</td>
<td>1/166</td>
<td>1/1.3</td>
</tr>
</tbody>
</table>

At Ladysmith the artillery was technically far more advanced and its ranges longer, at Mafeking and Kimberley the weapons were obsolete, home-made or both.

---

166 Col Graves 'Lessons from the South African War ...' USM XXIV (1901).
167 RCWSA Evidence II (1903), pp 152, 633, most were regulars and there was far more artillery.
168 LS Amery THWSA III (1905), p 152 and Gen Maurice BROHWSA II (1906), p 489.
169 B Williams THWSA IV (1906), p 540.
170 Ibid pp 560-2; there were some 450 regular infantry, 2650 were irregulars.
171 Ibid p 424; 700 were trained though few were regulars, there were also 300 armed Africans. S4D1 (1902), pp 99-100. They were not used as regular combatants and armed with obsolescent rifles. The perimeter was originally 6 miles and was later extended to 10 miles plus, Ibid p 105.
Table 42. Commodities sent to South Africa (long tons).  

<table>
<thead>
<tr>
<th>Ser</th>
<th>Commodity</th>
<th>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Meat</td>
<td>27,170</td>
</tr>
<tr>
<td>2</td>
<td>Flour</td>
<td>25,000</td>
</tr>
<tr>
<td>3</td>
<td>Hay</td>
<td>574,500</td>
</tr>
<tr>
<td>4</td>
<td>Oats</td>
<td>468,000</td>
</tr>
<tr>
<td>5</td>
<td>Artillery Ammunition</td>
<td>2800(?)</td>
</tr>
</tbody>
</table>

The discrepancy between food and forage suggests how providing an adequate animal ration caused grave logistic difficulties. It should also be noted that the only commodity not produced in volume in South Africa was ammunition. Oats may not have been grown in South Africa but mealies were and were used as animal feed.

Table 43. The SMLE and Martini Henry Compared.  

<table>
<thead>
<tr>
<th>Ser</th>
<th>Characteristic</th>
<th>Martini-Henry</th>
<th>SMLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>1</td>
<td>Propellant</td>
<td>Black Powder</td>
<td>Cordite</td>
</tr>
<tr>
<td>2</td>
<td>Muzzle Velocity</td>
<td>1350 fps</td>
<td>2050 fps</td>
</tr>
<tr>
<td>3</td>
<td>Magazine</td>
<td>None-single shot</td>
<td>10 round magazine</td>
</tr>
<tr>
<td>4</td>
<td>Calibre (ins)</td>
<td>0.45</td>
<td>0.303</td>
</tr>
<tr>
<td>5</td>
<td>Introduced</td>
<td>1871</td>
<td>1903</td>
</tr>
<tr>
<td>6</td>
<td>Rifle weight</td>
<td>9 lbs</td>
<td>8 lbs</td>
</tr>
<tr>
<td>7</td>
<td>Ammo weight</td>
<td>1.8 oz</td>
<td>1 oz</td>
</tr>
<tr>
<td>8</td>
<td>Loading</td>
<td>Round by round</td>
<td>5 round clip</td>
</tr>
</tbody>
</table>

One of the most significant differences was that between the rifles' trajectories. This is hard to represent in a table and can best been seen graphically.

---

172 THWSA VI (1909), p 404 for all data except ser 5. Some totals look remarkably round!
Commodities purchased in South Africa are not included. As no British artillery ammunition except for very small amounts in the besieged garrisons was made in South Africa, the disparity may be wider than the Table suggests.

173 Lt Gen McNaughton The Development of Artillery in the Great War (nd) p18.

174 BA Temple and ID Skennerton A Treatise on the British Military Martini (Burbank 1983), Text Book of Small Arms 1904 (1904).

175 W Greener The Gun and Its Development (1907), p 672 has a useful comparison of trajectories.
Table 44. MT in the BEF’s 1914 Establishment. 176

<table>
<thead>
<tr>
<th>Ser</th>
<th>Type of Unit</th>
<th>Cars/ Vans</th>
<th>lorries/ tractors</th>
<th>total units in BEF</th>
<th>total cars &amp; vans (cols c x e)</th>
<th>total lorries (cols dxe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
<td>(g)</td>
</tr>
<tr>
<td>1</td>
<td>Cavalry Div Ammunition Park</td>
<td>3</td>
<td>33</td>
<td>1</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>Ammunition Park 5 Independent Cav Bde</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Cavalry Div Supply Colm</td>
<td>-</td>
<td>159</td>
<td>1</td>
<td>-</td>
<td>159</td>
</tr>
<tr>
<td>4</td>
<td>Supply Colm 5 Independent Cav Bde</td>
<td>3</td>
<td>39</td>
<td>1</td>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>Cav Div HQ</td>
<td>16</td>
<td>-</td>
<td>1</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>5 Independent Cav Bde HQ</td>
<td>5</td>
<td>-</td>
<td>1</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Inf Div Ammo Park</td>
<td>5</td>
<td>93</td>
<td>6</td>
<td>30</td>
<td>558</td>
</tr>
<tr>
<td>8</td>
<td>Inf Div Supply Colm</td>
<td>2</td>
<td>41</td>
<td>6</td>
<td>12</td>
<td>246</td>
</tr>
<tr>
<td>9</td>
<td>Inf Div HQ</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>GHQ</td>
<td>16</td>
<td>-</td>
<td>1</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>GHQ Misc Depts and Services</td>
<td>13</td>
<td>-</td>
<td>1</td>
<td>13</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>Corps HQ*1</td>
<td>7</td>
<td>-</td>
<td>3</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>13</td>
<td>Corps HQ Sigs Coy*1</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>14</td>
<td>Army Troops Supply Colm</td>
<td>2</td>
<td>24</td>
<td>1</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>15</td>
<td>HQ IG Comms &amp; HQ Lines of Comms Defences</td>
<td>5 cars</td>
<td>-</td>
<td>1</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>16</td>
<td>Printing Coy</td>
<td>6</td>
<td>-</td>
<td>1</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>17</td>
<td>HQ RFC</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Aeroplane Sqn</td>
<td>-</td>
<td>24</td>
<td>5</td>
<td>-</td>
<td>120</td>
</tr>
<tr>
<td>18</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>174</td>
<td>1198</td>
</tr>
</tbody>
</table>

Notes:
Motor cycles not included. Col (e) is based on the assumption that the BEF deployed with 3 corps and 6 divisions.
*1 Titled Army in reference.

The Germans mobilised 4000 motor vehicles in 1914 of which some 650 were 4 ton lorries. 178
Given this low proportion of lorries in the total compared to the British, it seems possible that

176 Wes. Part I Expeditionary Force 1914 (1914). It should be stressed that the figures are an establishment ie what
the BEF was meant to deploy with, not necessarily what it did.
177 Brig Gen Edmonds MOFB 1914 I (1922), Appendix 1.
cycles are included in the German figure. It should be noted that the British fielded more
ries in the 6 infantry divisions of the BEF than the Germans did for both fronts. In comparison
the Germans, the BEF's 7 divisions had a far higher proportion of MT.

dle 45. Distances and Areas in South Africa.\(^{179}\)

<table>
<thead>
<tr>
<th>Ser</th>
<th>Colony/State</th>
<th>Area (square miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Cape Colony</td>
<td>277,151</td>
</tr>
<tr>
<td>2</td>
<td>Transvaal</td>
<td>113,640</td>
</tr>
<tr>
<td>3</td>
<td>Orange Free State</td>
<td>48326</td>
</tr>
<tr>
<td>4</td>
<td>Natal</td>
<td>18913</td>
</tr>
<tr>
<td>5</td>
<td>Total</td>
<td>458030</td>
</tr>
</tbody>
</table>

The total compares with the combined areas of France and Germany some 216,000
square miles. In distance:

<table>
<thead>
<tr>
<th>Distance</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Town to Pretoria</td>
<td>1040</td>
</tr>
<tr>
<td>Cape Town to Kimberley</td>
<td>647</td>
</tr>
<tr>
<td>Durban to Pretoria</td>
<td>511</td>
</tr>
</tbody>
</table>

dle 46. Aircraft Strengths in 1914.\(^{180}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Aircrafts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britain</td>
<td>113 first line aircraft.</td>
</tr>
<tr>
<td>France</td>
<td>120 first line aircraft.</td>
</tr>
<tr>
<td>Germany</td>
<td>232 first line aircraft.</td>
</tr>
<tr>
<td>Russia</td>
<td>226 first line aircraft.</td>
</tr>
<tr>
<td>Austria-Hungary</td>
<td>36 first line aircraft.</td>
</tr>
</tbody>
</table>

ven allowing for RN aircraft the British proportion per division was far greater than for any
continental army.

\(^{179}\) Annual Register 1900 (1901).p 407.
Annex A. Areas for Further Research

*Only I cut on the timber-only I carved on the stone.*

*"After me cometh a builder. Tell him, I too have known!"*

It is said of the Royal Regiment of Artillery that doubling one’s hits and ignoring the misses is the high way to promotion. This annex daringly reverses the process, ignoring the bulls, if any, and signalling the outers and the shots that are short, wide or over the stop-butt. Notwithstanding the verse at the start of the bibliographic section, this thesis has many gaps. For understandable reasons it lacks military context as it skirts the tactics of foreign armies. Where comparisons have been made with the French and the Germans, as for example in Tables 15, 24 and 31, these are particularly interesting to this author. But far more remains to be done here. There is an interesting project on looking at the influence of foreign armies on British tactics. The SCSI’s two conferences on French and German influences on the British Army, though stimulating, have only scratched the surface. Dr Samuels’ *Command and Control*’s comparative approach is very interesting, but as Chapter 1 argues, its thesis has a number of flaws. Similarly more work is needed on the Japanese effect on the British treatment of human factors.

Further research is required on military education, discipline and training and their complex interrelationships. Again comparisons with other armies would be useful. This thesis has only examined training in a cursory fashion; detailed analysis of the themes of manoeuvres would be useful. There is probably sufficient material for a thesis in this whole field. Technology has not been explored as fully as this author would wish. There is an important monograph waiting to be written on motorization before 1914. Similarly C3 has only been cursorily examined.

The links between the Army and civil society in the period are also underdeveloped. The question of patriotism and whether there was an alteration in
official attitudes to promoting it are less well explored than this author had hoped would be the case. This thesis has skirted the wider question of Army education and its civil links. The Akers-Douglas Committee on Officer Education influenced the public schools and education. Comparisons with the Royal Navy would illuminate wider trends. The establishment of military lecturers at British universities after 1902 is another area where more work remains to be done. Here it may be noted that the University of London and King’s were well to the fore. But this thesis must declare an interest since it was written at King’s.

There are other fields needing more study. The very limited examination of Army’s and the Navy’s attitudes to doctrine is interesting, but more remains to be done. Dr Gordon’s *Rules of the Game* suggests that attitudes to initiative varied widely between the Services, again research is needed. Another broad area for examination is the influence of culture on the military. This thesis has touched on the Efficiency Movement but an article could be written about the REs and the Movement.¹ The influence of broad ideas such as Social Darwinism, science, the changes in society and culture and how they affected the Army is again under-researched. The former influenced the offensive stress in tactics at the time. Fortescue suggests that drink was becoming less socially acceptable. This probably improved Army discipline, though fines for drunkenness declined slowly.²

Military discipline needs more examination; a thesis possibly running through from the Victorian era until say 1945 would be invaluable. By studying a relatively long period the process of change would be more comprehensible. Another fascinating area is the question of military and arm cultures. Understanding unit and regimental cultures illuminates areas such as professionalism, attitudes to the Staff College and initiative.

¹ GR Searle *The Quest for National Efficiency* (1971) and The Organisation Society *Rules and Constitution*. (np nd). Swinton and Ward were two influential sapper members.
² JW Fortescue *Following the Drum* (Edinburgh 1931); Table 7.
Further investigation of the LI would possibly shed more light on tactical developments.

There is an article waiting to be written on the East Yorkshire Regiment and its series of able psc officers. Why there should have been such a cluster in this regiment remains to be explained. The most notable of them was Coleridge Grove, the Military Secretary.

There is work to do on the RA and REs. Both had distinctive cultures, both arms were very influential in the Army’s development. The Engineers were undergoing significant change and studying them should illuminate attitudes to technology. By looking at regimental, arm and administrative service cultures wider insights into the Army will probably be obtained. For that matter there is more work to be done on the artillery’s tactical and technical history.

It of course would be possible continue until the Last Post is played but there are more 3rd class shots than marksmen and this thesis has only grazed the periphery of the target. But then Kipling has force:

*When 'arf of your bullets fly wide in the ditch,*
*Don't call your Martini a cross-eyed old bitch,*
*She's human as you are-you treat her as sich,*
*An' she'll fight for the young British soldier.*