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THE BOER WAR AND ITS EFFECTS ON BRITISH MILITARY REFORM. (VOLUMES I AND II)

City University of New York PH.D. 1985

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THE BOER WAR AND ITS EFFECTS ON BRITISH MILITARY REFORM

by

JAY STONE

VOLUME I

A dissertation submitted to the Graduate Faculty in History in partial fulfillment of the requirements for the degree of Doctor of Philosophy, the City University of New York.

1985

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This manuscript has been read and accepted for the Graduate Faculty in History in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

Sept. 13, 1985
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ABBREVIATIONS

ARCHIVES

British Library	BL
Archives Historiques de l'Etat-Major de l'Armee, Château Vincennes	
Imperial War Museum	IWM
National Army Museum	NAM
National Library of Scotland	NLS
Public Record Office	PRO

JOURNALS

Army and Navy Journal	ANJ
Journal of the Military Service Institute of the United States	JMSIUS
Journal of the Royal Artillery	JRA
Journal of the Royal United Service Institute	JRUSI
Journal of the United States Artillery	JUSA
Journal of the United States Cavalry Association	JUSCA
Minutes of the Proceedings of the Royal Artillery Institution	MPRAI
Proceedings of the Royal Artillery Institution	PRAI
The United Service Magazine	USM

We have had no end of a lesson,
     it will do us no end of good.
We made an army in our own image,
     on an island nine by seven.
Which faithfully mirrored its makers'
     ideas, equipment, and mental attitude -
And so we got our lesson:
     and we ought to accept it with gratitude.[1]

[1]Rudyard Kipling, "The Lesson", Collected Verse (Garden City: Doubleday & Co., Inc., 1907), stanza 3 lines 9-12.

Introduction

On December 13, 1899 Maurice Brett, the future Lord Esher, received a letter from Sir Francis Mowatt indicating that "this war will do two things -- change our whole military system in England, and alter military tactics throughout the world."[1] The full truth of that statement could hardly have been appreciated at the time. But in the course of the next decade most aspects of army life, from sentry go to the command structure would undergo extensive study and substantial revision. It could be said that the Boer War affected a major change in "the British way of war."

The British army proper of 1899 remained a relatively small army for a Great Power with a worldwide empire. Its regulars amounted to only 216,000 men in a total force of 667,000 men.[2] Nonetheless this small army had proven to be an effective force in the wars of the nineteenth-century. It had seen active service in every year save one, 1862, of Queen Victoria's long reign. Apart from the Crimean War its principal field of action had been in that vast collection of lands, colonies and dominions that made up the British Empire. It was at once the guardian, the police and the vanguard of that empire. At

times it had sputtered and creaked in its campaigns against the Zulus, Afghans and Dervishes, but somehow the British (or the India n) regiments had always been able to snatch the laurels of victory. The military leadership took pride in the fact that only twice since the Indian Mutiny of 1857 had the army lost more than one-hundred men in a single engagement.

A century of general military success tended, naturally, to breed complacency among the officers and in the ranks. Both officers and men remained confident that their discipline and personal bravery could prevail against any adversary. Their self-assurance enabled them to overlook the army's lack of a satisfactory logistical support system, its poor training methods, and its outdated organization. By the European military standards of the late nineteenth-century the army had only moderate amounts of up-to-date equipment, particularly artillery of all calibers. The style and methods of the British army were primarily a legacy of almost a century of colonial warfare.

An army that had fought well on three continents did not appear to have any reason to fear the Boers. Throughout the diplomatic confrontation with the Boer Republics the British military leadership felt remarkably

self-confident. If it came to war the army had no doubt that it could break undisciplined Boer farmers with its shrapnel and the shock of its regular cavalry.

[1]Sir Francis Mowatt of Viscount, Esher, December 13, 1899. Reginald Baliol Brett (Second Viscount Esher), Journals and Letters of Reginald Viscount Esher. ed. M.V. Brett, 4 vols. (London: Ivor Nicholson and Oliver Watson, 1934-38), 1:249.

[2]To this figure may be added the more than 200,000 man Indian army which was separately raised and organized yet still available in emergency as for instance in Abyssinia (1868) and the Sudan (1898). When the Indian army is added together with that of the regulars and reserves the total British army is only slightly less than some of its continental rivals.

Chapter I

The British Army Circa 1899: War Office, Personnel and Training

At the head of any army stood its Commander-in-Chief. In 1899 this office was held by Lord Wolseley, the much decorated veteran of almost two decades in the War Office and of many successful African campaigns. Wolseley did not however enjoy the powers normally associated with high command. Since the promulgation of the Queen's Regulations of 1889 his post had been reduced to that of first amongst equals on what was nominally called a General Staff. Under that arrangement he lacked any real control over his department heads who were neither appointed solely by him nor subordinate to him. In fact, since 1895 when he had gained that position, the five highest officers at headquarters had developed the right to report directly to the Secretary of State. The outcome reduced Wolseley to what he called a "vice-chairman of a debating society without power."[1]

The reason for this cumbersome arrangement owed much to the thirty-nine year tenure of the Duke of Cambridge as

Commander-in-Chief, and his unique position as Queen Victoria's son. Over the course of time he had amassed such personal power that regular bureaucratic process, let alone innovation, had ground to a halt in his conservative and over-centralized hands. In an effort to facilitate matters the Hartington Commission of 1890 had called for the abolition of the post of Commander-in-Chief, the creation of a true General Staff, and a decentralization of the army.[2] Naturally both the Duke of Cambridge and his heir-apparent as Commander-in-Chief opposed this reduction in the authority and scope of the office, and the compromise eventually achieved was hardly a propitious one. The various department heads had become centers of power unto themselves. As Lord Lansdowne, the Secretary of State for War recognized, by leaving the Commander-in-Chief responsible for everything, while so limiting his power he had in fact been hobbled.[3] The true weakness of his position can be recognized clearly not only in his statutory inability to pick field commanders, but also in the requirement that they report directly to the Secretary of State, thereby circumventing his office.

It may be said that as a result of the post-Hartington reforms the problem of overcentralization

had merely been shifted to another plane. The Adjutant-General, for instance, had become responsible for army proficiency, distribution, mobilization, and technical education. He was also to serve as a channel of communication from the Commander-in-Chief to the army and to act as the latter's chief deputy. Such a task was again more than any one man could handle. Every department seemed to give rise to its own host of all but immovable civilian bureaucrats. The system became like the "War office itself, a labyrinth of stairs, passages and landings, hopelessly trying to bring unity to a group of row houses engulfed in the post Crimea reform effort."[4]

The lack of proper organizing principles was perhaps nowhere more in evidence than in the manner of stationing troops in Great Britain. Command had been broken up into seventeen districts without any common size or organization, and excepting Aldershot, without tactical consideration. Garrisoning of an Empire depended on the outmoded Cardwell Reforms of 1869 which had set up a system of twin-linked battalions in a regiment. One battalion should theoretically have been stationed overseas while the other could serve as a reserve and depot in the home country. In reality far more battalions were overseas, and

almost all of those at home were undermanned. The strength of various regiments was almost wholly determined by these foreign garrisons leading to constant fluctuations in numbers and quality. Supplementing this arrangement was a poorly trained and numerically inadequate reserve of 10,000 men which, when mobilized for Africa in 1899, left Great Britain proper with but one and a half battalions and three field batteries.[5]

Finally, in discussing the army's structure, one must remain aware of its uniqueness as the only army of a great power to maintain a voluntary method of recruitment. In order to keep up the flow of recruits, British supply and uniform had to be of a substantial quality, resulting in a comparably greater expense than that incurred by continental conscript armies. Compounding this issue was the longstanding Parliamentary concern over the channels of military funding which translated into detailed line by line budgets, as compared for instance with the French proclivity for block regimental grants for equipment.[6]

The very nature of what was spent and how it was appropriated added to the expense. With governments through much of the nineteenth century preoccupied by the budget there was little room for innovation. Hugh Oakly

Arnold Forster, the future Secretary of State for War recognized that Great Britain was not getting the best value for its pound sterling and that the then present military system was incapable of meeting the full needs of the empire.[7] He further recognized, as he pointed out in a letter to Lord Salisbury the Prime Minister, that "As to finance I know that big schemes must be cut according to our cloth."[8]

In considering the effects of prewar management and budgetary restraint on the specialized branches, the Royal Engineers stand out since they alone managed to keep their finances separate from the rest of the army.[9] This feat, while advantageous in the short run, caused considerable ill-feeling and fostered the Corp's isolation within the army as a whole. Consisting of a mere eight battalions, it would seem that small size alone would tend to unite the Corps; such was not the case however. Functions of the Royal Engineers were so specialized that the battalions served merely as an administrative shell for promotion.[10] Only the mounted detachment was stationed at Aldershot. The rest of the corps was distributed throughout the country, engaged in a host of civil projects usually unrelated to its wartime role. The Corps tried to

turn its officers into men of all parts equally versed in civil engineering, field engineering, telegraphy, balloooning, musketry, managment and military law. No individual could master any field before a transfer was arranged. It seemed as if,

> the mere maintenance of a number of weak and scattered units, destitute of higher organization, distributed solely in accordance with the necessities of peace, and lacking in all of the machinery and materials necessary to enable a satisfactory guarantee of national security [when in reality they only served] to preserve in their narrowest form the old regimental traditions.[11]

The situation of the Royal Artillery was hardly better. Organized into three parts, siege, horse, and field, each was decidedly ungerstrength frequently by as much as fifty percent.[12] The ordnance in use was rapidly approaching obsolescence due to a lack of modern quick-firing field guns and long-ranged heavy artillery. Managed by civilians under the Financial Section, the Ordnance Department actually knew little of over-all military affairs.[13] It was understaffed, short of supply and lacking in workshops. The Royal Artillery entered the war trained in obsolete maneuvers and lacking experience in functions in support of large units.[14]

Of all specialized departments, it was in

Intelligence where the twin British deficiencies in organization and budgetary niggardliness are best illustrated. A comparison with the great German General Staff, as attempted by L.S. Amery after the Boer War, is certainly in order, but is fraught with difficulties.[15] In 1899 the Germans spent the equivalent of £270,000 for a staff of three hundred officers, while Great Britain spent only £11,000 for seventeen officers, but the two organizations did not serve totally similar functions. Great Britain had a much smaller army to mobilize, and its Intelligence and Mobilization Division was not responsible for planning or staff training. Despite the allotment of only two officers for all colonial matters and two officers for France, Spain, Portugal and the Americas, the intelligence material that had been gathered was commendable. The army was kept well informed about both the number and quality of men and arms available to the Boer Republics.[16] Such flaws as the underestimation of Boer military skills, the effect of long-range artillery and its mobility were indicative of the insufficiencies of British doctrine as well as a lack of appreciation of the Boer's deviations from military norms.

Perhaps the most glaring intelligence failure of the

war was the lack of adequate maps of South Africa in general and the Boer Republics in particular. This was not the fault of the Intelligence Branch but rather that of the Engineers (who were theoretically responsible), and the various governments that refused funding. In 1896 a private mapping expedition, under a Colonel Grant, was mounted in Northern Natal (for no one expected the Boers to advance beyond that point). By means of this cover the government had hoped to avoid the public question regarding its intentions towards the Boer Republics. In the pre-war days it should be remembered that British public opinion was hardly united on that matter.

The Boers for their part published no maps of their territory and would not allow any British subject into their countries to draw them. In the Cape Colony any attempt at funding mapping expeditions would be blocked by the Afrikaner Bond party and incite raising political tension. The Natal government was far too poor to indulge in cartography. A formal British Parliamentary grant had only just been passed when the war broke out.[19] The Boers were security-conscious, but it was not until December, 1899 that the British established a department for the safe-guarding of military intelligence (H section,

later to evolve into M15) under Major J.E. Edmonds.[20]

Interestingly, despite the availability of hard evidence of Boer intentions to upgrade their armed forces and seek some resolution to the issues dividing the two parties, no serious action (reinforcement of garrisons, blockade or economic warfare) was undertaken prior to the Boer ultimatum for a number of reasons. Foremost among these was the delicate political situation regarding British national consensus. Divisions within the government only exacerbated matters as Sir Michael Hicks Beach at the Exchequer opposed any increase in spending and Lord Lansdowne (the Secretary of State for War) mistrusted Sir John Ardagh's (Head of Intelligence) assessments on the assumption that the latter was too closely associated with Lord Wolseley and prone to exaggeration for military institutional reasons. Lansdowne himself was a partisan of Lord Roberts then at odds with the War Office. Interestingly neither the Roberts nor Wolseley Ring favored a military action versus the Boers futhermore they both factions futhermore appreciated the weakness of the British position is South Africa.

By way of comparison with continental contemporaries it must be appreciated that in no way was the Boer War a

conflict fostered upon the politicians by the military. There was nothing of the continental syndrome of mobilization equating to war by timetable. At every step of the escalating crisis military options remained entirely flexible a situation that more than one government might later come to envy. It is of course possible on the other hand to claim that this latitude was only made possible by British military weakness which foreclosed several options. Finally it should be pointed out that in light of the Boers eventual inability to widen the war there never was any real foreign pressure aside from institutional and political embarrassment to reach a speedy and conclusive decision. When seen from this perspective the War must be appreciated as typically colonial in that the British were sufficiently in control of the international scene as to be able to isolate the theater and deal with the problem at their own pace.

It was not until September, 1899 (the very eve of the war), that the British forces in South Africa were raised to ten thousand men by a hasty reinforcement of three thousand.[21] The inadequacy of such numbers was evident to all concerned. General Sir George White, designated to be Sir Redvers Buller's Chief of Staff, wrote his wife,

"Goodbye dear old lady....we should have 20,000 more troops in South Africa than we have.... the Cabinet have only themselves to thank if they have to reconquer South Africa from the sea."[22] How far he was from the truth can be seen from the War Office estimate of troop needs at 75,000, German estimates of 150,000, and a reality which called for 450,000. This can be compared to the entire Napoleonic wars which entailed a British commitment of 750,000 men.[23]

If budgetary considerations and a lack of a professional approach affected higher organization, the same may be said to be true of the British Officer Corps. A young subaltern's salary of £100 per annum was grossly inadequate to his needs for his messing bill alone, not to speak of the dozens of specialized uniforms he was responsible for. It was estimated that an infantry officer required a minimum private income of £150 and a cavalry officer £500 depending on his regiment and its stationing.[24] A dandified, non-professional, polo-playing, narrow class basis of the officer corps resulted from that system so dependent on the private funding of an officer's expenses. The army was indeed suited to the sporting life. In the 1890's so much

emphasis was placed on sport that by pursuing hunting, shooting or field games an officer could absent himself from regimental duties for as much as 250 days annually. Even when on post an officer's time was his own after the completion of regular duties, usually about 9:30 A.M.[25] Sports could serve as a perfect metaphor for the army of 1899. What better example of the British attitude is there than Major Long's battery being shot to pieces at Colenso while feigning a cricket match and shouting to the Boers, "How's that umpire?"[26] On a higher command level we have a letter from Lord Kitchener complaining,

> we are still here: it is very disappointing, but it is quite impossible to count on anything in this army. I must say I like having the whole thing cut-and-dried and worked out; but people here do not seem to look on war sufficiently seriously. It is considered too much like a game of polo with intervals for afternoon tea.[27]

Nonetheless, the ideal of sport may have developed the trait most often associated with British officers: their conspicuous courage. That virtue seemed to be indispensible for the attainment of rank. Large numbers of Victoria Crosses had been won by senior officers. In most cases the award came for having saved some brother officer from his native antagonists. The officers' calm courage

tended to radiate throughout the ranks. James Milne's Epistles of Atkins which purports to give the enlisted viewpoint, refers to battle in the following way:

> yes, but the colour, the movement, the elan of the charge are still the heroic poetry of war and so will remain. The charge is visible, roaring, alive, with quick certain returns, the gods of war having it out, not a dull deadly game at a far-flung range. So its glamour remains great, the thing itself puissant, decisive, at many a turning in the campaign.[28]

Courage in and of itself does not make a good officer. Despite the average officer's private means, a proper, let alone, professional education and attitude was often lacking. What formal study went on at Sandhurst tended to be the rote learning of the "Red Books", lasting only eighteen months as compared to West Point's four years curriculum although in all fairness the latter was an engineering school. Few officers were acquainted with foreign languages, and the writing of technical military studies was frowned upon. Officers such as the gifted inventor, Douglas Earl of Dundonald, or writers, such as Lord Wolseley or Colonel G.F. Henderson, were the exception.[29] Perhaps the crowning proof of this was the fact that in 1900 Germany produced fifty percent of the world's military literature, France twenty-five percent and

Great Britain one percent.[30]

If the raw material of the officer corps was somewhat lacking due to the poor quality of their previous training, the system only served to compound the errors. Given the army's elitist outlook it followed that much ink could be spilled over such absurd issues as organization based on senior highland regiment, senior highland regiment in England, and senior clan regiment. These issues just scratched the surface of much greater problems.[31] From the first day of enlistment it made a difference to the officer if he served in the Light Brigade or the more prestigious Highlanders or Guards; if one served in the first or second battalion, or in or out of India or Africa. The British army seemed to be self-absorbed in the various "Rings" associated with Roberts, Wolseley, Kitchener and several lesser lights. Whereas the navy saw unity in the service, the army looked to the regiment or Ring. Promotion existed within the regiment since only the most ambitious officers strove for staff positions. For most officers a career consisted of twenty-two years of company drudgery.[32] Of those officers who went on to staff position, barely one-quarter had graduated the staff college, and of those, many were directly nominated by the

Commander-in-Chief without having to undergo examinations.[33]

The basic flaws of the British officer corps in 1899 were its narrow class bias and non-professional attitude.[34] The proof of these deficiencies was borne out during the war but little could be done until the purse strings were sufficiently loosened to allow the consistent appointment of officers based on talent rather than means. It was only by means of raising pay to the point that one could call it a living wage that the army could sufficiently increase its manpower pool among the more professionally minded middle class.

If Britain's officer corps seems unique, the same may be said for the entire army. Any discussion of this point must begin with the fact that Great Britain is an island and throughout most of its history has placed most of its military fate in the hands of the navy. Since the days of Cromwell, the army had been kept small and tightly controlled by parliament. It is no accident that Great Britain has only a Royal Navy and Air Force. With a population of 40.5 million, Britain's army of 200,000 hardly equaled that of Bavaria, with a population of 5.7 million.[35] Of all the major European powers, Britain

had the fewest troops, not only absolutely, but in proportion to land and population as well. Except for the Netherlands only Great Britain maintained a volunteer army. A long term (twelve year) enlistment tended to create what could be considered a professional army. In order to attract manpower, Britain had to pay in both relative and absolute terms. During prosperous times, pay had to go up or the army would be left with only the dregs of society. Austria, with an army of 368,000, had a military budget of £16,200,000 in 1899 compared to Britain's outlay of £20,000,000.[36] No country, in fact, paid as much per soldier as did Great Britain.[37]

What sort of soldier was Britain getting for her money? Most officers seemed to view them in much the same way as Wellingon. The English army had always been known for its high proportion of officers and non-commissioned officers. Supervision was the order of the day. While children could go to school by themselves details of two men would be marched around a corner. All matters professional and personal were carefully regulated. The number of actual decisions to be made by the individual soldier were kept to the minimum. No allowance was made for other ranks (as opposed to officers) to live off post,

draw a food allowance or even decorate a barracks. Individuality was systematically beaten out of the recruit.

The natural outgrowth of such a closely ordered system was a soldier bred to deference and lacking in initiative. How much of this was due to the process and how much to raw material is open to question. In 1899, 45 out of 1000 enlisted men were fairly well educated and only eighteen percent could be considered illiterate.[38] If we accept the contemporary stereotypical view of the soldier then we must consult the army's critics for an explanation. Arnold-Forster the future Secretary of State for War felt the army would always remain undermanned as long as military life was unpopular, with poor employment prospects on retirement, shabby living conditions in the barracks, and competition from various Auxiliary Forces drawing manpower from the same pool.[39]

If the regular army can be seen as consisting primarily of the topmost and bottommost strata of society, then it may be said that the second and third lines of defense followed the same pattern. The reserve components known variously as the Militia Reserves, the Militia, the Volunteers, and Yeomanry, had several distinct roles in the national defense system. The Militia Reserves embraced

about 30,000 men who had recently been released from the army and had remained organized on a national basis. In return for a higher rate of pay than the regular Militia they accepted the liability for service abroad contingent upon agreement of seventy-five percent of the unit. Next in importance was the Militia, consisting of about 100,000 men responsible for twenty-one days training per year similar to that of the Militia Reserves but having no commitment to overseas service although they too were organized on a national basis. The Volunteers, numbering about 230,000 and the Yeomanry, a cavalry force of 10,000 were organized on a county basis. As a final line of defense they had neither strenuous training obligations nor overseas commitment.[40]

What these various forces had in common was as important as what separated them. They all lacked any uniform structure let alone higher command. None of them was absolutely required to serve outside the home islands, even in the case of national emergency. All were strapped for funds and in the case of the Volunteers and Yeomanry, financing had to be provided by the officers and the county. Their real uniformity consisted of a lack of discipline, modern arms, and full complements.

Suffering under the adverse effects of the infamous Stanhope memorandum of 1891, which stated that it

> be distinctly understood that the probability of the employment of an Army Corps in the field in any European war is sufficiently improbable to make it the primary duty of the military authorities to organize our forces for the defences of this country.[41]

the army was totally directed towards home and colonial defense. The Reserves existed primarily to sustain the army in the case of a precipitous invasion.

In examining battlefield effectiveness one must go beyond questions of organization and numbers to the matter of tactical doctrine. For the British this was most often equated with overwhelming firepower. Every soldier received an issue of two hundred rounds annually for target practice (the same as in Napoleonic times). All training and practice fire was carried out from kneeling and standing positions.

> It (musketry training) consisted of firing a limited number of rounds at a stationary bulls-eye target, at fixed known ranges, progressing from 100 to 1,000 yards, the distances gradually increasing instead of decreasing as they normally do in war. Once a year there was field firing, when a battalion would spend a glorious morning blazing away at a number of screens set up in conspicuous positions which no sane enemy would ever think of occupying.[42]

One hundred and fifty rounds were to be used solely for practicing collective (salvo) fire.[43]

On the battlefield the regulations stated that infantry fire was to be opened at 450 meters as compared to 600-1,000 meters for the Germans. While the British continued to emphasize volley fire the Germans preferred individual skirmish fire.[44] In general, the British manuals continued to place undue empahasis upon massed fire from close formations. Large sections of the training manuals dealt with close order battalion formations such as the square or echelon which were deemed especially useful in "savage" warfare. Disciplined solidity had successfully smashed all the army's Arab, Negro and Indian adversaries. Defeat had come when an officer's thirst for action had led him to disobey standing practice such as at Isandlhwana. For the enlisted man war meant fighting by rote. If the men loaded quickly and kept together, little harm could come to them. Correlli Barnett has claimed that "The British soldier of 1899 himself was no more than a mindless brick in a moving wall of flesh, instantly responsive to the orders of his superiors."[45]

Against contemporary modern armies it was realized by some authorities that the dense formations of the old

school might prove hazardous. Sir Frederick Maurice, the famed military historian of the period, leant his prestige to a volume that taught,

> the advance is to be made as rapidly as possible, the main object being the attack with the bayonet. Independent firing is generally advisable only at short range, but if an especially faorable target presents itself, it may be ordered also at middle or extreme ranges...whilst the attack is being developed volleys only are to be fired by section or subsections till the order is given for independent firing.[46]

A speedy approach was of course the simplest solution to the problem of crossing a firezone. More sophisticated solutions involving use of fire and movement could not be developed as long as heavy reliance was placed upon the bayonet which in turn was most effective in massed formations and a psycohlogical weapon par excellence. Faith in the bayonet enabled troops to advance with the intent to use it. It was feared that if this principle was ever called into question then the troops would not approach the enemy close enough to be of any use whatsoever.

Under daylight conditions in the face of modern weaponry advances were to be made in three lines, each separated by several hundred yards with the whole front

covered by a screen of skirmishers. The first line was to pin the enemy, the second was to assault, and the third to pursue or cover the retreat. Tactical flexibility was extremely limited since the Drill Book of 1896 did not include any instructions for the movement of troops in extended order.

Oral commands tended to be extremely formal to the pont of awkwardness, for instanace, "That _____, face, the dash being some object, rather than "right face", etc., or "Advance, right incline, halt", rather than "take cover behind those rocks".[47] For a night advance, troops were to march in column of company, half-company, or section, with the ranks three paces apart and the files one pace distant. An advance guard was to be stationed 25-50 yards forward and a point guard with an officer yet another 100 paces forward.[48] That such a formation might lead an entire command into close range as a massed unit seemed to have gone unrecognized.

The British tactical scheme supposed that once units were engaged they would function mechanically. It was not considered that morale might falter under adversity. Hamley's Operation of War, a classic of the period mentioned morale only twice.[49] From the official

British perspective the then current form of warfare between major European armies had to some degree decreased the attacker's vulnerability since artillery would unsettle the defense so that an accurate counter-fire could not be maintained.[50] What was to be avoided was a defensive posture for "It is of the essence of defence that it exhausts quicker than does offence."[51]

If infantry training was deficient, then the cavalry, which had never been Britain's strongest arm, was even more so. Most mounted units were restricted by insufficient training areas. Only those squadrons stationed at spacious Aldershot had any opportunity to practice the nuances of cavalry tactics beyond those of general shock action. The subtleties of pace, direction and reconnaissance all went unexercised. Mounted troops, despite their regulation carbine armament did not deign to practice musketry.

During the years immediately preceding the Boer War the army had two opportunities to test the effectiveness of its organization and doctrine. In 1898 Britain staged its largest peacetime maneuvers in more than a generation. Fifty-thousand men ostensibly organized in two corps and two cavalry brigades took part over a period of three months. On the surface this would seem to have been a

considerable feat: yet the ground rules conspired to mitigate its utility. The maneuvers in fact went on only from breakfast to dinner as officers felt the need to be free to attend the London theater and socialize with the country gentry in the evenings.[52] The critics noted that the maneuvers were actually a series of field-days, strung together around a general idea rather than a fluid war situation maintained from start-up to rest day.[53] The training was held on the familiar grounds of Aldershot which was unfortunate since it encouraged a neglect of reconnaissance. Since the terrain was familiar all of the possible avenues of approach were well-known to both sides. The campsites had been pre-selected due to the shortage of availalbe land and water. The utility of the exercise was further marred by the offensively prejudiced Rules For Field Manoeuvres of 1896.[54] While the importance of entrenchments had been recognized since the American Civil War, Sir Arthur Conan Doyle was aghast to see soldiers standing and delivering volleys at short range.[55] Perhaps the greatest revelation of the maneuvers was the ineptness of the high command which was forced to deal with more troops than most of its members had ever seen in one place. The so-called Corps

organization proved a myth. The tactical unit of the British army was the battalion with a regimental structure serving purely administrative functions. Grand tactics were to be carried on at the brigade level, yet the senior generals tried to command every battalion so that far too many battles resolved themselves into frontal attacks.[56] A letter to The Times of London summed up the 1898 maneuvers as follows:

> your Correspondent has made it abundantly clear that the art of handling any other than small units under modern conditions is but little understood in our home Army; that all combatant duties, including those of the staff, are either unpracticed or unfamiliar, and that the tactics of the three arms, when acting together, are of a crude description.[57]

In 1899 budgetary concerns scaled the maneuvers down and divided them into two phases. The first held in Ireland and overseen by Lord Roberts emphasized individual training and the decisive nature of firepower at ranges less than 500 yards. Their flaws were noted in the officers failure to mount secondary attacks and a continued lack of coordination with artillery.[58] The cavalry received mixed reviews. Forced by Roberts to dismount, it showed considerable firepower in the defence when supported

by machine guns. On the offense it still lacked a mastery of the elements of reconnoitering.[59]

The second phase at Aldershot in 1899 proved even less successful than the one in Ireland. Infantry advanced without heeding the use of cover. Reconnaissance was once again poor. No digging of trenches was permitted, allegedly for fear of damaging the down. General Sir Redvers Buller, not having commanded troops for twelve years, precipitously ended the maneuvers with a disastrous one to one assault after marching his command fourteen miles.[60] As the future commander of the South African expeditionary force this did not bode well for the campaign nor did it reflect positively on the personnel selection process of the army.

The maneuvers certainly showed the army in a less than favorable light. The well-informed Colonel G.F.R. Henderson wrote that major efforts should be made to:

1) train the judgment of the officers so that when left to themselves they may do the right thing
2) make use of the most difficult ground available
3) avoid the constant practice of normal formations
4) train the individual skirmisher[61]

As could be seen, the British army was deemed inadequate for the task before it, as noted in a

Parliamentary report dated September, 1898, over a year before the opening of hostilities.[62] The invasion of Natal by Boer forces in the early days of a campaign was also anticipated in an intelligence appraisal.[63] The accumulating errors were not only of a short term judgemental nature, but also of organization and theory.

Military and political issues were intimately intertwined with the Salisbury Government's efforts to settle the disagreement with the Transvaal and the Orange Free State without a show of strength which might spark an armed conflict. The inflexibility of the professional army's structure prevented any subtle shifting of forces. Lord Kitchener surmised that the chief cause of the army's inability to muster greater initial numbers was:

> our system of Short Sevice and Reserve, without which all our battalions were unable to take the field, rendered any idea of having at hand an efficient striking force wherewith to secure initial advantage in a campaign impossible. The necessity of calling up our Reserves before we could take the field was an obvious advertisement of our intentions.[64]

On the outbreak of hostilities the army could muster only 27,000 men in the prospective theater of operations. The Boers fielded 45,000 men. The situation clearly differed from that of earlier colonial wars in which the

opponents frequently lacked any military intelligence allowing for a gradual build-up of British strength.

For the army to function both outnumbered and under its own faulty command structure was difficult enough but compounding the issue was the fact that exclusive of the Admiralty, four separate offices could conduct a war: the War Office, Colonial Office, Foreign Office and the India Office.[65] "Our existing military organization (wrote Arnold-Forster) is based upon no known and accepted principle. No one knows what the army is intended to do, or on what principle, if any, its numbers are regulated."[66] Wolseley's frustration can easily be understood considering his declaration of the insufficiency of the South African garrison in 1896; his call for bringing the army up to strength in 1897; and his suggestion for increasing the artillery and mobilizing a corps at Aldershot in 1899.

Requesting troops is one matter while knowing what to do with them is still another. Even after the outbreak of war no effort was immediatly made to increase the intelligence staff, or draw plans for troop utilization. It was the army after all that was responsible for the subsequent request that the colonies send only infantry and

no cavalry. General Buller was to complain of the last minute plans:

> the details (of which) were arranged by a Committee sitting at the War Office. I was not invited to attend its meetings or furnished with the minutes of its deliberations. I pressed for the employment of General French with the cavalry and foe Colonel Miles on the staff. I had no voice in the appointment of the Commanders or of the senior staff officers selected.[67]

The future Field Marshal William Robertson blamed the Stanhope Memorandum for the fact that the "broad military plans essential for the defence of the Empire as a whole received no adequate treatment in the War Office of the period."[68] While the reasons for this neglect as we have seen go far deeper, the truth remains that, "After thirty years of confusing changes accompanied by continual criticism, notably from the Committees of Lord Airey, Wantage and Elgin, the expeditionary army and home defence force in the Boer War still had to be hastily improvised."[69] or at least that was the finding of the noted military historian Brian Bond. It was Sir Henry Brackenbury, the Master of Ordnance, who noted that "We attempted to maintain the largest Empire the world has ever seen with armaments and reserves that would be insufficient

for a third class military power."[70]

To characterize the British military establishment of 1899 much should be made of its apathetic, snobbish and nonprofessional officer corps, it's highly disciplined ranks, and the conservative, anti-militaristic milieu in which it functioned, the whole wrapped in a stout cloth of Gladstonian parsimony. How else could one explain the Queens Regulations of 1899 which found space for seventy-one regulations dealing with dress, and only four for musketry and one for field training, while still noting that troops should wear old clothes to maneuvers since the troops would not be anxious to buy new ones.[71] Despite all of these deficiencies, the world as a whole held the British army in high regard in light of its long string of victories dating back to 1815. The British themselves believed that "The Army was never in better condition either as regards the zeal and skill of its officers from the highest to the lowest, the training and discipline of the men, or the organization of all the branches of the service."[72]

[1]James Edward Edmonds, Memoirs (unpublished) The Intelligence Division: The South African War 1899-1902, "Brig. Gen. James Edward Edmonds Papers," Liddell Hart Center, Kings College, London, III, 3, p. 1.

[2]Great Britain, Parliament, Parliamentary Papers (House of Commons and Command), 1890, vol. 19, Cmnd. 5979, "Report of the Royal Commissioners Appointed to Enquire Into the Civil and Professional Administration of the Naval and Military Departments and the Relation of Those Departments to Each Other and to the Treasury."

[3]"The Changes At the War Office," Times (London), 14 March 1899, p. 13.

[4]Thomas Packenham, The Boer War (New York: Random House, 1979), p. 69.

[5]George Sydenham Clarke, "The Proper Precautions For Imperial Safety," Nineteenth Century 47 (April, 1900):546.

[6]Arthur Forbes, Modern History vol. II of a History of the Army Ordnance Services, 2 Vols. (London: The Medici Society, Ltd., 1929), 2:87.

[7]Arnold Forster, "Letter" Times (London), 18 November 1899, p. 15.

[8]Arnold Forster to Lord Salisbury, October 28, 1900. "Arnold Forster Papers," P.R.O. 30/67-6.

[9]"Administrative Reform in the Army: A Retrospect," Edinburgh Review 200 (October 1904): 498.

[10]W. Baker Brown, "Reorganization of the Corps of Royal Engineers," USM, July 1900, p. 395.

To see just how splintered the Corps was, one has but to look at its table of organization:

2 troops>	
2 divisions>	1 battalion
1 depot>	
8 field companies	1 battalion

20 service companies	2 1/2 battalions
4 survey companies	1/2 battalion
2 railway companies	1/4 battalion
12 submarine companies	1 1/2 battalions
9 training companies	1 1/8 battalions
Balloon section, mounted detachment, coastal battery	1/8 battalion
	8 battalions
3 3/3 native sappers>	
5 5/8 extra officers cadre>	9 battalions
	17 battalions total

Common Sense, "Reorganization of the Corps of Royal Engineers," USM, June 1900, p. 285.

[11]"Administrative Reform", p. 487.

[12]H. O. Arnold Forster, The Army In 1906: A Policy and A Vindication (London: John Murray, 1906), p. 244.

[13]George Sydenham Clarke, My Working Life (London: John Murray, 1927), p. 129.

[14]W. S. Hamer, The British Army: Civil Military Relations, 1885-1902, (Oxford: Clarendon press, 1976), p. 176.

[15]L. S. Amery, The Times History of the War In South Africa 1899-1902, ed. L.S. Amery, 7 Vols. (London: Sampson, Low, Maraton & Co., Ltd., 1900-09), 2:39.

[16]Hamer, p. 178.

[17]Elizabeth Charlotte Briggs, Staff Work of the Anglo-Boer War, 1899-1901, Embodying Some of the War Letters to the Morning Post From South Africa (London: Grant Richards, 1901), p. 63.

[18]Julian Symons, Buller's Campaign (London: Crecent Press, 1962), p. 63.

[19]Briggs, p. 176.

[20]John Gooch, The Plans of War: The General

Staff and British Strategy, 1900-1916 (London: Routledge & Kegan, 1974), p. 21.

[21]J. Markham Rose, "First Military Prize Essay For Gold Medal Competition, Subject: Lessons to be Derived From the Expedition to South Africa in Regard To the Best Organization of the Land Forces of the Empire," JRUSI 45 (May 1901): 543.

[22]White to Lady White, 6 October 1899. "Lt. General Sir George White Papers", India Office Library, London, Eur. R. 108, 101/1.

[23]Rayne Kruger, Good-Bye Dolly Gray: The Story of the Boer War (London and Sydney: Pan Books, 1959), p. 567.

[24]William Elliot Cairnes, An Absent-Minded War: Being Some Reflections on Our Reverses and the Causes Which Led to Them (London: J. Milne, 1900), p. 24.

[25]H. De Watteville, Lord Kitchener (London and Glasgow: Blackie and Sons, Ltd., 1939), p. 80.

[26]This attitude would remain intact to World War I; see for instance, Sir Henry Newbolt's "The Game", as quoted in Paul Fussell's The Great War In Modern Memory (London, Oxford and New York: Oxford University Press, 1975), pp. 27-28.

[27]De Watteville, Lord Kitchener, p. 71, quoting George Compton Archibald Arthur, Life of Lord Kitchener, 3 vols. (New York: Macmillan Company, 1920), 1:302.

[28]James Milne, The Epistles of Atkins (London: T.F. Urwen, 1902), p. 80.

[29]Earl Dundonald invented a light machine gun, a more comfortable ambulance, a water-proof bag for floatation and a smoke screen.

Eversley Belfield and Michael Gallimore, The Boer War (Hamden, Conn.: Shoe String Press, 1975), p. 1331.

[30]Alfred Vagts, A History of Militarism (New York: Meridian Books, Inc., 1959), p. 226.

[31]F. R. W. Lamloton, "Letter," Times (London), 5 April 1900, p. 8.

[32]E. L. Berger [Aldebaran], Ideas and Suggestions on the Subject of Army Reform (London and Bombay: Longmans, Green & Co., 1905), p. XII.

[33]Mortimer Harcourt Bengough, Notes and Reflections on the Boer War (London: William Clowes & Sons, Ltd., 1900), p. 53, and Cairnes, p. 44.

[34]In 1895, 4.5% of all officers had risen from the ranks, but by 1901, this had declined to 2.7%, indicating that the war itself did little to democratize the army.

Pirie, Great Britain, Parliament, Hansard's Parliamentary Debates, 4th Series, 94 (1901): 347.

A scathing memorandum by the Adjutant-General on the lax conditions at Sandhurst would ultimately lead to the formation of the Akers Douglas Committee.

Sir John Smyth, Sandhurst: The History of the Royal Military Academy Woolwich, The Royal Military Academy Sandhurst, 1741-1961 (London: Weidenfeld & Nicolson, 1961), p. 124.

[35]"The South African War of 1899-1900: Translated From the Jahrbücher für die deutsche Armee und Marine," JRUSI 45 (July 1901): 854.

[36]Theodoer von Sosnosky, "The Future of the British Army From a Foreign Standpoint," Fortnightly Review 73, ns 67 (May 1900): 802.

[37]Germaine Bapst, "L'armée Anglaise," Le Correspondant 204, ns 168 (10 July 1901): 412.

[38]James Frances Jewell Archibald, Blue Shirt and Khaki: A Comparison (New York, Boston, etc.: Silver, Burdett & Co., 1901), p. 48.

[39]Arnold-Forster, The Army in 1906, p. 160.

[40]Clarke, "The Proper Precautions For Imperial Safety," p. 548.

[41]J. K. Dunlop, The Development of the British Army, 1899-1914, from the Eve of the South African War to the Eve of the Great War, With Special Reference to the Territorial Force (London: Methuen, 1938), Appendix A, p. 307.

[42]Symons, p. 112.

[43]William Baring Pemberton, Battles of the Boer War (London: B.T. Batsford, 1964), p. 30.

[44]Albrecht von Boguslawski, "Tactical Deductions From the Boer War," trans. Capt. Frederick Kudsen, in Selected Translations Pertaining to the Boer War, April 1 1905, ed. Second (Military Information) Division, U.S. General Staff (Washington: Government Printing Office, 1905), pp. 137-38.

[45]Correlli Barnett, Britain and Her Army 1509-1970: A Military and Social Survey (New York: William Morrow & Company, 1970), p. 340.

[46]Lt. Colonel in the British Army, The British Army, with an introduction by Sir Frederick Maurice (London: Sampson, Low, Marston & company, 1899), p. 138.

[47]Hugh de Berdt Hovell, Soldiers Training and Other Notes (London: Gale & Polden Ltd., 1900), p. 3.

[48]Lonsdale Hale, "Our Peace Training for War, Guilty or Not Guilty?" Nineteenth Century 47 (January 1900):, p. 3.

[49]Sir Edward Hamley, The Operations of War: Explained and Illustrated 1866 (New Edition, Brought Up to the Latest Requirements by L.E. Kiggell) (London: Blackwood, 1909), pp. 6 and 406.

[50]Frederic Natusch Maude, Military Training

and Modern Weapons, vol. 15 of the Balzac Library (New York: Tucker Publishing Company, 1900), p. 22.

[51]Alfred Thayer Mahan, the War In South Africa: A Narrative of the Anglo-Boer War From the Beginning of Hostilities to the Fall of Pretoria With An Introduction by Sir G. Bourinot (New York: R.H. Russell Publishers, 1901), p. 35.

[52]Cairnes, p. 62.

[53]Grierson, "The Salisbury Manoeuvres," Blackwoods Magazine, November 1898, p. 678.

[54]Fitz James Maine Edwards, The Defence and Defensive Positions, rev. ed. (London: W. Clowes and Sons, 1902), p. 308.

[55]George Robert Francis Henderson, "The Training of Infantry For Attack," The Science of War: A Collection of Essays and Lectures 1892-1903 by the late Colonel G.F.R. Henderson, ed. Capt. Neill Malcolm (London, New York, etc.: Longmans, Green & Company, 1905), pp. 340-41, and
Arthur Conan Doyle, The Great Boer War (New York: McClure, Phillips & Company, 1900), p. 444.

[56]Hale, "Our Peace Training For War", p. 239.

[57]Majuba, p. 8.

[58]Military Correspondent, "Lessons of the Irish Manoeuvres, Part III," Times (London), 31 August 1899, p. 6.

[59]Military Correspondent, "Lessons of the Irish Manoeuvres, Part II," Times (London), 28 August 1899, p. 11.

[60]William St. John Brodrick, Earl of Middleton, Records and Reaction 1856-1939 (London: John Murray, 1939), p. 133.

[61]Henderson, "The Training of Infantry for Attack," The Science of War, p. 364.

[62]Great Britain, Parliament, Parliamentary Papers (House of Commons & Command), 1903, vol. 40 (Reports and Minutes, vol. 1), Cmnd. 1789, "Report of His Majesty's Commissioners Appointed to Inquire into the Military Preparations and Other Matters Connected With the War in South Africa," p. 13.

[63]Ibid., p. 10.

[64]Kitchener to the Duke of Cambridge, September 7, 1898. William Willoughby Verner, The Military Life H.R.H. George Duke of Cambridge, 2 vols. (London: John Murray, 1905), 2:419.

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[67]General Buller to the War Office, January 6, 1900, P.R.O. W0132, piece 6.

[68]William R. Robertson, From Private to Field Marshal (Boston and New York: Houghton Mifflin Company, 1921), p. 92.

[69]Brian Bond, "The Effect of the Cardwell Reforms in Army Organization, 1874-1904," JRUSI 55 (August 1960):519.

[70]Quoted without footnote in Symons, p. 48.

[71]A. G. Boscawen, "Some Personal Impressions of the Army," National Review 36 (December 1900): 498, and Hovell, p. 234.

[72]Spenser Wilkinson, Lessons of the War, Being Comments From Week to Week to the Relief of Ladysmith (Westminster: A. Constable & Company, 1900), p. 3.

Chapter II

The Sinews of War: Mobilization, Reserves and Supply

The Boer ultimatum, demanding a cessation of all military preparations, expired on October 11, 1899. Britain was at war with a relatively modern foe for the first time in over forty years.

The British army consisted, on paper, of three corps, each of three divisions of two brigades of four battalions plus a machine gun section and special troops attached according to duty assignment. Allocated to each corps was a cavalry brigade of three regiments of four squadrons plus two companies of mounted infantry, a horse gun battery and two sections of machine guns. The artillery complement consisted of three six-gun batteries per division of infantry, called, in British parlance, a brigade division. Each corps had an additional brigade division of horse artillery (two batteries) and two of field artillery. One company of engineers was assigned to each division with an additional company allocated to each corps.[1] Given the specialized organization of the Royal Engineers there were simply not enough general purpose engineer companies to go

around. It was thus impossible to maintain this theoretical proportion.

As of September 1899, seventy-three battalions were stationed in Great Britain and seventy-five overseas. The disposition of the cavalry was sixteen regiments at home and twelve overseas.[2]

The mobilization table of 1899 called for 500,000 men, yet according to Julian Symons "of this very large force, only about 120,000 men were regulars; in other words, less than 25% of the whole one-half million were available for offensive purposes beyond the shores of the United Kingdom."[3] Wolseley had constantly fought for a fourth corps, making possible two at home and two abroad. As he interpreted the Stanhope memorandum, this was already mandated. After three months in office he sought an increase of eleven batteries and fifteen battalions, but this was rejected by Lansdown due to the expense (£2,000,000 the first year and £1,000,000 thereafter.)[4]

Combat manpower as we have seen was not abundant. With the outbreak of hostilities, mobilization began inauspiciously. Forty percent of the 106,000 men Home Reserve were reported unfit.[5] The first step of mobilization proved to be that of fleshing out reserve

units that were supposedly combat ready. Battalions on the average needed a forty-seven percent increase in manpower to be prepared for South Africa. Virtually every department was under-strength and in the specialized areas such as railroading and ballooning rapid expansion was difficult.[6] While sufficient arms and material were available for the equipping of three army corps, it was discovered that nothing had been allocated for their maintenance.[7]

The corps organization proved to be a mirage. The lack of pre-existent higher staffs led to a frantic shifting about of units and officers to create these otherwise phantom structures. The shortage of barracks and cadre troops meant that mobilization points were often far from the soldier's home. Still, a South Londoner having to report to a unit in the North of England was exceptional.[8] A higher organization rarely bore out the geographical basis inferred in the Irish, Lancashire, Guards or Highland Brigades. Only one of six infantry Brigades had ever trained as a unit.[9] The non-territorial basis of the pre-war corps arrangement inevitably proved a distinct hindrance to an effective mobilization and general cohesion.

Political and military resistance to the corps system had long been based on its perceived cumbersomeness. It was felt that Great Britain's unique position as an island would ultimately result in a piecemeal commitment of troops no matter what their higher organization. A division was also regarded as less bulky in home defense. The unfinished status of the organizational reforms quickly came to the fore with mobilization:

> we had diligently copied the German and Continental army corps system in our nomenclature, even to the numbering of our brigades and the names of our units, but with that it ended, and from the first landing of our First Army Corps, an army corps as a unit did not appear again till the end of the war, although eventually there was a larger force in the field than was previously in our history.[10]

The mobilization plans of 1899 had called for the First Corps to embark within fourteen days with the Second and Third Corps following by week five.[11] In reality, the first three divisions had left by the end of October, and by late November the fourth had followed. Of the first 45,000 troops, only 6,000 were cavalry and mounted infantry. The artillery consisted of nineteen field batteries without any heavy guns of position. The composition of this force may seem a bit strange since, "It

had been the Staff College teaching ever since Majuba that M.I. was the most desirable arm to contend with the Boers".[12] The issue of the cavalry component was a delicate one since it had indeed been raised in the Defence Committee. Upon the suggestion of sending 10,000 cavalry to South Africa prior to the war, Wolseley and Buller objected, although three early battles were to be lost for its lack. St. John Brodrick the Secretary of State for War claimed that, "not the least cause of this decision was that if they had agreed to send 10,000 mounted men, they would not have had a cavalry soldier left in Britain".[13]

With the dispatch of the eighth division in February, 1900, the last of the regular units had been committed. Wolseley had sought to fight the war exclusively with the regular army. He had declined the aid of volunteers, militia, Indian troops and colonials yet the war simply refused to be contained. As the army continued to expand, its shortcomings grew proportionately. Lord Roberts believed that,

> for an army of 90,000 men, we had probably as many trained Staff Officers as were required. But when the army grew to 250,000 and 300,000 men the appointments had to be filled by men with whom want of experience

was the rule rather than the exception.[14]

As the reserves were called to the colors it was noted how inappropriately they were outfitted, lacking as they did field uniforms and having been issued only home pattern boots that came apart under marching conditions. The reserves also were bereft of all manner of saddlery and cartage.[15] The system was coming apart at the seams, and overseeing the confusion was a Mobilization Division consisting of only eleven officers.[16] The circumstances that the original planning envisioned of 35,000 men rather than 250,000 does much to explain the chaos, but does not excuse it.[17] Of the seventy-three battalions supposedly available, Britain was barely able to scrape together sixty-four to make up eight divisions.

If men and materiel proved to be in short supply in the early stages of the war such was not the case with shipping. Great Britain was the first maritime power in the world and her army had long been accustomed to movement by sea. Complete naval supremacy allowed for the use of even the poorest quality and slowest of ships. As there was no likelihood of a battle at sea escort was uncalled for. When an urgent crisis arose, naval vessels such as

the cruiser, H.M.S. Terrible, could be overloaded with a battalion of infantry and used to rush the troops from Mauritius.

Transport by warship was only an emergency procedure. The greatest bulk of transshipment was carried out by private shipping firms. By late Januray the British had committed over 750,000 tons of shipping to the South African War, a force equivalent to three-quarters of the entire French Merchant marine.[18] This massive commitment of shipping had transported 188,000 men, 36,000 horses, 409 guns and 1951 vehicles over 6,000 miles without any serious consequences on the level of British commerce.19 While many foreign observers were impressed by the effortlessness of this achievement, it may be noted that Spain, with fewer marine assets, had performed a nearly comparable transfer of troops to Cuba and Manila between 1896 and 1897.

The magnitude of the move alone is an insufficient criterion for judging the British naval accomplishment as ingenuity and innovation also had a large part to play in the success. Eighteen fast (twenty knot) ships were specially outfitted for transport, ten for infantry, three for cavalry, four for artillery and one for

engineers.[20] It was hoped that in the future, these ships could form the core of an army Self Transport Department, capable of handling 15,000 men.[21] These new ships had both indoor and outdoor gyms equipped with parallel bars, vaulting horses, dumbells, jumping ladders and horizontal bars in an effort to maintain the physical fitness of the troops.[22]

Exercise was as important for the animals as for the men. The Spanish-American War had served to remind the army of something that all horsemen already know, that horses must at all costs be prevented from sitting during long voyages.[23] The British developed special padded stalls, protective knee caps, and tail bands for the horses. Through a continuing process of correspondence and discussion it was discovered that the British care in providing matted exercise courses aboard ship was considerably superior to the Australian method of overloading ships and stalls to keep the animals upright.[24]

The last days of winter saw the British army fully deployed in South Africa and yet the demand for more troops remained unsatisfied. The reserves had been committed to upgrade the regular battalions to field strength. What

remained in Great Britain was a considerable amount of cadre and the militia. Unlike civil businesses, an army has to be built for unexpected expansion. The British army has traditionally come out better than most in this respect because of its marked emphasis on detailed supervision of all tasks and the concomitant high proportion of officers and non-commissioned officers. The engineers, for instance, held almost one-third of its cadre in phantom formations. In order to flesh out this structure, reliance had to be placed on the second line. Fortunately for the Empire, thirty-five of thirty-nine Militia battalions accepted overseas duty, the exceptions being a Scottish battalion composed mostly of fishermen who feared the loss of the season's catch, and three Irish battalions that were convinced not to fight England's war.[25] For some highly skilled individuals, it was found necessary to grant special bounties, such as the £10 offered blacksmiths along with a guarantee against drill. Seven-hundred men were raised with this program alone.[26] For filling out its cavalry the army was particularly hard pressed. With the dispatch of thirteen regiments (9,000 sabres), Britain was practically denuded of mounted troops even though the Boers greatly outnumbered this arm in the field. The aftermath

of the "Black Week" left Wolseley no choice about abandoning his insistance on using regular troops as first three, then eight, and then eleven thousand Yeomanry and Volunteers were accepted.[27]

Supplemented by Reserves, Militia, Yeomanry, Volunteers and eventually colonials, the army quickly grew to four times its original size. By the spring of 1900 the army in the field actually outnumbered the combined population of the two republics. An army such as this was larger than any British commander had ever been trained for, especially given its mixed composition. How could one begin to evaluate the effectiveness of the various reserve components if even the Generals themselves had no clear idea of what their function was to be?[28] Of the thirty Militia battalions mobilized, not one was committed to battle until after Paardeberg, at which point the set piece battles were virtually over. Militia units were rarely mentioned in dispatches because both the army and press preferred to report the activities of the more well-to-do Yeomanry and Volunteers. Close scrutiny indicated that the troops tended to be of varying quality, the officers old and unacquainted with modern arms, and the equipment uniformly shoddy.[29]

On the positive side it was noted that the Militia and Volunteer units, given experience, made far better independent use of cover. At Wepner,for example they held out longer than regulars might have due to their adaption to this form of fighting.[30] While regulars were more practiced in parade drill, that counted for little in modern battles. Sir George Clarke a noted authority on military matters, was to write,

> as regards the militia, therefore, I claim that the principle lesson from the South African War, confirming all previous experience, is that the country possess in this force the only certain means of a large military expansion and that its efficiency depends wholly upon the treatment accorded to it in time of peace.[31]

Regarding the feelings of the Militiamen themselves, it appears that many of them felt put upon, as they did the same work as the rest of the army with little recognition. Perhaps it was because of their working class origins that they seemed to pull an inordinate amount of guard duty and receive the worst uniforms. Militia officers were never granted line commissions such as those of the Volunteers or Yeomanry and thus were always held subordinate to those officers of equal rank, despite the seniority of their own service.[32] A certain awareness of this growing

resentment, along with the normal desires for a return to civilian life, was understood at the higher echelons. General Sir Evelyn Wood wrote in July 1901, "I think all Militia who have served for twelve months in Africa and the Mediterranean should come home before any Guards or Line".[33]

If the Militia had gained relatively the least acclaim of those units fighting in the war, then certainly it was the Volunteers, and in particular the City of London Volunteers (C.I.V.), that had gained the most. Raised by a Royal Warrant on December 24, 1899, this mixed arms unit of almost 10,000 men had over half of its other rank positions held by members of the middle class. Where else could one find an archaeologist as a private and a yachtsman as a sergeant?[34] A nation of shopkeepers could not help but take to its heart the first manifestation of a war of a united people as opposed to all previous wars which had been fought by just the upper and lower classes. That the C.I.V. performed admirably was almost beyond the point.[35]

About the Yeomanry the military was of two minds. Kitchener wrote, "what I have seen of the Yeomanry drafts, I like, and they will turn out with very little practice

good men in the field".[36] Lord Roberts however was far more sceptical:

> what we really required of the Yeomanry is that he should be able to scout or reconnoitre and ride well enough to get fairly easily over an ordinary English county-duties which appertain to a cavalry soldier. But his principal duties should be to occupy hold and strengthen positions-duties required of an infantry soldier.[37]

In reality, Roberts may have been closer to the truth as these troops proved poor horsemasters; their mounts being prone to galls for lack of proper use of blankets. As for their ability to stand up to regular cavalry, perhaps they were fortunate in never being put to the test. The war made the greatest case for mounted infantry (M.I.) and once the Yeomanry learned to ride long distance, they could perform quite adequately in this role.

The Norfolk Committee on the Militia and Volunteers came to the conclusion that,

> the experience of the Boer War proved that a large number of Militia, Yeomanry, and Volunteers were willing to accept foreign service in support of the regular army. It is a question whether, in the event of hostilities occurring again on such a scale as would require the employment of the whole regular army, any force should be organized in peacetime with this object, either -
> a) by attaching to enlistment in the Militia the legal obligation to serve abroad in a time of great

great emergency

b) by organizing special sections of the Militia, Yeomanry, and Volunteers with similar liability.[38]

The war had made it clear that the Militia was the real reserve of the nation, and the post-war period would merely formalize this.

Long before the departure of the eighth division, it had become obvious that this war could not be limited to the regulars or for that matter the regulars plus reserves. At no time since Agincourt with the possible exception of the American Revolution had Britain fought a major war without allies. Fortunately, the "Black Week" served to draw the Empire together, and renewed offers of help from its components were accepted. Australia would eventually send 16,000 men, Canada 4,000, and tiny New Zealand 6,500 men, which, in light of her population, was comparable to 107,000 men from far more populous England.[39] The contribution of the various South African colonies would ultimately top 50,000.

It was ironic that the Colonial troops which would provide such valuable assistance to the British cause would at least initially be regarded by the Secretary of State for War as "necessary evils".[40] The Empire would

consistently offer more volunteers than were called for and this, long after the supply of recruits from Great Britain had begun to dry up with the waning of public enthusiasm in mid 1900. Indeed it should come as no surprise that as early as January 1900 the British were actively seeking recruits throughout the world despite popular opposition in Germany, Austria, and Spain.[41] As the numbers of foreigners, colonialists, and various reservists continued to swell towards the 100,000 man mark, training and mobilization for many recruits had to be put off as the army desperately sought equipment for over 70,000 unexpected enlistees.[42]

The methods used to raise and finance colonial troops varied from place to place: Australia's men lacked a reserve of all warlike stores. Canada maintained a system of compulsory domestic service and had some equipment on hand but once again South African duty was purely voluntary. The Imperial Defence Act of New Zealand, passed in 1900, provided enlistees with a three year obligation including service overseas.[43] While the various colonies paid for training, equipment, and transportation to Africa, Great Britain paid the remainder, including wages and rations.[44] In many cases, such as that of

Lord Strathcona's Horse, raised in Canada, a wealthy individual would undertake the outfitting of as much as a regiment out of his private purse.

As the war went on more emphasis was placed upon locally raised South African units such as the Natal Carabineers, Thorneycroft's Mounted Infantry, Warren's Robert's, Brabant's and Kitchener's Horse, the Frontier, Queenstown, Kaffrarian and Cape Rifles. Usually such units would be raised with official sanction by local initiative under the lure of lucrative pay. In the later stages of the war, as this source of volunteers also dried up, the British instituted a "semi-volunteer corps" called the Rand Rifles. In order to return to the mines one had to enlist and thus subject oneself to martial law and military compulsion.[45]

Regarding the composition of the colonial forces, it should be noted that while early emphasis was placed upon infantry, by July 1900 virtually all the colonials had been mounted, nearly doubling the size of this arm. Initially, opposition to colonial cavalry had come from several quarters:

> it was explained by Sir Redvers to the Royal Commissioners that he knew every Colonial could ride,

> and could be mounted on arrival in South Africa. His wish was merely to save the expense of horse transport.[46]

Old line cavalry officers expressed two fears: on one hand their inexperience would jeopardize the regulars and on the other that they would compete with the regulars for funds and or horseflesh. It was a further matter of concern to the regular cavalry that colonial mounted successes might distract from their own pet Lancer and Hussar regiments.

Manpower of any sort was increasingly welcome in the later stages of the conflict. Free use of the Empire's entire manpower could not be considered due to certain philosophical constraints as voiced by Captain A.E. Oppenheim who felt that:

> we must never depart from the cardinal imperial principle that the Imperial Army alone is privileged to meet any enemy at any time under any circumstances. We must never resort to a too free use of the Native Armies of the Empire. The white man, the ruling race, must bear the burden in the appeal to arms, must assert its superiority, and must do it willingly and sacrificingly, for therein lies the vital principle of Empire. The day that sees the white man shrinking from his responsibility, that sees him shifting the burden complacently from his own shoulders to those of his subject races, will also see the doom of his Imperial dominion.[47]

Practical considerations also had to be taken into

account. There was for instance a fear that the use of the Indian Army or natives would lead to heightened Boer resentment and a possible undermining of the army's own discipline.[48] In reality, hundreds of thousands of non-whites were used in various support roles from transport to the digging of field entrenchments. The British armed tens of thousands of natives for their own "self-protection". Baden Powell went so far as to use several thousand in an offensive role. The role of the 1,100 man Indian Ambulance Corps is well known because of Ghandi's participation. The Indian army also had several units involved in the fighting although as the Kaffirs they were generally kept on duties that would minimize contact with the Boers.[49]

Just as we have seen the valuable assistance provided by the various colonial contingents, it should be noted that many problems also arose out of these troops' deployment. From the very independent Canadians through to the almost docile New Zealanders and South Africans, each colony followed Whitehall policy to a different degree. Pay rates for instance were a constant source of friction as pay scales throughout the Imperial Army differed by as much as six hundred percent for the same rank, in the same

branch of service depending if one was a regular or volunteer, Britisher or colonial.[50] As Winston Churchill put it,

> I remember myself to have seen in South Africa, Natal Carabineers serving at 7s. 6d. per day, South African Light Horsemen serving at 5s. per day, a Regular Cavalry soldier serving at, I think, 1s. 6d. or 1s. 4d. per day, and all taking cover behind the same rock against the same fusillade.[51]

The War Office did not want any colonial officers higher than major, thus assuring a greater number of higher positions for regulars. An attempt was made to feed colonials into the battle zone piecemeal in order to preclude the need for their own higher officers and to prevent the creation of a large inviting target of unseasoned troops. The colonials for their part resented the particularization of their forces and the British officers who were the product of an entirely different military tradition. Different organizations, obligations, and training combined with the problem of concentrating such a force from all corners of the world only exacerbated the issue. Lacking trained higher officers and ordnance factories, a certain colonial dependence on the mother country was evident from the beginning. Lord Esher,

confidant and advisor to King Edward VII, claimed that, "had it not been for the efforts of private persons, who supplied arms, field glasses, saddles, and even machine guns, these irregular corps would have been ineffective for war".[52]

The not inconsiderable number of conflicts involving regulars and colonials in matters of supply priority, postings, tactics, military behavior and the near mutiny over the insults exchanged in the General Beaston affair, grew to the point that an army Circular Memorandum dated 12 February 1902, would have to address the issue:

> the C. and C. having heard with great regret of one or two instances where an unfriendly spirit has been displayed by regimental officers towards members of His Majesty's colonial Forces who have received Commissions in the Regular Army, feels it his duty to call attention of commanding and other officers, more especially those in junior ranks, to the unique opportunity they now enjoy of sharing their patriotic appreciation of the generous spirit of enthusiasm which led these young Colonials to come forward to help the Mother Country in her hour of need.[53]

The delicate nature of dealing with the Colonials on such matters as precedence, drill, uniform etc. was well understood at the highest levels. Roberts for instance had written,

> I could spare more troops if the Colonials could be persuaded to remain on, but they are all clamoring to be sent back to their own countries. I don't like to keep them, especially the overseas ones as it is most desirable they should return from this first campaign in aid of the mother country in a happy and contented frame of mind.[54]

When Colonel Brian Mahon's flying column relieved Mafeking it was no accident that it was truly Imperial in composition, consisting of the Imperial Light Horse, the Kimberly Mounted Corps, a battery of the Royal Horse Artillery, and one hundred British infantry, twenty-five each from England, Scotland, Wales and Ireland.[55] It was more than coincidence that led to the creation of the Irish Guards in April, 1900. The war became a backdrop upon which emergent particularlist feelings could be catered to.

In 1881 General Gordon of Khartoum fame had written apropos of the first Boer War that, "Regulars should only act as a reserve, the real fighting should be done by special men who would be untrammelled by regulations".[56] The insight of this remark is worth noting because there is little doubt that the units that best acquitted themselves were irregulars such as the Cape Mounted Rifles and the Imperial Light Horse. Unfettered by

tradition, such troops had no hesitation in dismounting to fight. They neither pined for a charge nor slogged with the infantry.

The British populace would suffer moments of confusion at Edward VII's coronation as the same units that fought so effectively proved unable to march well. Yet the pride and appreciation of a truly Imperial accomplishment were emotions common enough to find their way into the pages of Kipling's poem, The Parting of the Columns. It was generally recognized that, as General Kelly-Kenny, Kitchener's future Chief of Staff put it, "we should have come to the end of our tether, if we had not had extraneous aid".[57] This of course is no small exaggeration or statement of desperation, considering that to fight 45,000 farmers,every regular home battalion save one, several militia battalions and the Dominion forces had to be called on. The whole war stood out as the first case in which the various overseas British populations aided the mother country to an appreciable degree.

The lesson seemed to be that "we should not wait for war to make these preparations, but that an arrangement with the Colonies should be made in time of profound peace so that it might be in working order when war broke

out".[58] By the Colonial Conference of 1902 the entire subject of Imperial cooperation had gained sufficient importance that serious talks on the matter were begun.

Despite the slow and awkward way in which Imperial support was gathered and utilized, there could be no doubt that, "the South African War was a pronouncement to an unfriendly and suspicious world that the British Empire was a single entity, a union in diversities, not an artificial and temporary combination, but a living body of many members".[59]

As difficult as it may have been to find trained men at short notice, a greater problem, at least in the early stages of the war, was the procurement of equipment. Reserve stocks of key items such as the new (1896) Khaki work uniform or horse-shoes were non-existent. Supplemental stocks of saddlery amounted to a bare 500. The excess number of sabres came to a mere eighty. For artillery the situation may have been viewed as critical, with only one spare 12 pounder battery, nine spare field artillery batteries and reserve stocks of but 200 rounds per gun. The entire army was twenty-five percent short of machine guns and as of July 12, 1899 (The Hague Conference), half of the small arms ammunition stocks had

been declared illegal with the provisions against expanding bullets such as the British Mark IV. The formation of the Army Ordnance Department and Corps had thus far proven less than a success.

Given Britain's large and impressive industrial base, one would assume such problems would be quickly alleviated given a proper wartime injection of funds and urgency. What could not be imagined was the prodigious rate at which arms and ammunition would be used in the early fighting. "I am concerned to find," wrote Lord Roberts to General French, "that your Batteries of R.H.A. have expended some 5,500 rounds in three weeks, and the Field Battery about 1,000 rounds in ten days".[60] In February of 1900 Sir Henry Brackenbury, the head of Ordnance, wrote Roberts of a fear for the wearing out of 12 and 15 pounders, as the stocks were utterly depleted.[61] The situation with small arms ammunition was no better, as three million rounds per week were being used while production held at two and a half million.[62]

The precarious supply of artillery ammunition and the inadequacies of ordnance construction likewise could not be overlooked. The Mowatt Committee On Reserves of Guns. . . confirmed that,

> the present campaign in South Africa is affording, and must continue to afford, most important and extensive experience of conditions of war, upon which very insufficient information has hitherto been available. Upon this it is obvious to remark that it would in ordinary circumstances be advisable to defer any extensive alterations of the existing systems of manufacture, reserves or storage, until the lessons of the present war had been studied and applied.[63]

The report went on to recommend the maintenance of a reserve of ammunition equivalent to six months of usage under modern conditions. In the short run the solution was to increase the work force at Woolwich (the Royal Arsenal) from 15,000 to 20,000 men. The long term answer was to increase dependence upon civilian manufacturers from a prewar level of parity between the two suppliers to a postwar circumstance in whicht the civilian allocation would be doubled. O. F. G. Hogg's history of the Royal Arsenal notes that the war

> brought to light the fact that considerably more time was necessay than had been contemplated, to allow private firms producing armaments to reach their full capacity; and that they were liable to fail entirely in the production of certain essential components, as actually happened in the case of fuses.[64]

The solution arrived at for the future was to make the arsenal solely responsible for specialty items while

assuring sufficient stocks of all else to allow civilian industry time to catch up with any war needs.

Once men and armaments are provided, an army must march, and this it does "on its belly". The victualling of the army was, on the whole, quite good. The campaign staple was the fabled Machonchie stew, each square, self-opening can providing two rations. It could be eaten either hot or cold. For emergency rations, four ounce of cocoa-paste were issued, consisting of cocoa, honey and Iceland moss, as well as four ounces of Pemmican, a powder made of dried beef and fat that could be eaten hot or cold with the addition of water. The army liquor ration was twelve to fifteen percent below the proof mark. To supplement the menu, Lipton's mobile canteen, first seen at the Salisbury maneuvers of 1898, provided groceries and chocolate. The profits from this canteen went to a widows and orphans' fund.

While the basic standards were acceptable, paperwork tended to be excessive and detailed and thus created a problem. Roberts complained that "under the present system no officers are trained for the special work of a Q.M.G. -quite the most important work with an army in the field".[65] There was near universal agreement that much

of the record-keeping was redundant and that the entire system was in need of greater centralization. One may wonder what the case would have been without the army's acquisition of the typewriter and carbon paper in 1899 or the looseleaf soon thereafter.

The supply of materiel to the front was in 1899 managed by two distinct organizations. The Army Service Corps was responsible for providing food, forage and medical supplies, while the Ordnance Department was responsible for providing everything else. Supply should not however be confused with distribution which fell solely in the hands of the Service Corps.

During the 1898 maneuvers the Corps had put up a rather poor show but this was ascribed to its heavy dependence upon civilians and civil transport. The Corps was not expected to maintain the high levels of both animals and manpower for a major mobilization in times of peace due to the enormous expense that would have entailed. Because of its small size and the boring nature of its work, postings to the Army Service Corps were not popular. When one of its officers went to the Staff College he would rarely return. Thus, the corps suffered a constant drain of talent leading to the situation in 1899 of not having a

single general within its ranks.[66] The long standing nature of the Corps' problems can be recognized by its frequent change of names, including the Royal Wagon Train, Land Transport Corps, and Military Train. Just prior to the war yet another effort at reform was instituted by subordinating it to the Quarter Master General, thereby intending to increase both its responsibilities and prestige. A policy of granting temporary military rank to the officers of Julius Weil and Co., the chief government contractor, further eased the strain on the system.

The newly reorganized Service Corps with a strength of 3,500 was tailored to an army of 151,000 men, not the 450,000 it would soon be called upon to support during the war. Prewar planning had never in fact envisioned taxing the Corps' abilities in the field beyond a 50,000 man force for three months.[67] Provisions were allocated on a daily basis of six and one-quarter pounds per soldier, three pounds per native follower, twelve pounds per horse and eight pounds per mule.[68] When trains were not available, transport was generally carried out by either mule or ox-drawn wagons. Sixteen oxen could pull a wagon of 6,000 pounds at a speed of two miles per hour so as to cover sixteen miles per day. Mules moved at three miles

per hour, covered twenty miles per day and a team of eight could haul two tons. Oxen, although slower, had the advantage of being good grazers, and if rested during the day, did not require additional forage.

In the field as organized by General Buller the Army Service Corps functioned on what was called a regimental basis. Each unit was responsible for its own supply of rations and equipment for a twenty-four hour period. The next higher echelon would be responsible for a supply park and column capable of support for three days. An Auxiliary Transport column of forty-five wagons was to be attached to the division for heavy support including artillery ammunition, bridging, telegraphy and ballooning supplies. The essential principles of the system as laid down in a War Office memorandum were,

1) Decentralization of administration by formation of handy transport units under the immediate command of those directly interested in their efficiency.

2) Establishment of a chain of responsibility. Every commander of a unit, ie, of a company, battalion, brigade or division, had direct charge of a portion of that unit's food supply.

3) Interdependence of supply and transport; nothing is more fatal than to hold one man responsible for a wagon and another for its load.

4) Elasticity, or almost automatic expansion or contraction into units of any size, equipped with

> each class of transport. The addition or deduction of any unit to or from a brigade, equipped as it would be with its own regimental transport, merely necessitated the corresponding addition or deduction of a proportional carrying power to or from the supply column's Supply Park respectively by the senior Army Service Corps Officer.[69]

Observing this system at work in the Natal moved the American military attaché to write, "I consider the Army Service Corps one of the best things I have seen in the British Army".[70]

When Roberts superseded Buller in January of 1900 a new approach was taken on the matter of supply. Roberts, who spent most of his career in India, and Kitchener, his chief of staff who was fresh from Egypt, were accustomed to more centralized systems. What they took to be the current level of inefficiency was actually the result of poor roads and lack of draught animals. They complained of an extravagant, poorly organized corps suited only to peacetime. Ignoring the fact that upon their arrival, the Army Service Corps had been supplying three armies separated by thousands of miles, the new command set about making wholesale changes. Kitchener wanted a truly independent service corps that could not be bullied by line officers who tended to hold on to unneeded transport when

their troops were at half strength, or overload transport when it was understrength.

The new system borrowed much from the Egyptian experience. New transport companies of either forty-nine mule wagons or one hundred oxen wagons were created. These larger columns under strong central control were supposed to be able to maintain considerable stockpiles closer to the front and end the former hand to mouth existence. It was hoped that this method would increase overall flexibility.

The net result of these changes was disasterous. "Centralization of responsibility had destroyed individual responsibility" in the words of General Buller.[71] Every item and personnel associated with transport was now theoretically on short-term loan to various commands. With the British now lacking any clear line of authority De Wet was able to carry off his coup at Waterval Drift which cost the army two hundred wagons. Had it not been for General French's stubborn maintenance of the old system of supply for his cavalry, the whole campaign would probably have ground to a halt. The forward depot system copied from the Union Army in the American Civil War proved far too static for the fluid warfare in which the Boers engaged.[72]

Efforts to keep up with the Boers meant ceaseless packing and unpacking of supply trains. By the misallocation of units assigned to positioned troops, a dearth of transport resulted for forces on the move. Any idea of maintaining a central reserve of transport capability proved impossible. Perhaps the greatest flaw of the new system was the vast amount of paperwork it generated. The understrength Army Service Corps simply could not handle all the comings and goings along with the heightened security problems of the ever longer and slower columns. An independent study demonstrated that,

> many of the Special Service and Regimental Officers have shown great keenness about their work, but their absence of previous training has and will on future occasions make itself felt in matters of pace, regulation of loads, supervision of the line of march, stable management, fitting of harness and repairs to wagons.[73]

The attempt to work out of one central pool led to far too many ad-hoc sub-divisions which further exacerbated personnel shortages. At the very same time it may be noted that the line officer also resented the change since it decreased his control over supply and equipment, let alone his prestige.

Roberts was quick to realize his mistake, yet it took

until 1902 for the Corps to be reconstituted along the old lines at an increased strength of 10,000 men.[74] The subsequent guerrilla stage of the war with its ever smaller units had made his system all but impossible to maintain.

In looking back at the war one cannot help but be impressed by its enormous impact upon the Army Service Corps, with regard to a permanent increase in its numbers if nothing else. Other lessons were not lacking. Postwar transport and cartage would be redesigned with emphasis on reducing weight and increasing durability. Efforts would be made to enlarge the animal establishments of the Corps. Special bulk-oriented, faster supply columns werere developed for cavalry support. Convoy defense procedures were reevaluated. Detailed loading tables were evolved and the troops were given practice in following their procedures. Limits were for the first time instituted on officers' kits. The notorious cast iron kitchen and wagon of champagne associated with General Buller was to become a thing of the past.

Peacetime maneuvers in the future were to be held on an active duty scale of supply. Greater emphasis in the future would be placed on the attainment and use of up-to-date maps and signalling technique. Considerable

effort was made to smoothly incorporate both civil and captured transport and remounts in case of war.

The matter of horseflesh was of particular importance since the British army of 1899 was primarily animal-drawn. The implications of this fact upon strategy and supply were manifold. Rapid or extended marches could take a high toll on horses, mules and oxen. Kitchener, unfortunately, was a poor horse master. His proclivity for staging all day marches destroyed oxen. The overfeeding of mules, in the hope of making them field ready after long ocean voyages, only served to sicken them.

Roberts' rush for Bloemfontein cost his army fifty percent of its animals and delayed operations for another two months as the animals recuperated.[75] Sixty horses of A. Battery R.H.A. died from exhaustion in one day and a single squadron of lancers went through four hundred horses in one month.[76] Naturally, much wastage was almost built into the campaign by a combination of the defects of the system, inexperience and the rigors of South African geography. Forced to rapidly expand its army, Britain had to train thousands of horsemen in the field. Accustomed as they were to having grooms Yeomanry were the hardest on horses. These problems were compounded by regulations

which led to the vast overloading of cavalry horses, with all manner of "picketing gear, wallets, changes of clothing, ankle boots, cloaks, etc. (which) should be carried in a squadron car" according to one military critic.[77] Roberts took drastic actions to reduce the load by encouraging the use of the lighter Cape Police saddle, and getting rid of sundry items. By the time of his departure from South Africa the horse's non-rider load had declined from 114 pounds to 35 pounds to give the British the lightest burden among the major powers' cavalry.[78]

Lack of foresight however led to an over-dependence on local fodder, which proved in some areas surprisingly sparse. Attempts to feed the horses pure oats naturally failed as the diet was too rich. When recourse was made to an increased proportion of bulkier hay, a new, more compact method of baling was developed. The Boers held a dictinct advantage because their Basuto ponies had been bred to feed off the veldt.

A major problem affecting remounts had its source in Great Britain. The demand for 10,000 horses a was proved too much for the national horse markets. The first 13,000 horses to be shipped took six weeks, this despite

considerable advance notice on the numerical requirement. Performance of this caliber might have been expected from a service largely composed of those who had failed in combat rather than a specialist.[79] The inadequacy of both the remount system and prewar planning led to frantic overseas buying from the United States, Argentina, Spain, Hungary, Italy, etc.[80] As a stop gap mechanism this was no mean achievement. Unfortunately horse purchases from many diverse sources led to other problems such as acclimatization as the creatures were moved from one hemisphere to another. Animals were rushed into combat with winter coats and allowed little time to recuperate from long voyages. The average life of a horse after disembarking was six weeks.[81] The large horses of the Household cavalry suffered particularly from the long voyage and short rations. It was soon realized that with the lack of opportunity for traditional cavalry charges, the small Cape, Basuto, or Welsh-Irish ponies were far more sturdy and useful. For the older and larger horses who had survived the trans-oceanic move the only hope was often the four Horse Hospitals managed by the newly established Corps of Veterinary Surgeons.

Roberts' return to England in December of 1900 seemed

to mark the end of the war and the remount system began to be dismantled. Within a few short weeks the error was evident and a reformed, expanded organization was introduced. The new system developed at Fischer's Farm created a number of large (2,000 horse) areas managed by thirty men where horses could be both rested and acclimatized.[82] Such camps were systematically run with careful consideration to diet and the particular exercise program suited to the various grades of horses from those of officers to draught.

In the postwar period considerable attention was paid to what had been called the "Remount Crisis". It was found that during the war Great Britain not only ran the risk of being cut off from major supplies of horseflesh but was also susceptible to price gouging by its trading partners.[83] The army, through its analysis for the De Burgh Committee on Remounts, developed a manual for the proper purchasing procedure. The manual illustrated how to manage remount stations and how to judge and buy animals. In an effort to build up reserve stock it was suggested that the government run breeding farms and send out brood mares for servicing. This last program was ignored, but in the future remounts were to be centrally purchased.

Additional remounts were to be kept with civilians who would get an annual subsidy from the government for maintaining the animal in serviceable condition for the army until it was to be requisitioned. In case of emergency the owner, having voluntarily joined the program, would be required to produce the horse matching the registered description for the agreed upon price. In this way, horse reserves rose from 14,000 in 1899 to 20,000 in 1904, to 30,000 in 1910 and, it was hoped, to 60,000 by 1912.[84] These numbers should however be judged with care as the army often bought or established contracts on immature three and four year olds and immediately counted them as part of the reserve. While this problem did exist it should not significantly detract from the achievement in the remount area. Horses acquired by the army were normally assigned to one of the new remount centers built as a result of the recommendation of the Auld Committee on Remounts of 1901. A controversy continued until World War I about the wisdom of creating additional remount centers overseas to minimize future loss amidst the transport of animals.

The raising, care and and transportation of a large army was never an easy matter and the British army

certainly encountered its problems in the field. The question remains however whether any other power could have done as well. Germany, in 1897, could not send a single battalion to Crete, nor, in 1900, could it maintain its troops in China without experiencing severe supply problems. France, the second leading naval power, had to rent English transport for its invasion of Madagascar in 1895. The United States' invasion of Cuba, a mere ninety miles from Florida cannot be considered a logistic triumph. Given the circumstances, the British ability to transport 250,000 men over 6,000 miles and sustain them for a number of years without disrupting the national economy must be accounted a substantial achievement.

[1]Lieutenant Colonel, p. 69.

[2]M. B., "L'armée Anglaise," Annales des sciences politiques 15 (March 1900): 195.

[3]Great Britain Cabinet, "Military Needs of the Empire in a War With France and Russia, August 12, 1901," Cab. 3 8/1, p. 14, PRO.

[4]Symons, p. 53.

[5]L. S. Amery, The Problem of the Army (London: Edward Arnold, 1903), p. 15.

[6]Great Britain, War Office, Special Report on Organisation and Equipment of the Engineer Arm in South Afric (London: Eyre & Spottiswoode, 1900), W.O. 108/246, pp 30-34, PRO.

[7]Elgin Report, Vol. 40, pp. 278-80.

[8]Pierre Victor Fournier, La guerre Sud-Africaine, 2 vols. (Paris: Chapelot et Co., 1902), vol. 1: Origine du conflict: campaigne dans Natal, p. 117.

[9]Belfield, pp. 30-31.

[10]Rose, p. 546.

[11]"The South African War," JRUSI 45 (July 1901): 857.

[12]Rose, p. 550.

[13]Brodrick to Salisbury, January 20, 1901, P.R.O. 30/67, No. 7.

[14]Quoting Lord Roberts, A.R. Godwin-Austin, The Staff and the Staff College (London: Constable & Co., 1927), p. 236.

[15]Belfield, pp. 29-30.

[16]Correspondent, "Problem of the Army," Times

(London), 17 February 1903, p. 10.

[17]Briggs, p. 452.

[18]"Notes From South Africa," ANJ 38 (20 January 1901): 492.

[19]Paul Marie Frocard, La guerre au Transvaal 2 vols. (Paris: Cerf, 1901), vol. 2: L'invasion Anglaise, p. 359.

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England	10,701
Australia	3,664
North America	24,664
South America	15,589
Italy	8,269
Spain	5,858
Austria	683
India	3,072
Purchased in Colony	21,714
Total Receipts	92,214
Landed in Colony	9,954
Grand Total	104,168

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Chapter III

The Adversary:
The Boer System And Its Limitations

In fighting the burghers of South Africa the British were encountering a foe of unique abilities. For the Afrikaner, to paraphrase Xenophon, the art of war was the art of keeping his liberty, an art perfected over a hundred years of ceaseless struggle.

From a European standpoint the Boer armies were nothing more than hordes of mounted infantry mobilized on a militia basis. Recent studies suggest that perhaps 40,000 men were raised in this manner although rarely more than half this number were in the field at any one time. The British official history claimed that as many as 87,000 were mobilized, the Times History estimated 60,000 to 65,000, and a more objective foreign writer believed as few as 36,000.31 The confusion about the number of effectives can be explained in terms of both the informality of Boer organization and British defensiveness in the face of their numerous defeats. The only "regulars" among the Boers were a few hundred artillerymen and the

police units known as ZARPS. Together these two groups numbered about 2,000 men. Foreign volunteers also swelled Boer ranks by as much as 1,500 men over the course of the war.

Regulars and foreigners were the exception in the Afrikaner armies. Referring to the average Boer it was said that,

> of his own initiative he voluntarily carries out that which the regular duty soldier does on compulsion. He arms himself and takes his own positions; he fights on his own account and yet takes part in the leading as he voluntarily anticipates the action demanded by the tactical situation. His training as a horseman and rifle-man is a personal pleasure to him.[2]

Such troops because of their high level of self-motivation, coupled with peer group pressure, were capble of fending for themselves. The close knit social matrix of their fighting units was sufficiently tight to ensure that few of the fallen would come into enemy hands, as friends and relatives were always nearby. This served to complicate the British task in assessing enemy casualties.

"Alas" as the French observer oversimplified, "what remains to explain their (the Boers) victories, their resistance and to justify their hopes? Simply the rifle, the rifle of small calibre, rapid firing, flat of

trajectory and smokeless powder."[3] Some critics believed that the possession of the Spanish Mauser model 1893 (perhaps the best rifle of its time) with its rapid loading cartridge clips, smokeless powder and high velocity made all the difference. Within the British army however this was hardly a universally held belief as some of the younger officers such as Haig and Hamilton felt that better training with the weapons at hand would do much to alleviate the apparent disparity in sharpshooting skills. Still, it took more than good marksmanship and weaponry to explain the Boers near decisive advantage in a firefight. Modern historians have begun to question just how much of this ascendency was to long range marksmanship. For too long we have been regaled with tales of Boer prowess with a rifle at over a thousand yards. Even in 1904 it was known that the Boers were not supermen. General Ardaugh felt that while they were better shots than the British, they were not as good as the Australians nor as good as the Boers themselves had been in 1881.[4] General Barbazon testified that the true strength of the Boers was not at long ranges but in snapshooting at under three hundred yards.[5] Natural hunters, bred to the veldt, the Boers knew how to position themselves so as to maximize the long

range and concealment potential of their weapons. Their native skill showed most clearly in the later stages of the war when most of their arms were captured from the British. Their mastery of small unit firefight tactics still remained unchallenged.

The Boer's basic weapon throughout the war remained the rifle, as neither the sword nor the bayonet was ever issued. What made their army viable in face of the superior numbers and cumulative firepower of the British was mobility. From the beginning, even when under the command of Pieter Cronje, when they were overly attached to wagons moving two miles per hour, they were nearly always able to outmarch the British. When freed of their baggage train and camp followers after the first few months, the difference in speeds of movement between them and the British approached absurdity. Boers mounted on ponies could travel sixty miles a day for several days on end and, when called upon, their sturdy little horses could go for three days without food.[6] Such marches could not be engaged upon as a matter of course as they were extremely wearing of both man and beast and were only possible in any case on account of a ready supply of remounts. An additional factor of relevance to the Boer forced march

capability was load weight and its distribution. The Boer saddle weighed half of that of their British counterpart. A rider carried only a little food, his rifle, ammunition and a blanket. Everything else was transported on a spare horse. What this meant is that the pony carried only two hundred and fifty pounds as compared to the British charger that was laden with almost four hundred pounds.[7] The staple of the Boer diet was mealies (a maize corn meal) which could be eaten boiled, roasted or, when green, as porridge. It could also be used to extend flour or even toasted for a coffee substitute. For sustenance, when ammunition was plentiful, the Boer relied on fresh game which could be jerked and made into biltong.

In the later stages of the war, when all locally held supplies of warlike stores had been either used or fallen into enemy hands, the Boers had to make increasing recourse to captured British materiel. Kitchener went so far as to suggest that the British fill some cartridges with dynamite and scatter them among the trail of cartridges left behind every column.[8] He hoped in this manner to discourage this form of parasitism.

A more pressing problem throughout the war stemmed from the Boer's lack of uniforms. In the early stages of

the war some of the Boer commandos (units) wore distinctive bands of cloth. For instance Scheeper's wore white, Willian-Fouche's yellow and Waynand Malam's sported blue and white polka dots. This practice soon ceased. The Boer soldier wore whatever he liked and under the stress of a long campaign, top hat and slouch hat, trousers, and frock coat gave way to whatever he could take from the British. The only government issue item was the Mauser which soon wore out under the duress of campaigning. That many of the British units adopted the slouch hat further complicated the problem of identification on the battlefield and tempted Kitchener for a time to treat captured Boer in British uniforms as spies.

With regard to regular units, the ones that had the greatest influence on the British were the Austrian-trained artillerymen. The eight-hundred men of this elite Corps, under the command of an ex-Prussian N.C.O., the self-styled Major Albrecht, frustrated the British with novel use of ordnance.

Concealment and protection were cardinal principles for the always outnumbered Boer artillerymen. Throughout much of the early campaign the Boers were either in the role of besiegers or on the tactical defensive during a set

piece battle. Both of these roles allowed them to evolve their unique system of gun emplacement. For each gun several protected positions were developed so that if one was brought under fire a new one could be taken up with minimum loss of time. This was quite foreign to the European system of manning a position to the last gunner. Speed of movement was of the essence to the Boer gunners and the British were constantly amazed by their dexterity in bringing all manner of heavy ordnance to unexpected locations.

A typical Boer gun position was an improvement on the Turkish system of pits with inclined fronts for the running up of guns. The Boers improved this site by adding roofing as a protection against shrapnel and balloon observation. Even in the field considerable use was made of concrete to strengthen the gun platform and provide additional protection. The heavy emphasis on camouflage and use of smokeless powder made the locating of Boer gun positions very difficult. This was especially true when the Boers had access to water, enabling them to dampen the ground and keep the dust down. As long as the Boers stayed on the defensive and did not call on their guns for active support of an offensive, they were able to maintain a fire effect

and durability out of all proportion to their numbers.

The Boer use of single guns rather than batteries was certainly the target of considerable contemporary criticism.[9] Lord Roberts felt that, "it was because the Boers realized that it was impossible to trust to the insufficiently trained mobile artillery that they never utilized their guns in the form of a battery, or even as a section of a battery".[10] The fact is that being outgunned three and four to one and having a defensive predilection mandated the dispersal of artillery as a means of stiffening the line.

A single Boer gun could keep an entire army up all night firing at six miles range. It could also contest every ford or pass. At Ladysmith artillery proved more effective in preventing sorties than in inflicting casualties. Judicious use of artillery at Farquhar's Farm forced the British into a premature deployment, thus allowing the main Boer force to escape. A single six-inch Creusot throwing a ninety-pound shell from well behind the lines could make the position of a lightly armed British battery of guns untenable without any risk to itself. Long range fire was greatly valued by the Boers and they would on occasion double load their pieces in order to achieve

this effect. Longer ranges meant greater sighting problems and the Boers frequently left behind painted rocks as range markers or registered their artillery prior to battle. Boer heavy guns came into action between 6,000 and 10,000 yards, medium guns beween 4,000 and 6,000 yards and light guns at 3,000 to 4,000 yards. The Boers realized the tremendous morale effect of unreturned fire and the sense of security provided when one is assured of covering fire from one's own guns under any withdrawal.

A psychological approach is most important when discussing the Boer's attachment to the one-pounder, known as the pom pom for its rather distinctive sound when firing. The lightest of all field pieces, this automatic firing weapon inflicted few casualties but was quite capable of disconcerting any advancing infantry.

The Boers also recognized and exploited the firepower of the machine gun. On one occasion, General Viljoen overstated his command by twenty-five men, and when questioned, he replied, "my command consists at the present moment not of 375, but of 350, but I have a hand-Maxim, (a water cooled, wheel mounted machine gun) and that counts for twenty-five men."[11]

The paucity of Boer men and guns often remained

hidden from the British due to the Afrikaner's masterly use of terrain and smokeless powder. Captain Ram, the Dutch attaché claimed that at Colenso the Boers appeared to field 17,000 men, at the Modder River 8,000 men and at Magersfontein 16,000 men, rather than the six, seven and eight thousand respectively that were actually there.[12] An old Afrikaner proverb reads, "God did not give the Boer life to be shot like a buck in the open.![13] The burgher certainly lived up to this credo. "A very striking feature of the action at Colenso, says Captain Slocum, was the total invisibility of the enemy; not a single Boer was to be seen from the beginning to the end of the battle."[14] This situation caused no end of frustration for the British and led Kipling to comment among his Kopje book maxims, "spare the solitary horseman on the skyline. He is bound to be a Britisher."[15] On occasion the Boer would deliberately expose himself to enemy fire so as to further confuse the British.

Under normal circumstances the Boers preferred to fight their battles from rifle pits known as Schanzes. These were bottle-shaped affairs, two and one half feet wide at the top and four feet wide at the bottom and from five to twenty feet in length and five to five and one half

feet deep. Such pits were situated in discontinuous winding lines two or three deep with numerous listening posts planted well forward. The Schanzes were positioned so as to enable firing at right and left angles and provide flanking fire. The British in contrast continued to position trenches to fire directly to the front. The dirt from the Schanzes was piled directly to its rear so as to eliminate the silhouette when the occupants were firing.

There were advantages and disadvantages to the Boer style of field fortification. The overhang of the Schanzes allowed considerable protection from shrapnel but the height limitations prevented the men from fully standing although there remained plenty of room for sleeping. British parapets took longer to build, were more conspicuous on the skyline, and offered less protection from artillery. The variety and number of Boer positions also tended to make them more independent since the fall of a single pit or trench could not threaten the entire front. A certain economy of force may also be noted in the Boer system since gaps left between Schanzes were little more than cleared firing zones. By way of disadvantage it may be said that "they destroyed the power of offensive or

aggressive action; and the lack of continuity, caused by the separated and distinct holes, made communication extremely uncertain and hazardous."[16] Once in the unconnected holes the men were hardly inclined to venture forth into the fire plain under any circumstances. Even reinforcement under these conditions proved tenuous although given the ususal Boer doctrine there would be few of those in any case since most troops were thrown immediately into the line. Schanzes were a tactical dead end.

The Boers were for the most part unhindered by classical military theory in both the design and deployment of their field works. At the Modder River, Cronje placed his least reliable troops in the first line situated forward of the river. These troops were then supported by three terraced lines of entrenchments on a hill still further to the Boer rear. Most European armies, and especially mounted infantry, preferred positions on the summits of ridges or hills with horses nearby and protected by the reverse slopes. The British tended to take that form of positioning for granted; thus the surprises of Colenso and Magersfontein where the Boers placed themselves on the plain. Lack of effective British reconnaissance set

this up but the deception was aided by the use of dummy guns, black powder to attract fire, and Boer detonated charges to confuse British gunnery. As for the burghers' horses, special works were built for their protection, when and if time and terrain permitted.

"Koos" De La Rey was the first to advocate siting troops on the plain as preferrable to the heights. He realized that the slowed pace of attacks uphill and the increased firepower of terraced positions were of little value when compared to the enormous range and benefits of grazing fire to be gained by positioning on the plain. By giving up the slopes the Boers no longer had to worry about dead ground immediately to their front. Terraced positions were after all a luxury that could only be indulged in when sufficient men were available to man them, and that was rarely the case. Occasionally, when there was little other room for guile in site selection the Boers would burn the grass so the British khaki uniforms would stand out.

Every means of encumbering the British advance across the battle field war explored. Following the successful employment of barbed wire in Cuba, the South African Republics bought nine hundred and fifty tons in 1899 and two weeks later ordered an additional fifteen hundred

tons.[17] These obstacles proved quite useful when carefully laid about Magersfontein so as to appear as ranch fences.

While defense was the Boer's forte, they did occasionally, even in the early period, go over to the attack as at Spion Kop and Nicolsons Nek. The Boers would advance in small mutually supporting groups, unlike the British who preferred long lines moving perpendicular to the front. Generally, the Boers tried to deploy their younger men toward the front, older men towards the rear and Hollanders and others of doubtful quality still further back. This system quickly broke down since the commandos were not organized by age nor was there in most cases sufficient manpower to deploy in depth. Even when outnumbered the Boers usually held a concentric position preserving for themselves flank security at the expense of surrendering a certain degree of initiative to the British.

Against unsupported enemy cavalry the Boers preferred to ride within five to six hundred meters, dismount, and engage them in a firefight. Such tactics make clear a disdain of both the British cavalry's charge and of its ability to fight effectively dismounted.

In the later stages of the war the Boers became

particularly effective in carrying out night attacks. This change took place in the winter and spring of 1900-01.[18] De Wet's 2:00 AM attack on Christmas 1901 at Tweefontein, which netted 116 dead and 240 prisoners at the cost of only fourteen dead from his own side, is perhaps the most famous example. Recourse to night attacks had only been made after the British had built up such a numerical superiority that the older defensive tactics in set piece battles proved ineffective. During the last weeks of the conventional stage of the war small Boer rear guards would cause an entire British column to halt and deploy its artillery in an effort to pin the Boers frontally while the British cavalry would work its way to their rear. Nonetheless, the Boers would frequently escape. In one case, forty men of a Boer force of two hundred held off General French's entire brigade of five thousand men for five hours while inflicting thirty-six casualties. When the position was finally taken, the British discovered only one dead burgher.[19] The inevitability of this process, the turning of positions, the taking of ground and ceaseless retreats, took its toll on Boer morale. While they were never able to more than temporarily delay the British, themselves were constanly

pressed. It is easy to see why the war nearly came to an end with the fall of Komati Poort, the last Boer controlled town. There was no open space left to retreat to, and even if there had been, a continuation of the same strategy offered no hope for victory.

During the very earliest stage of the war, Boer strategy had emphasized placing whole armies in front of the advancing British as blocking forces. Densities of less than five hundred men per mile proved too weak to stop them at Talana Hill, Delmont and Enslin, but when the front was only slightly thickened, British central thrusts would grind to a halt at Magersfontein and Colenso. Six hundred men per mile in entrenchments were hardly a worthwhile artillery target and the lack of British cavalry in the early going made these positions hard to crack with a flank threat.

The Boer's general avoidance of concentration and attack tended to rob them of tactical initiative and condemned them to strategic sterility. When the Boers felt they could no longer safely extend their lines they would simply fall back to a new position. This practice of calculated withdrawal became common practice after the action at Karee Siding, when the full weight of British

numbers became obvious. As long as he maintained his superior mobility Botha felt that "No Boer need ever be captured if he does not want to be."[20]

Thus far, having emphasized the Boer effort, one must now approach the matter of the guerrilla campaign which lasted over two years and found the Afrikaner most frequently on horseback. Unable to contend frontally with massive British armies after the fall of Bloemfontein, the Boers increasingly resorted to raids. Americans have always had a liking for this type of warfare and one such contemporary writer defined its advantages in terms of diversion, threatening communications and supply, gaining information, alarming the countryside, disrupting mobilization and concentrations, devastating enemy-held lands, and releasing prisoners.[21] In American terms such action was usually undertaken in conjunction with some regular field force, but not so in South Africa. The Boer's lack of an army in being allowed the British to disperse in the face of their tormentors and seek them out in a relatively cost effective manner. What should be noted is the enormous number of ways such unsupported raids (we currently call this guerrilla warfare) could make the life of an occupying power miserable.

Just how effective the raids could be can be gathered from some of the highlights of the 1900 campaign: Sanna's Post, seven guns lost, 426 prisoners and 156 casualties out of a force of 1,500; Reddersburg, 405 prisoners, 47 casualties out of 452 engaged; Lindley, 400 prisoners out of 500 engaged; Rheonoster, an entire convoy of 160 men captured; Roodeval, 94 casualties and 500 prisoners out of a 600 man force; Uitral's Nek, two more guns and another 300 man force destroyed; Dewetsdorp, 500 more men captured or killed, and on December 13th at Nooitgedacht yet another 660 man command destroyed.[22] De Wet and other commanders' abandonment of wagons, after the so-called Kroonstad regulations of May 1900, made an already elusive foe still more mobile. Fast moving and hard hitting General De Wet claimed that even

> when during the last stages of the war it happened, as it often did, that they drove some of our men against one or other of the great blockhouse lines which then intersected the country, and it became necessary for us to fight our way through, we generally succeeded in doing so.[23]

For the greater part of the war campaigning consisted of ceaseless chases across the veldt by the British who were all too frequently caught unawares by the Boers

doubling back and attacking. Favorite ploys of the Boers were to set grass fires to slow pursuit or to ride parallel to the supposed pursuers, dismount, fire, and yet avoid all close contact. Occasionally to confuse the enemy De Wet would alter the pattern. At Klipstapel he charged his four hundred men at six hundred of the British only to dismount at two hundred yards and open a heavy fire fight. Late in the war the Boers developed an Arab style cavalry charge, firing at the gallop while coming from several directions at once. With the British now quite spread out this tactic proved useful at Vlaqkfontein, Schiepers Nek, Brakenlaagte and Tweebosch.[24] Kemp was the leading practitioner of this tactic and at Magaliesberg he gave it the additional twist of using it while charging through a grass fire he had set. The net result in that case was one hundred and sixty-six British casualties. When used in conjunction with surprise night attacks these charges could also be quite dangerous to isolated British units. When all else failed and incessant British sweeps made life impossible, the Boer's last recourse was to split up into ever smaller groups and survive through superior veldtcraft until such time as they could reunite. This alternative existed only as long as dedication remained in the hearts and minds of

most of the fighters.

Having thus far dealt with the Boer style of fighting, one should now turn to their manner of organization and plans of war. Every male citizen was responsible upon call-up to present himself with ten days rations, a horse, rifle, and thirty rounds of ammunition. At the outset of the 1899 war, the government provided a rifle and ammunition gratis. The men were organized in commandos based on electoral districts of which there were twenty-two in the Transvaal and eighteen in the Orange Free State. Each district in turn was subdivided into from two to five wards. The large variances in population within districts meant a commando could have anywhere from three hundred to three thousand men. The amorphous nature of this structure was further complicated by each burgher's right to change commandos as he saw fit.

Command was vested in field cornets elected one per ward. Assistant field cornets were in charge of 150 to 250 men and corporals commanded twenty-five men. Since command was by election, if an officer's plan was rejected, he stood a good chance of losing the next election and with it his command, thus being reduced to the ranks. All decisions, at least in the early days, were arrived at

through concensus.

It did not take long for such a system to show its weaknesses. As the old leaders passed on, Cronje through capture, Joubert dying, Prinsloo surrendering and Kruger fleeing, a new group of stronger, more self-assured, commanders came to the fore. The election of men such as Christian de Wet, Judge Hertzog and Pieter Kritzinger of the Orange Free State, Louis Botha, Koos De La Rey, Ben Viljoen and Jan Smuts of the Transvaal to positions of greater responsibility marked a new tone of discipline. These changes only took place after the Boers had been pushed to within their own borders. With the fall of Pretoria, Botha was elected Commander in Chief and there were no more Krygsraads (war councils).

Unfortunately for the Boers, the change in leadership came too late in the war to allow for any real chance of victory. The initial war plans drawn by the old commanders had been profoundly conservative in nature. The younger leaders such as Smuts had pressed for an immediate drive to Durban and Capetown at the war's outset before the enemy could build up its forces. They hoped not only to deprive the British of convenient points of debarkation, but also to rally the local Afrikaners in the colonies to their

cause. Conquest of the Natal would assure access to the sea and the ability to perhaps issue letters of marque. It was hoped that the old Boer republic could be reestablished and that easy victories could be gained against the Indian Army contingent located there. The triumph of the older leadership guaranteed a more methodical process of besieging British border garrisons in Ladysmith, Kimberly, and Mafeking. For a mounted army with little discipline to become embroiled in such a situation was a colossal misuse of skills. The Boers lacked the training or will to storm a prepared position and the long delays encountered in siege warfare allowed the Empire as a whole sufficient time to rally its forces and come to the besieged garrison's aid.

The lack of discipline, as we have seen, proved a major drawback to the full realization of Boer plans and tactics. Nowhere was this flaw more evident than in the process of surrendering. White flags had never been used during the Basuto wars and thus it was not understood that all must stop firing when flags were raised by either the offense or defense. Early on, Roberts was to complain to the neutral powers of Boers holding up their hands while some of their compatriots continued to fire.[25] Further

confusion arose out of the frequent Boer practice of accepting the surrender of infantry while forcing British cavalry to fight to the end. The merciless attitude towards cavalry arose out of the conduct of the Lancers and Dragoons at Elandslaagte where they repeatedly rode through the routed Boers inflicting casualties despite the latter's efforts to surrender. The Boers expected to be able to fire until the enemy was within twenty yards and then submit to be taken prisoner. Such a procedure would preclude any decisive cavalry charge. It would be entirely out of keeping with the expected mind set of British troops who had just suffered considerable casualties in moving across the open without the ability to respond; now they were to be deprived of their revenge. The Boer emphasis on firepower never prepared them for this psychological problem.

Aside from the Boer unwillingness to accept British cavalry's surrender the war was marked by what was regarded in professional military circles as an excessive number of unwarranted submissions on both sides. William Balck believed the reason for this was that,

> Boer and Briton understood the same language; the intention to kill their opponents was seldom displayed

> by the Boers; equipments, horses and arms were taken from their prisoners, who were then generally let go; only a portion were interned at Pretoria and these were well-treated.[26]

The very nature of the war seemed conducive to a struggle something less than to the death. Flat terrain and the extended ranges of modern rifles so commanded overthrown positions that both support and retreat became more difficult. The dispersed formations adopted by both sides increased the feelings of isolation and insecurity inherent to each soldier. These factors were compounded by the longer duration of the battles and the heavy fighting during the summer months which amplified the importance of water access. The introduction of smokeless powder hindered traditional tactics since there was no longer sufficient smoke on the battlefield to cover a retiring movement. The old Franco-Prussian maxim that once engaged in a musketry duel, it was better to hold than retreat, gained a new urgency. For the British this was especially true since in falling back they could easily be overtaken by their more completely mounted opponent.

Much to British chagrin, Lord Roberts wrote, "The Boers have been the first to introduce into war the theory that every individual has the right to ask quarter for

himself at any moment in an action. A theory which our own soldiers seem to have almost invariably accepted."[27] At the battle of Spion Kop the idea of individual initiative with regard to white flags became commonplace as leadership was more frequently ignored on what had become a personal decision.

Foreign commentators frequently noted the small number of casualties and high proportion of prisoners.[28] In European battles when a unit was forced to retire rather than surrender it would be subjected not only to being shot at but also artillery bombardment and cavalry charges. Cronje, after the victory at Magersfontein, refused to pursue, fearing that if God offered a helping hand, one should not try for the arm as well. With the passing of the old leadership however this attitude would change but by then the opportunities would no longer be as great.

The high rate of surrenders alarmed th British sufficiently to convoke courts of inquiry into every recorded instance.[29] By November 1901, 7,472 men and 292 officers had been taken prisoner. This was the highest loss from capture for the British for at least a century.[30] The Boers, for their part, had litttle use

for the British prisoner once stripped of his arms and serviceable parts of his uniform. At Ladysmith prisoners captured elswhere were released to the British so as to reduce the besiegeds rations.

The overall effect of the breakdown of traditional surrender procedures, good treatment of prisoners, and free access to medical supply trains during the siege of Ladysmith, was a tendency to decrease the reliability of troops in positions they perceived as being untenable. The humanization of warfare, thus introduced, was to remain part of western European battles through the first months of World War I, only then to be overtaken when a new set of factors came into play. Even then, one of the chief causes of the change, propaganda against surrender, dates back to Boer War material, such as Kipling's poem, Columns, a diatribe against surrender.

In conclusion, it may be stated that the Boer military system had many mixed assets on every level. Despite these advantages it must still be recognized that their governments had sought to avoid war for as long as possible. The old view that the campaign was put off to allow the grass to grow and thus make the army less dependent on wagons, ignores both political realities and

the way in which the Boers actually elected to fight the initial engagements. The Boers hoped for international support and internal revolt in the Cape Colony. To be the aggressor might jeopardize these goals; thus the British had time to raise their forces from 6,000 to 22,000 men.[31]

Ironically the very successes of what historians have come to view as an inferior strategy proved the undoing of the first Boer offensives. As more and more British garrisons were besieged the Boers committed their last reserves tying their own hands strategically and surrendering the initiative. With access to excellent maps of all of South Africa, a mobile strike force and a modern communications system, the Boers never succeeded in launching a well-coordinated campaign.[32] Properly conducted key installations might have been captured while still ungarrisoned and their relief forces caught in the open and defeated in detail. Generals Mayers at Talana and Erasmus at Eladslaagte moved too soon, before their troops could concentrate, and thus had insufficient troops to trap General Simmons' force in the open. Lacking a general staff and proper military discipline it may have been that with every burgher knowing the army's plans the leadership

feared too elaborate a scheme that might fall into British hands and jeopardize any chance of success.

If the three key elements of any army are its abilities in marching, marksmanship and discipline, then it may be seen time and again when the Boer's fatal flaw lay. It is only through discipline that a successful attack can be carried out. As one Boer put it, "you English fight to die, we Boers fight to live.[33] The Boers so valued their own lives and the increased power of the defense that they tended to forsake the tactical offensive. This lack of aggressiveness of the Boers was evidenced by their proclivity for sieges. Such tactics deprived them of many early opportunities for strategic victories.

At Mafeking they outnumbered Baden Powell's force 10,000 men to 700, yet they refused to push the attack. Kruger had ordered Cronje not to storm the town since it was not worth the lives of fifty burghers.[34] The Boer inability to launch attacks consistently hurt their cause. Even in the open had they been more aggressive the British would not have had the time to maneuver around their flank such as Hamilton did at Israel's Foot, and French at Thabanchu. As one foreigner put it, "but how to make oneself heard here on the subject of offensive

warfare?"[35]

Those foreigners who fought on the Boer side tended to stick to European fighting methods.[36] This made them among the most steady and offensively minded of the Boer troops. The price for this was the destruction of the Scandinavian contingent at Magersfontein, and the Dutch and German Corps at Elandslaagte.

Many Europeans, both on the Boer side and observers, never truly understood the Boer methods. General Philebert felt that horses were actually an embarrassment to the Boers because they had to be kept out of the way of British artillery. Since they had to be stationed well to the rear it proved difficult to mount them in pursuit of a defeated enemy. Philebert viewed the Boer as insecure without his horse and yet incapable of dealing with proper cavalry when mounted.[37] Foreign officers as a whole tended to be a nuisance as they all demanded disproportionately high commands. When given the opportunity to fight in the Boer army as a private and not as an officer, von Sternberg wrote, "I refused, and explained. . . that I was no assassin, and did not shoot innocent people, who had never done me any wrong from an ambush."[38]

The completely different Boer conception of warfare

is best illustrated by incident at the first battle of Colenso, where lots had to be drawn for the defense of the town. This was not done from any sense of nobility but due to the very real concern of being cut off, captured or killed. How ironic that the Boers with compulsory service lacked all field discipline, while the British system seemed to be the reverse. "Whereas we had little discipline (observed General Viljoen), the English had evidently too much."[39] The proper proportion of the vital military quality is difficult to judge.

General Haig felt that "in order to enable a commando to break off action at any moment and reopen it in a more favorable situation, a rigid fire control is essential."[40] Fire control meant discipline one of the most fundamental building blocks of the British army and at the same time an ingredient almost totally lacking among the Boer forces. Thus it must be seen that the philosophical approach to war on the part of the Boers was entirely unlike that of a typical European army. To inflict damage and escape into seemingly limitless space was more important to the average Boer fighter than the taking of any given position. The British were fortunate that so little aggressive discipline was demonstrated in

the early months when the situation was indeed perilous.

[1]Maurice, History of the War, 1:459.
Amery, The Times History, 2:88.
P. van Berchem, "Notes on the Artillery in the South-African War," trans. Capt. William Lassiter from Revue militaire Suise, January and February 1903, JUSCA 21 (May-June, 1904):307.

[2]Gustavus Ratzenhofer, "A Retrospect of the War in South Africa," trans. Lt. Col. E. Gunter, JRUSI 45 (January 1901):40.

[3]d'Amade, "Guerre Sud-Africaine 1899-1900, des faits, des remarques, des suggestions, Octobre 25,1901," Ministère de la guerre état-major de l'armée archives historique, campagne contre l'Allemagne (1914-1918), Attachés militaire Grand Britagne, rapports de l'attaché militaire, armée des Indes, guerre suit Africaine 1894-1912 7N-1250, p. 140.

[4]Elgin Report, vol. 40, p. 220.
This also seems to be the modern South African view see, Frarncis A. Lord, "Net Treffers Tel," Militaria 6 no. 3, pp. 49-54.

[5]Elgin Report, vol. 40, p. 294.

[6]Howard Clements Hillegas, The Boers in War: The Story of the British-Boer War of 1899-1900 As Seen From the Boer Side, With a Description of the Men and Methods of the Republican Armies (New York: D. Appleton & Co., 1900), p. 65.

[7]Ibid., p. 114.

[8]Kitchener to Roberts, 9 December 1900, Roberts Papers, 7101-23-33, p. 2.

[9]George Henri Anne Marie Victor de Villebois de Mareuil, War Notes: The Diary of Colonel de Villebois-Mareuil, From November 24, 1899 to March 7, 1900, trans. Frederic Lees (London: A. & C. Black, 1901), p. 54.

[10]Lord Roberts, Hansard, 4th series, 185, (12 March 1908):1687.

[11]Jonkheer J. H. Ram,"Observations on the War in South Africa," trans. E. S. Arnold from an address delivered before the Dutch Society for the Advance of Military Science, JRUSI 48 (February 1904):156.

[12]Ibid. (January 1904), p. 48.

[13]Nevil Macready, Annals of An Active Life, 2 vols. (London: Hutchinson & Co., 1925), 1:95.

[14]Ram, (January 1904), p. 48.

[15]Julian Ralph, An American With Lord Roberts (New York: F. A. Stokes Co., 1901), p. 28.

[16]U.S. War Department, P. 38.

[17]Musgrave, p. 217.

[18]Note the many night attacks in Benjamin Hohannis Viljoen, My Reminiscences of the Anglo-Boer War (London: Hood, Douglas and Howard, 1902), pp. 314-17, 378.

[19]William Frederic Unger, With "Bobs" and Kruger: Experiences and Observations of an American War Correspondent in the Field With Both Armies, Illustrated With Photographs Taken by the Author (Philiadelphia: H. T. Coates & Co., 1901), p. 248.

[20]H. Spender, Constable & Co., Ltd., 1919), p. 96.

[21]Arthur L. Wagner, Organization and Tactics 4th ed., (Kansas City, Mo.: Hudson-Kimberly Pub. Co., 1901), p. 281.

[22]Average Observer, The Burden of Proof: Some Aspects of Sir Redvers Buller's Work During His Recent Campaign in South Africa (London: G. Richards, 1902), pp. 68-9.

[23]Christian Rudolf De Wet, Three Year War (New :York: C. Scribners, 1902), p. 261.

[24]William McElwee, The Art of War: Waterloo to Mons (Bloomington & London: Indiana Univ. Press, 1974), p. 229.

[25]Roberts to the Secretary of War, 15 March 1900. Great Britain, Parliament, Parliamentary Papers (House of Commons and Command), 1901, vol. 47, Cmnd. 458, "South Africal Despatches," p. 21.

[26]William Balck, "Lessons of the Boer War and the Battle Workings of the Tree Arms," JRUSI 48 (November 1904):1275.

[27]Amery, The Times History, 2:191.

[28]Balck, "The Lessons of the Boer War," p. 1274.

[29]Lyttelton to Peggy Talbot, 3 January 1901. Sir Neville G. Lyttelton papers, no. 19, p. 4, Liddell-Hart Center and Fredrick Maurice Crum, With the Mounted Infantry in South Africa, Being Sidelights on the Boer Campaign, 1899-1902 (Cambridge: Macmillan and Bowes, 1903), p. 67.

[30]H. W. Wilson, "The Surrender in South Africa". National Review 36 (January 1901):659.

[31]McElwee, p. 217.

[32]Hillegas, pp. 160-61.

The Boers had the foresight to run telegraph wires underground and under stone walls. These wires were also disguised as fences and run throughout their territories to ensure additional security.

Alan R. I. Hiley, The Mobile Boer: Being the Record of the Observations of Two Burgher Officers (New York: Grafton Press, 1902), p. 211.

[33]Pemberton, p. 21.

[34]E. E. Easton, "Inside the Boer Lines," Harpers Monthly Magazine, May 1900, p. 827.

[35]Frocard, 1:76.

[36]Foreign volunteers were given a rifle, ammunition, and eight days' food, and thus should not be considered mercenaries as they drew no pay.
Ralph, An American With Lord Roberts, p. 203.

[37]Charles Philebert, "La guerre Sud Africain" Tactique et tir 4 (3 January 1900):1.

[38]Adalbert Wenceslaus Heinrich Leopold Maria graf von Sternberg, My Experience of the Boer War, trans. and intro. by Lt. Col. G. F. R. Henderson, 2nd impression (London, New York & Bombay: Longmans, Green & Co., 1901), p. 68.

[39]Viljoen, p. 118.

[40]Douglas Haig, Cavalry Studies: Strategical and Tactical (London: Hugh Rees Ltd., 1907, p. 164.

Chapter IV

The Solution

The Boer War can be broken into two parts: a conventional war lasting from October 1899 to July 1900 and a guerrilla war lasting until May of 1902. In the conventional war, the British may have expected to have the advantage, but this proved hardly the case. The South African campaign would encompass a novel foe, and an area equivalent to the distance from Paris to Prague, and from Marseilles to Berlin. Forced to fight in larger units and over a wider area than ever before, the British army was taken aback. The 27,000 men on station, 8,500 of whom were local volunteers, were immediately hard pressed by the Boers who did not wait for the arrival of the main British forces but pounced upon outlaying garrisons from Mafeking to Ladysmith.[1]

It took a letter from Lord Lansdown to clear up some of the confusion at Buller's headquarters. Lansdown advised that the total Boer population was only 90,000 making impossible Buller's wild estimates of facing 145,000 combatants in Natal. In reality there were but 20,000

Boers in the area and 10,000 of those were pinned at Ladysmith.[2] Intelligence surveys proved inadequate. The lack of accurate maps was evident in actions such as at Nicholson's Nek, where the entire British position was commanded by an enemy situated on a series of higher ridges not even indicated on any British map.[3]

Buller's initial plan of campaign had been abandoned before he even arrived in Africa as a result of the Boer's seizure of the initiative. What was supposed to be a single direct thrust up from the Cape to Bloemfontein, the capital of the Orange Free State, quickly depreciated into a number of uncoordinated campaigns by improvised commands for the relief of various besieged towns and garrisons. Commandant Fonville felt it was the hetrogeneous detachments formed randomly on debarkation, comprised as it were of elements from all regions, veterans, garrison troops, various brigades and battalions without any care to maintaining a regular order of battle that best demonstrated the general unconcern of the British for permanent large units. Each division was improvised by chance according to the needs of the moment.[4]

Buller, as Commander-in-Chief, violated one of the cardinal rules of warfare by dividing an inferior force

around a more mobile enemy who controlled the interior lines. General Clery held the right with a few battalions near Eastcourt in Natal waiting for Buller who had abandoned his initial objective of Bloemfontein, in order to relieve General White's large force besieged at Ladysmith. On the extreme left of the front General Methuen commanded three brigades of the flower of the British Army with the responsibility of relieving the important mining center of Kimberley and safeguarding the main north-south rail lines. The central front, consisting of one brigade led by General Gatacre and General French's cavalry division, was charged with maintaining communications between the wings and remaining athwart of the anticipated Boer route of invasion. Fonville concluded.

> there was a general impression that the Government in London had insisted on his (Buller) at once relieving Kimberley and Ladysmith, for the reinforcements that arrived duing the first half of November were sent partly to the Modder and partly to the Tugela for that purpose. This was a serious mistake and was recognized as such by military critics on the continent and by the English press.[5]

While Buller may thus be held accountable for the strategic dispositions that made possible the triple disasters

of Magersfontein, Stormberg and Colenso, collectively known as the "Black Week" of December 1899, he was not responsible for the bleak situation that greeted him on arrival. The first volume of the official History of the War in South Africa, written by Colonel Henderson had been critical of the political dispositions of troops and selection objectives and thus had been quickly suppressed by Lord Balfour. The completed four volume study by General Maurice was exhaustive in detail and lacked criticism or a discussion of the causes of the war.

Buller had himself warned White, "do not go north of the Tugela, do not go north of Tugela."[6] He realized that such a move would only incite the Boers and put the army out on a limb strategically. White's failure to mine the bridge and tunnel approaches or even tear up track in northern Natal was a major dereliction of duty on his part.

On the Kimberley front Cecil Rhodes' posturing and insistence on maintaining that mining center as a British strongpoint caused a considerable diversion of troops. As a symbol of the Empire, a major instigator of the conflict, and one of the twin hearts of the city's defense, Rhodes could not be allowed to fall into Boer hands, even if an army had to be sent to his rescue.

Buller and Wolseley had favored a direct attack on

Bloemfontein, yet Sir Redvers wound up in Natal. Roberts had the same priority, yet had to go by way of Kimberley. Durban to Pretoria was realized to be the shortest route from a seaport to a Boer capital but by moving the army on a north-south axis the Cape Colony could better be screened and lesser geographical obstacles encountered.

In examining the war from a chronological perspective, the first action occurred in the Natal theater where 15,000 burghers under General Joubert brushed past an equal number of troops under General Sir George White at Laings Nek on the frontier. White, as an old Indian hand, had placed paramount importance on political considerations. He felt that a forward position had to be taken in order to ensure the loyalty of 750,000 Zulus and the numerous Boers living in northern Natal. An early victory would also boost morale among the loyalist forces and increase recruitment.

Having in effect been strategically outflanked at the campaign's outset, White's force retreated onto its own lines of communication. A Boer blocking force was encountered at Talana Hill (Dundee) and defeated. Three thousand British supported by eighteen guns successfully stormed a hilltop position manned by 1500 Boers and four guns. The Afrikaners had failed to defend a well-protected forward position and the British had thus been

able to collect sufficient numbers in the dead ground behind a stone wall just below the Boer position. Suffering 500 casualties to the Boers' 150, White's force carried the field. The lessons of this battle should have filled both sides with foreboding. The Boer General Meyers had taken a poor unsupported position and shown a decided lack of fight. General Erasmus whose commando was operating nearby offered no help. The British, for their part, had launched a disjointed cavalry charge, fired on their own troops with artillery, and come away from the battle with misplaced faith in the utility of frontal assaults.

Coming hard on the heels of Talana was the far more noteworthy victory at Elandslaagte on October 21st. Once again the British, now under General French, had the good fortune to encounter city Boers from Johannesburg. General Johannes Kock had 1,000 men and three guns to the attacker's 1,600 infantry, 1,300 cavalry and eighteen guns. Colonel Ian Hamilton, of future Gallipoli notoriety, committed his infantry to battle in an unorthodox manner. His troops were spaced at intervals four times that called for in the regulations, and they advanced by short bounds rather than long rushes.[7] On the whole, the infantry did not suffer unduly although the Gordon Highlanders did according to Foster Cunliffe by "their conspicuous uniforms,

a somewhat deeper formation, and the fact that they occupied the centre of the line, and therefore the middle of the deadly table land".[8] The highlight of the battle was the cavalry charge. Steady pressure by the British infantry on the front and flanks led the Boers to attempt a withdrawal. They were caught by French's lancers and dragoons and lost several score of men in the onslaught. The Boer conception of individual surrender was ignored by the cavalry with considerable lasting consequences.

Elandslaagte's notoriety stems from the classical European way in which it was fought: careful artillery preparation, wing engagements by the cavalry, a frontal infantry attack culminating in a bayonet charge and a pursuit carried out by the light cavalry. Closer examination once again points to a poorly chosen Boer position, with flanks insecure and a number of hollows to the Boer's front. A driving downpour in the midst of the battle further aided the British since the limited visibiliy allowed them to move across dangerous open terrain relatively unharmed. Once again, old methods just barely modified had triumphed against an outnumbered and outgeneraled foe. The Boers suffered 67 dead, 108 wounded and 188 taken prisoner to the British 50 dead and 113 wounded. The only lasting impression observed by Ben Viljoen was that after "Elandslaagte the British abandoned flags, banners, bands and other quite

unnecessary furniture."[9]

Despite his so-called "victories", by November second, General White found himself encircled in Ladysmith, the major supply depot for northern Natal. An attempt to disrupt the Boer lines of besiegement became embroiled in three disjointed attacks. In the case of the move on Long Hill, the blow landed in the air and came under severe flanking fire from a more reserved Boer position on Peperworth Hill. The Nicholson's Kop fiasco is best remembered for the inadvertent stampede of the mules of the number ten Mountain Battery which swept away most of the attacking force. Less well known but far more indicative of the failure of British tactical doctrine was the use of ineffective obsolete volleys in response to hidden Boer marksmen.[10] The Lombard's Kop action served to further prove the inadequacy of British reconnaissance. The attack was supposed to be launched on the enemy's flank yet it actually landed on it's center. G.F. Gibson has claimed that,

> the battle of Ladysmith was the first engagement on a large scale between British troops and Dutch Burghers and the first in which the two military systems were fairly matched against each other, and it showed conclusively that in the open field 12,000 British troops were not a match for an equal number of Boers.[11]

Churchill quotes White as saying that "my lines are

now nearly fourteen miles in circumference. If I had taken up a smaller position we should have been pounded to death."[12] White had extended his lines as far as he thought practicale and on occasion had thinned them to two hundred men per mile. While Baden Powell constanly expanded his perimeter of strong points at Mafeking despite far inferior numbers and quality of men and terrain, White's use of regulars in continuous trench lines seemed strikingly unimaginative and was recognized as such by some contemporary critics.

White had realized from his very first encounter with the Boers the marked inferiority in range of his field artillery. It was the last minute arrival of four twelve-pounders and two 4.6 inch guns along with 280 sailors from the H.M.S.Powerful that would do so much for the defenders' flagging spirits.

White's conduct of the campaign left little to recommend it. His failure to destroy bridges and tunnels allowed for the army's encirclement in an area it should not have entered in the first place. At Lombard's Kop poor staff coordination led to the isolation and capture of one thousand of his troops. His tactics throughout had been abysmal and his adherence to the command post style

throughout the siege was uninspired. In the absurd pretense of maintaining a field force which never once attempted to escape en masse, White failed when he had the opportunity to evacuate artillery for which he had no shells, civilians, or cavalry for which he lacked sufficient fodder. During the siege he wasted precious food supply of mealies on horses which might have jeopardized his entire force.[13] It was fortunate that Joubert was humane enough to allow the British to set up a hospital outside the perimeter and away from the polluted Klip River or far more would have died. The net effect of the Ladysmith siege was to separate 13,000 British soldiers from a 17,000 man relief force for four months, while blockading forces dwindled from 13,000 to as little as 2,500 in face of an inactive garrison.[14] Had the Boers been more aggressive to begin with or merely screened the position at the start, the entire Natal might have fallen. As things stood, Ladysmih was ringed by hills and the entire campaign's strategy would have to be altered in order for Buller's army to come to its rescue across difficult terrain. How ironic that the survivors of sieges often become postwar heroes, despite the possible negative consequences of their actions.

That the Natal did not fall was also due, at least in part, to Wolseley's foresight. As soon as White had encountered difficulties, Wolseley advocated the mobilization of the second corps, considerably before the rest of the government.[15] A step by step analysis of the Natal campaign more than adequately demonstrated the need for an Imperial strike force. The decision to reinforce the Natal was made on September 8th. Nine days after receiving orders the meager but vital Indian Strike Force landed in Africa, (October 7th) too late to join General White's army at the frontier. On October 12th, the first shot was fired. In late October, the first British troops left England including two battalions of infantry and three artillery batteries.[16]

Just as the relief of Ladysmith was to become the idée fixe of Buller's campaign in Natal so was Kimberley for Lord Methuen in the northern Cape region. For one hundred and twenty-four days this rich mining center would be defended by a mere five hundred regulars and four thousand volunteers (five hundred mounted) along a thirteen mile perimeter.[17] The British were indeed fortunate that Colonel Kekewich and Cecil Rhodes, despite their mutual animosity, were up to the task, for their

tactical position and resources were far more limited than those of General White.

General Lord Methuen's relief force of 10,000 men and sixteen guns was confronted for the most part by 7,000 Boers commanded by Generals Cronje and De la Rey. In a series of engagements the British pushed forward until reaching the Modder River on November 28th. By this time the army was so exhausted and had inflicted so few casualties that it had to pause and regroup while awaiting reinforcements.

The first of Methuen's actions, Belmont, bears all the characteristics of what to expect from the better class of British officer, ie, a certain amount of innovation, but nothing too radical, subfused in archaic rhetoric and ideals. When Colonel Willoughby Vernier suggested a simple turning movement of the outnumbered General Prinsloo's force, Methuen responded, "my good fellow, I intend to put the fear of God into these people."[18] His plan of attack called for two brigades to advance in open order double line under the cover of darkness to within charge reach. Impressed by Wolseley's successful night attack at Tel-el-Keber, Methuen hoped to improve upon it by means of a heavy covering fire by the artillery and a flank attack

by the cavalry. Complications arising out of misjudged terrain and timing threw the whole plan into jeopardy. By dawn, the infantry was still one thousand yards short of its final jumping off point. As General Colville put it, "The men did for themselves what no general would dare ask of them."[19] They continued to advance and took the hilltop position.

The English prided themselves on this soldier's victory and doubted if any short service army could have advanced in single lines at four pace intervals as did the Guard battalions.[20] Fonville would write more critically however of, "an unmaneuverable mass incapable of changing direction covered on neither its front nor flanks by the least organ of protection; patrols or scouts, making a march into the unknown."[21]

British faith in the virtues of close quarters action remained unshaken. Battalion commanders had entered the battle issuing orders to withhold fire and attack with bayonet, and left in Alfred Kinnear's view with the impression that "at the sight of cold steel the Boers literally turned and fled carrying their dead and wounded."[22] In reality, men rarely stopped to pick up the dead when about to be overrun. Yet explanation was

necessary to account for the thirty-odd dead Boers found on the field compared to British losses of two hundred and twenty wounded and seventy-five dead. Casualties might have been far worse had not the Boers limited their own field of fire by building old-fashioned rock parapets on top of eminences thus allowing the Guards sufficient dead ground. In the aftermath, Methuen's late arriving and meager cavalry force was easily checked from pursuit by a covering force led by De la Rey.

The Boers may have been discouraged by their failure to put up a better fight at Belmont but within two days they were ready to renew the struggle. Space had always been considered one of the Boer Republics' greatest assets and they were willing to trade it for time. Methuen had to press on to Graspan (Enslin) where the Boers had once again taken a position along a ridge line. De la Rey had about two thousand men and five guns and was outnumbered four to one.

Lacking sufficient cavalry, Methuen stationed what he had on his flanks for protection. His plan was to pin the enemy frontally with infantry while a relatively deeper yet well-spaced naval brigade (actually four hundred men) would form the vanguard of a column attacking the Boer right

flank. De la Rey countered Methuen by advancing his forces from behind the crest as soon as the preliminary bombardment ended in order to meet the pinning force further down slope. This maneuver threw off the British timing and allowed the Boers to enfilade the Blue Jackets as they bunched up while ascending the steep slope. Suffering a fifty percent casualty rate, the sailors continued to push on, and combined with overwhelming numbers of infantry finally forced the Boers to withdraw.

Once again the Burghers easily avoided pursuit. The British still believed that, "as at Talana, Elandslaagte, and Belmont, the enemy yielded to the moral suasion that the strong, unwavering, bayonet charge always bears with it."[23] Seemingly overlooked was the near decisive effect of terrain, and the inflexibility of British open order tactics.

Pushing on to the Modder River, the British continued to gain confidence. Twice they had met the enemy and brushed him aside. The disproportionate losses were hardly clear to the officers let alone the men, and in any case, could be borne in light of superior numbers. The Boers, for their part, had replaced the ineffective Prinsloo with De la Rey, and had elected to make their next stand by the

river twenty-five miles south of Kimberley. Collecting three thousand five hundred men and six guns plus a number of pom poms, De la Rey prepared a unique disposition to greet Methuen's oncoming seven thousand men.

Classical military thinking held that a river line should be defended from its rear especially if the area offered convenient dominating heights and built-up structures from which a bridgehead might be commanded by firepower. De la Rey felt however that modern weaponry and the peculiar nature of the terrain offered another solution with perhaps more dramatic results. The Modder River cut a deep swath through the veldt leaving a thirty foot vegetation-filled channel below the local plain. By situating many of his men in these natural trenches on the far side of the river, De la Rey hoped to lure the unsuspecting British into the flat area beyond where the grazing power of the rifle would be far more effective than if located on the heights. De la Rey further improved the position by fortifying the farmhouses, digging a number of the new style schanzes and preparing a number of alternate positions for his artillery. Major Albrecht placed white stones across the veldt as an aid in ranging his pieces. With the river to the front of Methuen's line of advance,

any flanking move would be slow to develop and thus the Boers were little concerned with this threat. Colonel Villebois claimed "the English have taught him (the Boer) that they are incapable of doing without their railway for a single hour."[24] Thus the British could not break free of a direct advance along the rail lines.

The British had no knowledge of the Boer positions and simply assumed them to be on the heights beyond. No scouts preceded the army across the river nor searched the bank for alternate fords, prior to the commitment of the Guards and Ninth Brigade once battle had been joined.[25] Methuen was determined to beat the Boers frontally and thus destroy their will to fight. Tactics declined to the level of predictable reaction. When Boer riflery opened upon their front and artillery commenced firing on their right, the British tried to attack in both directions, unaware of the exact nature or location of the Burghers' position to their front or of the Riet River on their right. The Boers, even from the trenches, could clearly see the Guards three miles away and the lightly held hills offered a panoramic view of the entire British disposition.[26]

Methuen's involvement in the battle was so removed

that it became what is known as a "soldier's battle". The initial responses to the ambush were ineffective advances, and an attempt to bring the artillery forward. One battery alone lost sixty percent of its officers and twenty-two horses as it tried to pour fire into the abandoned homes that seemed a natural target. The Boer gunners concealed two hundred yards forward of those houses wreaked havoc on the dense artillery formation. Methuen had to withdraw his batteries to 1400 yards to escape the murderous riflery and artillery and that was only accomplished with difficulty as many horses and gunners were now casualties.[27] Single gun emplacements of quick-firers, pom poms, Maxims, Colts, and Nordenfeldts proved so effective that Alfred Kinnear claimed, "it was, in fact, a duel between machine guns."[28] Just as in modern warfare, the heavier weapons had come to displace the infantryman as the primary source of firepower.

The infantry had not given up its position easily. Even Methuen realized that charges were impossible when men had to crawl at 1200 yards and no one could safely ride on horseback within 2000 yards of the front.[29] "The frontal attack was so clearly impossible that it was at once abandoned and the men lay down"[30] in the words of

Jonkheer Ram while Alfred Mahan elaborated.

> in the space of a mile in length and a quarter of a mile in width there was scarcely a square yard not torn up, perforated, riddled, ploughed, and raked. Shrapnel bullets, shell cases, fuses, and bits of metal lay all over the place.[31]

The British army of 1900 had stumbled into a World War I type of battlefield. The question remained whether it was to be treated as an aberration or as the new norm. Persistent infantry pressure on the left flank finally established a bridgehead that threatened to turn the Boer position. The British had won yet another victory at a disproportionate loss. It seemed all too easy to blame the near disaster on faulty maps, poor reconnaissance, disregarded information on Boer reinforcements and a general misunderstanding of their intentions.[32] The deeper tactical lessons would have to be hammered home time and time again.

Methuen's "victory" at the Modder River on November 28th, left his army so weakened that an advance to the new Boer position at Magersfontein could not be undertaken until December 10th. The Boers, now in very close proximity to Kimberley, were able to draw on its besieging force and increase their numbers to eight thousand while Methuen had been reinforced by the addition of some Highland battalions, a cavalry regiment,

several assorted artillery batteries, and a balloon section.

General De la Rey was once again responsible for the Boer deployment although Cronje was nominally in charge. The Burgher position was anchored on its left on the Modder and then appeared to stretch over a number of hills and valleys to form a great concave line extending twenty-six miles for a mean density of three hundred men per mile. To Methuen it seemed an easy matter to blow a hole through this paper-thin force and march his 15,000 men into Kimberley. This appearance however, was deceiving, as De la Rey had erected two lines of field fortifications. The troops in the trenches on the hills had access to large quantities of black powder and their role was to draw enemy fire. In the plain, local barbed wire fences had been supplemented by fresh supplies and tin cans were attached to a number of trip wires for additional security.

Methuen hoped to avoid the deadly fire zone of the previous battles by a combination of heavy preliminary bombardment and a bold night advance by the Highland Brigade. The two hour bombardment on December 10th was most impressive to watch as the new lyddite explosives raised great clouds of yellow smoke. The majority of Boers were nonetheless quite safe in their forward positions and were now well aware of the British point of attack.

That evening under a driving rainstorm, the four thousand men of the Highland Brigade set off in quarter columns toward the Boer positions.[33] This dense formation was chosen to help maintain direction to within a few hundred yards of the enemy where it would take ten minutes to deploy into three lines. Formation was maintained by a series of ropes that served to preserve perimeters and spacing. Despite lightning and the large ironstone deposits on the field the Brigade moved unerringly in the correct direction and on schedule. All seemed ready for deployment and success, just as the Scots Guards had been adjudged the victors under similar circumstances during prewar maneuvers.[34]

Disaster struck quickly. Just as the troops were about to disperse, a soldier tripped on perhaps one of the many wires they had passed over. A shot was fired and the Boers turned on their searchlights. Wihin six minutes it has been estimated six hundred and fifty men lay dead or wounded on the veldt.[35] The Black Watch in the lead lost sixty percent of its officers and thirty-seven percent of its other ranks. For the rest of the day the men suffered horribly as they were pinned down by fire, baked by the sun and ceaselessly attacked by the disturbed ants behind whose nests many of them hid. By mid-afternoon it had become too much as the men started to drift back and

ultimately rout to the rear areas. Had not Lord Airlie taken the initiative and dismounted the Twelfth Lancers to offer some supporting fire, far worse might have occurred.

The defeat at Magersfontein was clear cut and the reasons for it many. Had Methuen been content to wait another day so that the weather cleared, he would have been able to use his balloon and discover the true Boer position. Far too much faith had been placed in the preliminary bombardment by lyddite shrapnel shells. The twenty-three artillery pieces engaged were reputed to have wounded three Boers.[36] Shrapnel proved quite ineffective against trenches. Poor reconnaissance, ineffective artillery preparation, a complicated night attack, and a poor economy of force (the Ninth Brigade was never committed to the Highlanders' rescue) were hardly the ingredients of success.

The failure of Methuen's campaign was by no means solely his fault. He felt directly the pressure of world opinion, the government and Buller to rescue Kimberley as quickly as possible. Three of his Guard battalions were forced into battle within a week of disembarking, being railed hundreds of miles and neither the men nor horses were given an opportunity to become acclimatized.[37] Lack of sufficient cavalry and proper maps made reconnaissance difficult and turning movements

virtually impossible. Battlefield reconnaissance was reduced to searching a position with artillery in the hope of drawing fire, although a Swiss critic summized a more active advance guard could have achieved this end.[38]

It may be claimed that Roberts was later able to swing over one hundred miles away from the rail line with five times Methuen's numbers in order to relieve Kimberley, but he lacked for neither the cavalry nor transport that so befuddled Methuen's efforts. Colonel Codrington reported to Lady Florence Poore that in his first three battles he saw only three Boers.[39] If such were battlefield conditions how could Methuen have been expected to take a step into the unknown by venturing from the beaten track of the rail line.

Methuen may be criticized for perhaps being over-cautious in his approach, but such could hardly have been said of his peer, General Sir William Gatacre, who at Stormberg on December 12th, had actually ushered in the "Black Week". Gatacre's original task of screening the north central Cape Colony had been altered on receipt of a telegram from Buller's headquarters on December 2nd, suggesting a preemptory night attack upon the vanguard of the Boer forces operating in his vicinity.[40] With this initiative, Gatacre, a physical fitness fanatic, known to his troops as "Backbreaker", proceeded to develop an even

more daring plan. He proposed to surprise the enemy both strategically and tactically by means of a long rail move, followed by a ten mile night march upon the enemy's position before they even knew he was in the area.

Almost from the first, plans went awry. The troops had to spend seventeen hours on board open-top railway cars, much of it under the hot midsummer sun. The four guides that were to lead the three thousand men then lost their direction. What should have been a long night march then became an all night ordeal. Fearing that his presence might become general knowledge, Gatacre sent out no scouts or flanking columns.[41] With morning light rapidly approaching and still no clear idea of his exact location, Gatacre decided on a flank approach to Stormberg rather than the direct attack originally envisioned. Word of the change of plans was not fully distributed to the troops, resulting in considerable confusion. Those who did learn of the change became even more dispirited as they were already quite exhausted and rapidly losing faith in the scheme as a result of the nighttime wanderings.

Dawn found the army still out of position and the only palatable objective in sight for the hungry men was a nearby herd of sheep. Foraging efforts alerted a nearby commando of sixty burghers who immediately opened fire and warned their

comrades. An attempt to deploy and attack under fire proved costly. Artillerymen, firing with the sun in their eyes, only served to rain shells on their own troops and force them from the ridge line they were in sight of taking.[42] As mishap followed on confusion, Gatacre ordered a withdrawal. It was not until many hours later that he learned the full extent of the disaster. Nearly seven hundred men, one third of his force, had been lost. Of these, only twenty-nine had been killed and fifty-seven wounded. Six hundred and thirty-three men of the Fusilier Regiment had simply been abandoned as word of the retreat never reached them.[43] This represented a total breakdown of staff work under battle conditions.

The flaws of Gatacre's plan and its execution were numerous. A night approach with unreliable guides and poor maps, across an iron-rich field where compasses were of little use, was indeed hazardous. To leave behind in depot the Berkshire Regiment that had built the Stormberg position was foolish. Lack of cavalry support was criminal, given French's close proximity at Naauw Poort with the whole cavalry division. The irony of the situation resides in the fact that as umpire during the 1898 maneuvers, Gatacre had not allowed a dawn attack without rest and meals.[44] Yet as a commander, he had now attempted to do just that, after working his troops for

twenty-three straight hours.

The final defeat of the "Black Week" was suffered by General Buller himself at Colenso in the Natal on December 15th. The six thousand Boers in the vicinity had been steadily falling back in the face of Buller's 21,000 men, when under Louis Botha's leadership they elected to make a stand on the Tugela River, a bare twelve miles from Ladysmith. The Colenso position was by no means an invincible one. There were two iron bridges to their front and several fords, each separated by only a few miles. Any attempt to defend them all would mean a very extensive front (ten miles as the crow flies, considerably more in reality) in the face of a numerically superior enemy. The southern fords were particularly vulnerable as they were situated barely within rifle range of the Kopjes to their rear which formed the natural line of defense. Most dangerous of all from the Boer point of view was the fact that the entire position was dominated by Hlangwane, a hill on the wrong side of the river. Any troops stationed there would have no route of escape if heavily pressed by the British.

Botha's defensive arrangements were a classic in the Boer style. Several tiers of schranzes were dug, cleverly disguised so as to confuse the inevitable British bombardment. Unbeknownst to the British the Tugela was damned several miles

downstream, increasing its depth by several feet.[45] Finally, and with great difficulty Botha convinced Jozua Joubert's six hundred man commando to occupy Hlangwane.

From the British perspective the entire position resembled an inverted "w" wih the center protrusion opposite the center of their own lines. The close proximity of the hills on the other bank was noted and Buller for a time considered turning the entire position. News of events on other fronts and concern for White's army seemed however to force his hand.

Buller's plan of attack called for Hart's brigade to attack across Bridle's Drift (ford) located on the enemy's southern (right) flank, at the same time Hildyard's brigade was to advance on the British right and take the two bridges and town of Colenso located in the bend of the river. One thousand dismounted troopers under Lord Dundonald were charged with securing Hlangwane, while the remainder of the cavalry was to protect the left flank. Two full infantry brigades were left in reserve in the center.

The attack as usual was preceded by an ineffective unanswered artillery bombardment. Once the troops were in motion, the Boers opened fire. It at once became apparent that the Boer medium and heavy guns far outranged comparable British pieces. British timed shrapnel for the heavier guns proved to

be lacking in range, and the high explosive percussion charges were inadequate as counter battery rounds.[46]

Hildyard's attack went off first. It was supposed to be covered by the heavy naval artillery and closely supported by Colonel Long's twelve pieces of field artillery. The 1889 Drill Book recommended that unaupported artillery not move closer than 1700 yards from the enemy.[47] Long, without notifying anyone, precipitously advanced wih his brigade division and proceeded to unlimber in close parade yard style a scant seven hundred yards from Colenso. These tactics had made him a hero in Egypt but here it proved a disaster as both man and beast were quickly picked off by unseen Boers.

In later years, Long would claim he had intended to unlimber at between 2,000 and 2,500 yards and had been deceived by the light into doing so at under a thousand yards.[48] He was, however, unable to explain the mile's distance separating him from the infantry he was supposed to support. Interestingly, the Boers were not pleased by their success. An early stray shot by Long's batteries had landed in a Boer trench disrupting fire discipline and disclosing the position on Hlangwane. Botha had intended to allow Hildyard to cross the river so that he could then be surrounded.[49] As things stood, Hildyard's now less than adequately supported troops

continued toward the town. In the words of Bennet Burleigh "with death filling the air and tearing the ground, onward they went, the most superb spectacle of invincible manhood."[50] Even in extended order, Hildyard's brigade's advance came to a halt in the face of the converging Boer rifle and artillery fire. Mahan stated that "the batteries had failed by preceding and so losing infantry support, the infantry in turn failed because the guns were powerless."[51]

For much of the remainder of the day, efforts were made to rescue the guns. Seven Victoria Crosses would be awarded and two pieces saved but the price was high, for included among the many dead was Lord Roberts' only son. No night attempt was made to rescue the guns because of Dundonald's late afternoon withdrawal from the overlooking Hlangwane. The value of guns had, over the centuries, assumed an extremely exaggerated importance in the military mentality. They were no longer the rare handcrafted objets d'art they had once been, yet heavy opprobrium continued to fall on any commander who lost his guns.

Perhaps the only good to come of the action was an immediate appreciation of the value of bulletproof shields for artillery and the need for closer placement of ammo wagons to the pieces. Long's gallant gunners had after all continued to fire until out of ammunition despite horrendous losses. Modern

weaponry simply consumed prodigious amounts of supply.[52]

As dismal a failure as Hildyard's advance had been, Hart's proved even worse and with far better reason. Hart ignored the rule book and marched off under fire in quarter columns. A great believer in the virtues of iron discipline, he insisted that his Irish Brigade maintain only a quick pace, rather than the faster double time. When he finally attempted to deploy, Hart reprimanded the Connaught Rangers for using the faster pace. Compounding his errors of deployment and speed was his reliance upon two native guides and no local maps. Bridle's Drift was at the apex of the bend in the river, yet when his guides led him off the well-beaten path and into what proved to be a cul-de-sac, he followed them unquestioningly.[53] That the guides soon vanished, did not overly concern him. As troops piled up on the river bank, he continued to funnel in yet more reserves.

A great irony of the situation lies in the role of the famed bugler Dunn. A fourteen year old, he was early in the action ordered to the rear, yet he disobeyed orders and stayed with his company. When the attack came to a halt he started, on his own initiative, to sound the advance, encouraging several of his compatriots to cross the river. Isolated, these men were soon overrun. For this and the several wounds he received, he

became a national hero. Stubborn obstinacy and gallantry meant more to the army than common sense.

On the extreme right flank, where ultimately the issue would have to be settled, matters were long in doubt. Poor reconnaissance had initially determined that Hlangwane was both unoccupied and on the wrong side of the river when in fact neither was true and only a small brook separated it from the plain.[54] Once these errors were recognized, Buller refused to commit his reserve infantry to its occupation for fear that raw recruits would be incapable of dealing with bush fighting. He was also concerned over the further lengthening of his own front.[55] How strange that with British troops stationed in the direct viciniy of the battle for two generations, neither the fords nor hills had ever been properly mapped. Fortunately, some initiative was shown by the innovative Lord Dundonald, the commander of the right wing cavalry and mounted infantry.[56] Dundonald had dismounted his troopers and proceeded to push up the hill. Estimating he needed one more battalion for its capture he requested support from General Barton, who refused. Attempts to contact Buller proved fruitless as he was off in the front ranks acting as a battery commander trying to save his guns.

There was no doubt that Buller was one of the most popular

commanders of troops in South Africa and his personal bravery was no small part of his mystique, even if at times out of place. His care for his men was legendary and closely entwined with his reforms in the Army Service Corps. On December 15th, a clear, hot, windless day, in the midst of the South African summer, Buller had wagons carrying greatcoats attached to the infantry.[57] Few generals had greater concern for the troops' well-being, yet when it came to the problems of command he seemed a failure.[58] According to Lyttelton, Colenso was a defeat due to "no proper reconnoitering of the ground, no certain information as to any ford by which to cross the river, no proper artillery preparation, no satisfactory targets for the artillery, (and) no realiztion of the importance of Hlangwane."[59] To have overlooked the tactical key to the battle was perhaps Buller's cardinal sin but his handling of troops in general was as poor as that which he had shown in prewar maneuvers. Command control was inadequate, orders imprecise, and two whole brigades remained uncommitted in the face of a vastly outnumbered enemy. His misconception of Boer numbers caused him to give up the field rather than run the risk of a night attack from what he believed was a more numerous foe.[60]

The three major defeats of the "Black Week" collectively

had a greater impact than Dunkirk. Britain, at the peak of her powers, had been mauled by a nation of farmers. The insularity of decades was shattered. Latent foreign animosity stood revealed in the international press. Yet the nation rallied to meet its moment of crisis head on as thousands volunteered for service.

The Boers had surprised the British by their ability to function in larger units than the anticipated three hundred to four hundred men expected without a true staff system. The Boers had shown themselves to be made of a stern fiber as initial defeats at Glencoe and Elandslaagte had not discouraged them. The Burgher mastery of modern weaponry and the comparable obsolescence of some British weapons was cause for concern.

Tactically the British formulas appeared dated. Repeatedly, linear frontal attacks had been launched against narrow geographic objectives with only artillery as a means of reconnaissance. As an American military attaché remarked after seeing the hills and trenches of Colenso, "Well now, was there no way round?"[61] The army seemed to prefer to launch itself straight ahead into the dark. Time and again night attacks would end in disaster from overdense formations, lack of knowledge of terrain and fall back positions, and adequate advance guards.[62] Modern warfare would entail more forethought and

less blind luck.

In the immediate post-defeat depression, Buller made the error of suggesting to General White via heliograph that he might consider the option of surrender. When word of this reached England, Roberts was almost immediately appointed to supersede Buller. Shaken by his demotion to a mere theater commander, Buller resolved to attack anew and relieve Ladysmith before Roberts' arrival. The new plan of action called for an elaborate turning movement of the Boers' left flank. Unfortunately Buller's massing of materiel, slow rate of march, and fifteen kilometer long supply column were hard to keep from the enemy.

Assigned to command the better half of Buller's army at this critical juncture was Lieutenant General Sir Charles Warren, one of the worst officers to reach high command during the entire war. When Dundonald's cavalry raced across the Tugela and took the key position at Acton Homes the entire campaign seemed over. The British had apparently turned the entire Boer river and mountain line as well as secured a strong flank position for a march across the veldt beyond. Such, however, was not to be, for Warren never comprehended the turning movement he was supposed to command. Buller did not press him until three precious days had been wasted as Warren

personally supervised the river crossing, bridge building, and camp lay out, while ignoring Dundonald's plea for reinforcements. In the interim, Botha had brought up the remainder of his army so as to make any escape from the bridgehead yet another frontal attack against a firesweept glacis. Warren resolved to sweep the Boers from their position on Tabanyama, a ridge rising several thousand feet above the surrounding countryside by means of a long preliminary bombardment followed by lines of onrushing infantry. The troops already realized that in L. March Phillipps words "we always serve out extra ammunition when we come to a pretty bit of scenery,"[63] and such was certainly the case here. The attack became disjointed almost from the first as the troops moved up what appeared to be three separate valleys, with both Warren and Buller loath to interfere with their subordinates. Once again, the Irish brigade suffered inordinately as Hart insisted on quarter columns. It should come then as no surprise that the attack was repulsed.

Having once been pushed back, and under increasing pressure to act, Warren requested reinforcements and a four day bombardment as a preliminary to a renewed attack on Tabanyama. Buller refused him the requested artillery support, believing it ineffectual. Warren opposed a further flank march to the left,

fearing it would endanger his camp. The only recourse left to the attacking force was a move to the right against the dominant rugged heights of Spion Kop, whose capture would make the Boer position untenable. Buller had in fact ordered Warren on the 15th of January to move "up to the West of Spion Kop", but gave no indication whether this was to be a close in investment or a wide swinging movement.[64] The vagueness of this order, so typical of Buller and the poor staff discipline of the time, was the focus of a seemingly unending series of arguments regarding the impending catastrophe.

Warren hoped to be able to take the hilltop position to his right (thus the army's center) by means of a night assault. As Charles a Court Repington, a participant, put it, "there was no plan except that we were to take the hill and stay there. Some 1700 men were to assault a hill 1740 feet high in the center of the Boer position, and the rest of Buller's 20,000 men were to look on and do nothing."[65] There seemed no doubt that in such close terrain the Boers would be, "ready to run on seeing British bayonets".[66] The attackers failed to bring along artillery, machine guns, entrenching tools, food, or water for a force that would obviously be difficult to reinforce in daylight.

The first part of the assault went better than anyone

could have hoped. The Boers had failed to occupy much of this key position. In possession of his objective General Woodgate then proceeded to waste the initiative by failing to adequately explore his position which the Boers would obviously try to retake in the morning. Twenty sappers dug incorrectly sighted and shallow trenches while over a thousand men lay idle.[67] Colonel Maurice complained;

> somehow our soldiers, by dint of perverse training, have imbibed the idea that there is something cowardly and sneakish about sitting behind cover in the field: or, at any rate, if they have to get into trenches and works, it is the Royal Engineer's province to provide these defences.[68]

An entire infantry battalion was normally allocated only seventy spades and these had been left behind in the ascent.[69]

The clear light of dawn on the 23rd of January revealed the plight of the attackers. They had failed to secure the true summit of the Kop, and the now active Boers could easily dominate by enfilade fire the meager British entrenchments. Within the first few minutes Woodgate was wounded and removed from command. In his absence three separate Colonels felt themselves to be in charge. The entire chain of command broke down as both Buller and

Warren failed to establish control and maintain communications over the now perilous mountain tracks. Atop the hill, the overcrowded British were being picked apart as repeated attempts to charge the enemy were stymied. An effort to call in artillery support proved near disastrous as the shells landed amidst their own troops. Inadequate preparation, poor fire control and inferior snap shooting capability would make this a long day indeed.

While the rest of the British army stood idle, the whole Boer army was free to focus its attenion and artillery on the hilltop position. No record exists of just who was responsible for requesting a broader attack to relieve the pressure on the hilltop, but in any case, Lyttelton took it upon himself to launch a drive upon Twin Peaks on the left flank of the Boers attacking Spion Kop.[70] This unexpected pressure had an enormous impact on the Boers, unbeknownst to the British. Under the cover of darkness on the night of the 23rd, the Boers had actually begun to withdraw from the hill in the face of the tenacious British defense and the anticipated renewed attacks on Twin Peaks.

The twenty-fourth of January held surprises for both sides as the British had abandoned the hill as well. A

Boer patrol noticed this and the now unoccupied Kop was taken without further struggle. On top of the hill, lacking shelter, proper equipment, clear lines of authority, or knowlede of the fact that Warren's long delayed artillery was on the way up, Colonel Thorneycroft had, in the early evening of the 23rd, upon his own recognizance, ordered a withdrawal. Buller, for that matter, had personally interfered in the battle by calling off Lyttelton's attack, fearing that the British front was overextended. The crowning irony of the battle was that on the 24th, Buller finally got his balloon in the air, only to discover that the sole remaining practical route to Ladysmith had Boer enfilade positions laid out along its entire path.[71] The British had suffered over 1700 casualties to the Boers' one hundred, in a strategic blind alley.

For a second time, Buller pulled back to regroup, only to launch a new offensive across the Tugela at Vaal Krantz on February 5th. Once again reconnaissance was poor, artillery uncoordinated, and the primary maneuver a frontal attack on a fortified position across a river. An impressive feint with all the artillery caused the main attack to be carried out by Lyttelton's brigade unsupported

by this vital arm. The elaborateness of the countermarching wasted precious time that allowed the Boers to reman their positions. Nonetheless, Lyttelton pushed forward and captured the hill from the surprised and vastly outnumbered Boers.

Out of sheer desperation, Viljoen's four hundred man commando stemmed the tide in boulder to boulder fighting along a one and a half mile front.[72] The superiority of the individual Boer marksman and the inadequacy of British small unit tactics was never more in evidence. Throughout the day one brigade had carried the fighting, one demonstrated and three stayed in reserve. Lyttelton's calls for reinforcements went unheeded. The Boers for their part were desperately trying to rally fighters as many men had left the front for their farms or for the easier life of besieging Ladysmith. In order to keep up the pressure on Lyttelton's command the Boers fired the grass so as to be able to shoot upon the British all night. The hill of Vaal Krantz was not the commanding position Buller had thought it to be and believing the Boers now to be mightily reinforced he called off further attacks. In postwar histories, Buller would be vilified for his error for the Boers had been stretched to their limits and could

muster no more men.[73]

Recoiling yet again, the now famous "ferryman of the Tugela" marched his army back to the original position at Colenso. Here for the first time Buller would demonstrate a grasp of modern military tactics. Using his superior manpower, he pinned the Boers along the front while staging a series of wide flank attacks aimed at wrinkling them out of the Hlangwane position. Between February 14th and 27th, a number of small actions were fought which resulted in the Boers being successively turned out of several key positions. Buller could thus establish his fifty guns where they could command the entire river and ridge line and blow a hole through the Boer's left flank for his now onrushing infantry. The way to Ladysmith was open.

To summarize Buller's qualities as a commander is no easy task, yet in doing so, much may be learned of the army in general. Inconsistency of command must stand as an important feature. Buller never seemed to know just when to draw the line with subordinates. Hart was still marching his men around in quarter columns at the second battle of Colenso when he lost sixteen men to a single shell, despite repeated admonitions to the contrary.[74] At times, subordinates such as Warren, prior to Tabanyama, were

allowed inordinate freedom, despite the compromising of an entire battle. At other times, Buller interfered with poor results, such as at Twin Peaks. A lack of appreciation of salient terrain features in all but his last major battle bespeaks poor generalship. Insufficient perseverance time and again robbed him of victory. Mishandling (in most cases noncommitment of) reserves was a frequent trait in his battles. At the first battle of Colenso only 4800 men were engaged, and at Spion Kop fewer than 3000 at any one time. British regulations tended to overemphasize reserves but he carried it to unheard of extremes.[75] Staff problems bedevilled all his battles as troops moved slowly at Spion Kop and Vaal Krantz, subordination was unclear at Spion Kop, and artillery was frequently misplaced or uncoordinated.

On the positive side, it must be said that he undoubtedly faced the most difficult task. Buller never attained the enormous numerical superiority over his foes that Roberts did in the Orange Free State. The rivers and mountains encountered in the Natal were far more formidable and made turning movements all the more difficult. For this reason many of his thrusts appeared as frontal attacks down road and rail. As for subordinates, strong-willed and

ambitious officers such as Warren, Long and Hart were difficult to contro.

In the course of time Buller came to appreciate the value of cover, rushes and creeping barrages, and, according to Maurice's Official History, was the originator of the curtain of fire at the second battle of Colenso.[76] He came to realize, as Haig put it, that

> Infantry is essential for the assault on positions which the Boers hold as pivots, but about half of the attacking force should consist of mounted troops in order to secure the flanks of the attacking infantry coluumn, and to outmaneuver the Boers.[77]

On some matters he could only write with resignation, "I suppose our officers will learn the value of scouting in time; but in spite of all one can say, up to this, our men seem to blunder into the midst of the enemy and suffer accordingly."[78] The new battlefield demonstrated at the second battle of Colenso involved protracted firefights along an extensive front coordinated with precise artillery support and the incessant creeping forward of the infantry.

While it had taken Buller several months and three major engagements to develop a solution to the Boer methods of warfare, Roberts had arrived in South Africa with strong preconceptions regarding mobility. Unlike many of the

senior generals, Roberts had spent most of his career in India where cavalry and mobility were more important factors than the firepower preached at Aldershot. Service for Roberts in India had been mandatory. Being five feet three inches tall, he fell under the Army's height minimum of five feet five and one half inches, and his only option was to serve under his father in the less prestigious Indian army. Significantly, under the duress of the Boer War, height regulations dropped to five feet two inches for artillery and five feet three inches for line regiments.

Roberts had arrived in the Cape in early January to find the army everywhere in retreat. Rather than create immediate political problems for himself at home and jeopardize their careers, he allowed both Buller and Methuen to stay in command but of limited forces. Roberts would always have to remain careful with the "English" generals associated with the Wolseley Ring, as this group was well-connected at home. The entire army for that matter was suffused with an enormous amount of pettiness as Hamilton and Lyttelton lost no opportunity to betray Buller, and Clery constantly fought Warren and Lyttelton.[79]

With many of the old generals still in place, Roberts

set about rebuilding his command by drawing all future reinforcements to the Cape rather than to the Natal. Slowly but surely a preponderance of strength developed versus Cronje and still Roberts did not attack. The Boers, in their strong linear positions, became overconfident in von Sternberg's view that, "the English do not make turning movements. They never leave the railway, because they cannot march."[80] When ready in late January, Roberts' now massive army struck far to the East, threatening Boer supply lines. This was hardly where the Boers expected them. As the Boers withdrew from their blocking position, Roberts launched French's entire cavalry division around their other flank for the relief of Kimberley. "They were the most numerous body of British cavalry that had ever entered the field as a single unit, (they were to get the greatest chance the cavalry had ever had,) and he (Roberts) looked upon them to maintain the high traditions of their arm."[81] Three brigades of cavalry and seven horse artillery batteries were being asked to do what an entire army could not. Yet Roberts' daring move with the infantry, cutting himself asunder from the railway, had so threatened the Boer army that French met virtually no opposition.

Initially Cronje had three options. He could have retreated north towards Mafeking and thus secure his rear areas; he could have launched a guerrilla campaign against Roberts' now vastly overextended supply lines; or, what he eventually attempted, seek to interpose his army in front of Bloemfontein, the Orange Free State's capital, and Roberts' apparent objective. On February 15th, Kimberley was relieved and French's now exhausted troopers unexpectedly swung southeast in an attempt to cut off Cronje. Once again, Cronje had several choices and this time he undoubtedly made the wrong one. He was unwilling to abandon the bullocks and women that traveled with his army, yet also resisted attacking the mere 1500 cavalryman facing him. Escape routes north to Ferreia's force or linking with De Wet were still open but neither choice was made. Instead, the army dug in on the banks of the Modder River and waited to be relieved when the nearest, and by all means largest army approaching was that of Roberts. Cronje had done to his army what no British army could have forced: he had trapped himself.

Unfortunately for the British, with success so close, nature intervened and Roberts was temporarily incapacitated by a severe cold. Under the peculiar British command

structure his chief of staff, General Kitchener, did not represent a continuity of approach to the problems of the war. Upon assuming control, he immediately planned a grand assault. The Boers had dug themselves a series of pits and trenches along both sides of the river, and the river banks themselves offered additional protection to wagon and beast. Such a position was not liable to be quickly overrun as any veteran of the earlier battles could have told him, and yet he persevered despite all opposition. Two infantry and one cavalry division plus additional mounted infantry units were thrown into a fruitless and uncoordinated attack. Divisional and brigade commanders were ignored as Kitchener rode about the field directing battalions and raising havoc with command structure. Smith Dorrien received not a single order all day yet every one of his battalions was committed.[82] Colville's Ninth Division orders to the Highland Brigade were directly overridden and the troops were sent into a frontal assault without even informing their commander.[83] Kelly Kenny's careful plan of attack was just as surely destroyed as Buller's supply system. It was in this action that Kitchener gained the opprobrium of "Lord K. of Chaos".

As the situation became more precarious, Kitchener

rode about the field exhorting his commanders. When Colonel Hannay of the First Mounted Infantry Brigade protested, Kitchener responded, "The time has come for a final effort. The laager must be rushed at all costs; gallop up if necessary and fire into the laager."[84] Hannay, under various pretexts, shed his staff officers and then, in exasperation, launched himself and fifty mounted infantry without warning into a charge to carry out this ludicrous order. Rifle fire decimated his small command in a dramatic criticism of Kitchener's tactical ineptitude.

Frustration mounted as battle-dazed men began to trickle back from the front line and wander about for lack of orders to entrench. Kelly Kenny desperately sought to avoid another frontal assault. This allowed Kitchener to launch yet another attack on the right by means of drawing troops from a key terrain feature later known as Kitchener's Kopje. This small hill, which overlooked the battlefield, was soon retaken by De Wet who attacked from the outside. At that late hour, Cronje's force might still have escaped had he been willing to leave the women and wagons. Since he would not do this, his whole command was doomed and within a short time De Wet was forced to retreat. An irony of the battle was that if the British

had gained all their near term objectives they would have wound up firing upon themselves and over the heads of the Boers, who were fighting from trenches in a small area below the level of the veldt.[85]

Kitchener had suffered his greatest defeat of the war. There were over 1200 casualties and De Wet had for the better part of the day taken possession of the vital kopje. On February 19th Kitchener remarked to the American attaché, "if I had known yesterday what I know today I would not have attacked the Boers in the riverbed; it is impossible against the rifle."[86] In various works at later times it has been suggested that the attack was ordered to boost the morale of the troops after a long chase, to capture much needed supplies, to foil a possible escape, to achieve political effect, to prevent further entrenchment and to serve as a rapid springboard to an advance on Bloemfontein. None of these explanations, in and of themselves, seems especially convincing although cumulatively they have some worth. Roberts, in any case, was now restored to health and decided against renewed attacks.

After ten days of bombardment and a final night assault by Canadians (the advance was made while holding

hands), the main Boer entrenchments were in a position to be enfiladed. Furthermore, the Burghers were on the verge of starvation. On February 27th, 4090 men, one hundred and sixty-three of whom were wounded, and two hundred women and children surrendered to close to ten times their number of British. The Boers had suffered eighty-seven deaths and the British close to two thousand casualties.[87] The Paardeberg battlefield may have left an astute military mind with a sense of foreboding. Here, the trench system was in great depth, the weaponry well-sighted, mobile reserves available, and the importance of machine guns demonstrated.[88] The ineffectiveness of the Lyddite shells against prepared and manned positions should have been appreciated.

In the aftermath of Paardeberg, the Boers were now too few to block Roberts' further advance. An attempt to do so at Poplar Grove was simply turned by French's 5,000 cavalry although their great concentration allowed a few hundred Boers to delay them sufficiently to allow the rest of the Boer army to escape. The large chargers were incapable of rapid pursuit and the formal tactics were too rigid for dealing with the fluid Boers. On the whole the misuse of British cavalry was so apparent that one foreign

attaché was moved to note, "the cavalry walked when it should have galloped and galloped when it should have walked."[89]

Despite the perceived failings of the cavalry, Roberts had developed both the means and the theory for beating the Boers. Five divisions totaling 40,000 men, 5,000 cavalry and over one hundred guns enabled him to go where he pleased as long as supplies held out. Roberts understood the futility of frontal attacks and thus, despite superior numbers, turned Cronje at Magersfontein, refused to attack at Paardeberg and gave passive orders to the cavalry at Poplar Grove. He wanted cheap victories despite the criticism such a policy would draw from future commentators.[90] The less lives lost, he hoped, the easier to achieve the peace.

Roberts' early appreciation of modern warfare became especially evident in his Circular Memorandum Number Five, entitled "Notes For Guidance in South Africa Warfare", drawn up and issued in Cape Town on January 29, 1900, before he had even seen the Boer army.

> Against such an enemy any attempt to take a position by direct attack will assuredly fail. The only hope for success lies in being able to turn one or both flanks, or what would, in many instances, be equally effective,

> to threaten to cut the enemy's line of communication...When the extreme rifle range from the position is reached (1500 to 1800 yards) by the advance troops, or before if they find themselves under artillery fire, all column formations must be given up, and when advancing to the attack of the position, infantry must be fully extended even on occasions if necessary to six or eight paces, the front and both flanks being well covered by scouts.[91]

Roberts' solution was effective but hardly as sophisticated as Buller's ultimate synthesis. One cannot help but wonder how Roberts would have fared in the closer country of Natal without his enormous superiority of men and materiel. Roberts commanded 180,000 troops, twice the population of the Orange Free State, and thus could, to a large measure, choose his own battlefield. As he advanced after Paardeberg on a twenty kilometer frontage, the Boers had to constantly give way before his flank threats.

Such a grand advance brought with it its own problems of dispersion in an otherwise overcentralized army. The supply system was especially vulnerable and at Reddersburg and Sannahs Post the Boers struck back. In the latter case, De Wet captured one hundred wagons, four hundred men, and one thousand draft animals while inflicting one hundred casualties at the cost of two dead and eleven wounded.[92] This action alone nearly crippled the

British advance. Staggering on, the army reached Bloemfontein in mid-March and sought to refit. Early April found French's cavalry desperately requesting a fortnight's rest as the campaigning had already cost them thirty to forty percent of their horses.[93] Small wonder that Roberts proved incapable of lunging at General Oliver's retreating host or catching De Wet after Sannahs Post.

General Lyttelton, who had served with both Roberts and Buller, noted with regard to Roberts' advance that,

> it makes it very difficult to safeguard his communications or to make proper arrangements for his hospitals and it usually involves prolonged halts to make good these shortcomings during which the enemy has time to pull himself together. It is a question whether a slower but continuous advance is not sometimes better.[94]

Buller, of course, was always an advocate of such an approach and even after the fall of Pretoria his columns contained fifty percent more wagons per man than those of Roberts.[95]

The start and stop offensives of Roberts had but one objective: the capture of the Boer capitals. In terms of nineteenth century thinking their fall would end the war.

Once refitted and reinforced, Roberts pushed on into the Transvaal.[96] Despite continued guerrilla attacks,

the main Boer army was time and again turned from strong positions such as on the Sand River on the eighth of May, Kroonstadt on the twelfth of May, Rhenoster River on May 21st and Vereiniging on the 28th. Pretoria, the second Boer capital, fell on June 5th, and a link-up with the now equally successful column of General Buller on July 4th seemed to signal the end to all organized resistance. By mid-December, Roberts had departed and Kitchener was left in charge of the mopping up operations.

[1]Belfield, p. 11.

[2]Symons, p. 186.

[3]The inadequacy of local maps had been noted for some time for "during the Zulu War of 1879, it was said that our officers had to fall back upon German maps. The best mapmaker of the Transvaal was also German."
William Greswell "Some Aspects of the Boer War", Fortnightly Review 81 (March, 1900): 363.

[4]Commandant Fonville, Etude tactique de la guerre Sud Africaine, 1899-1900. (Paris: Charles Lavauzelle, 1903), p. 17.

[5]Luchino Dal Verme, "An Italian View of the Boer War", trans. Col. C. Needam, JRUSI 44 (March, 1900): 785.

[6]Buller to Sir A. Bigge, 4 January, 1900, Sir A. Bigge papers as quoted in Pakenham, p. 115.

[7]Peter Gibbs, Death of the Last Republic: The Story of the Anglo-Boer War (London: Frederick Muller, 1958), p. 89.
The 1896 Infantry Drill had called on troops not to approach nearer than 800 yards in close order when under effective fire. This had been altered to 1500 yards by the rules published in July 1899, but open order itself was insufficiently defined.
E. Gunter "A German View of British Tactics in the Boer War: Precis From the Jahrbücher Für die Deutsche Armee und Marine", JRUSI 46 (June 1902): 802.

[8]Cunliffe, 1:80.
Kilts and sporrans made especially good targets. The officers were also easy to pick out with their swords and Sam Brown belts.

[9]Viljoen, p. 42.

[10]G. F. Gibson, The Story of the Imperial Light Horse in the South African War (Johannesburg: G.D. and Co., 1937), p. 48.

[11]Amery, The Times History, n.p. as quoted in Kruger, p. 97.

[12]Winston Leonard Spencer Churchill, London to Ladysmith via Pretoria (New York, London, etc.: Longmans, Green & Co., 1900), p. 486.

[13]Pakenham, p. 370.

[14]Unger, p. 355.

[15]Wood, From Midshipman to Field Marshal, 2:319.

[16]Arnold-Forster, The Army in 1906, p. 103.

[17]Sir Howard Vincent, "Lessons of the War: Personal Observations and Impressions of the Forces and Military Establishments Now in South Africa", JRUSI 44 (June 1900): 620.

[18]T.L. Schreiner, "Some Ideas of a South African About the War", JRUSI (September 1901): 1092.

[19]Farwell, p. 94.

[20]H. W. Wilson, "First Lessons of War", Living Age, May 26, 1900, p. 475.

[21]Fonville, pp. 20-21.

[22]Alfred Kinnear, To The Modder River With Methuen, Briton, Boer and Battle (Bristol: J.W.Arrowsmith, n.d.), p. 72.

[23]Cunliffe, 1:188.

[24]Villebois, p. 172.

[25]Cunliffe, 1:214.

[26]Mahan, p. 99.

[27]McElwee, p. 221.

[28]Kinnear, p. 119.

[29]Ram, 47 (December 1903): 1397.

[30]Mahan, p. 102.

[31]Julian Ralph, Toward Pretoria: A Record of the War Between Briton and Boer to the Relief of Kimberley (New York: Frederick A. Stokes Co., 1900), p. 161.

[32]Belfield, p. 41.

[33]Quarter Columns were the densest formation available to the Brigade under night time conditions and consisted of ninety-six lines of infantry, each of forty men, rout marching at a rate of one mile per hour in a rectangle forty-five yards wide by three hundred and thirty yards deep.

[34]Lonsdale Hale, "Our Peace Training For War, Guilty or Not Guilty?" Nineteenth Century 47 (January 1900): 232.

[35]de Negrier, "Lessons of the South African War" Contemporary Review, September 1902, p. 320.

[36]Belfield, p. 53.

[37]Ibid. pp. 35-36.

[38]Berchem, p. 322.

[39]Sternberg, p. 42.

[40]Beatrix Wickens Gatacre, General Gatacre: The Story of the Life and Services of Sir William Forbes Gatacre, 1843-1906 (London: J. Murray, 1910), p. 227.

[41]Cunliffe, p. 275 and John P. Wisser, "The Second Boer War" JUSA, 14, (May-June, 1900): 31.

42 "Etudes sur la guerre Sud-Africaine

1899-1900 pt. VII" Revue militaire des armées etrangères redigee à l'etat-major de l'armée, 58 (February 1902), p. 106.

[43]Farwell, p. 120.

[44]Hale, "Our Peace Training...", p. 230.

[45]Bennet Burleigh, The Natal Campaign second ed. (London: Chapman and Hall, 1900), p. 202.

[46]C. Holmes Wilson, "The War: The Artillery at Colenso" USM, February 1900, p. 501.

[47]Gibbs. p. 138.

[48]Symons, p. 161.

[49]H. Spender. General Botha second ed. (London: Constable and Co. Ltd. 1919), p. 72.

[50]Quoting Bennet Burleigh in Herbert Wrigley Wilson, With the Flag to Pretoria, 2 vols. (London: Harmsworth Brothers, Ltd., 1901), 1:97.

[51]Mahan, p. 144.

[52]Robert Money Barnes, The British Army of 1914; Its History, Uniforms and Contemporary Continental Armies. Imperial Service Library no. 9. (London: Seeley Service, 1968), p. 23.

[53]Farwell, p. 130.

[54]Gibbs, p. 137.

[55]Elgin Report, vol. 41, pp. 197, 199.

[56]The Earl of Dundonald had invented a light gun carriage, a machine gun and an ambulance, as well as waterproof bags for the support of men in crossing rivers. He was also a great advocate of smoke screens in combat, a technique first invented by his grandfather.
Symons, p. 145 and Farwell, p. 131.

[57]Gibbs, p. 137.

[58]Note that some modern writers such as Symons and Packenham have recently tried to rehabilitate Buller's reputation, blaming much of his defeats on headstrong subordinates such as Hart and Long.

[59]Symons, p. 155.

[60]Elgin Report, vol. 42, p. 202.

[61]Burleigh, p. 235.

[62]"Etudes sur la guerre..., 59 (March 1902), p. 227.

[63]L. March Phillipps, With Rimington (London: E. Arnold, 1901), p. 152.

[64]Defender (Sir Charles Warren) Sir Charles Warren and Spion Kop: A Vindication (London: Smith Elder & Co., 1902), p. 81.

[65]Symons, p. 211.

[66]C. R. N. Burne, With the Naval Brigade in Natal, 1899-1900 (London: Edward Arnold, 1902), p. 36.

[67]Maurice, History of the War, 2:381-83.

[68]Burleigh, p. 347, also see Archibald, p. 59.

[69]Burleigh, p. 351.

[70]Neville Lyttelton, Eighty Years (London: Hodder & Stoughton, 1927), p. 216.

[71]Burne, p. 39.
The British used a small balloon in Natal capable of ascending to 3000 feet and held in place by two men.
"South African Notes", ANJ 37 (November 11, 1899): 240.

[72]Viljoen, p. 88.

[73]Ibid., p. 94.

[74]Packenham, p. 375.

[75]Balck, "The Lessons of the Boer War", p. 1277.

[76]Maurice, History of the War, 2:509-13.

[77]Haig Papers, South African War Diary, "Operations of the Cavalry in Natal" October-November 1899 no. 33, pp. 44-45, NLS

[78]Cairnes, p. 12.

[79]Packenham, pp. 389-90.

[80]Sternberg, p. 114.

[81]Quoting Roberts, in Cunliffe, 2:322.

[82]Horace Lockwood Smith-Dorrien, Memoirs of Forty-Eight Years' Service, (London: J. Murray, 1925), pp.150-4, 161.

[83]Packenham, p. 353.

[84]Maurice, History of the War 2:132.

[85]Arthur William Alsager Pollack, With Seven Generals in the Boer War (London: Skeffington, 1900), p. 171.

[86]Cunliffe, 2:424.

[87]Unger, p. 123.

[88]The Boer War was the first instance wherein Empire forces came under hostile machine gun fire.

[89]Cunliffe, 1:542.

[90]The German official history would be particularly critical of this approach.

[91]Roberts, "The Boer War Through German

Glasses", p. 49.

[92]U.S. War Department, Reichman Report, p.203.

[93]Haig Papers, South African War Diary, Cavalry Division vol. 2, 14 March 1900 - 16 July 1900, Box 35, p. 6, NLS.

[94]Lyttelton to wife, 6 July, 1900, as quoted in Packenham, p. 479.

[95]Farwell, p. 308.

[96]A side expedition was also launched to relieve Mafeking, perhaps the greatest British victory of the war. Six thousand Boers, or fifteen percent of their army, had been occupied for two hundred and seventeen days in an unsuccessful siege of a few hundred troops in an out of the way area of no strategic importance.

Chapter V

Command and Special Branches

Even a general scrutiny of the British army's performance in a hard fought war on a distant theater of operations shows flaws in virtually every level of command. The most obvious of these deficiencies was the failure of the highest echelon for it is upon the generals that history ultimately places the responsibility for victory or defeat.

Lord Wolseley the commander-in-chief was immediately precluded from consideration as the field commander on account of his advanced age. Political constellations quickly coalesced which positively excluded certain individuals and Buller rose to the top as the least objectionable senior officer wih battle experience. Roberts had been ruled out because of the Queen's and the Duke of Cambridge's objections and the army's prejudice against Indian officers. The Union government's dislike of the Duke of Connaught precluded him as another alternative.[1] An unbiased analysis on a strictly

military criteria seemed to be the very least of the government's concerns. Buller's appointment came in spite of his having made a poor showing at recent maneuvers and never having previously held an independent wartime command, this despite decades of campaigning. As one observer put it, "After all, a nation which possesses a Roberts and a Buller and selects the latter for a vital undertaking deserves almost any misfortune which it is possible to imagine."[2]

Buller had previously proven himself a very able staff officer in an era when in the British army they were a rarity. As a field commander however he had the serious flaw of confusing personal bravery with the direction of an army. In testifying before the Elgin Committee about his efforts to save Long's guns by ordering relief efforts from the foremost and most shell-swept portion of the battlefield, he demonstrated his lack of comprehension of his responsibility to the entire army.[3] Later, at the battle of Spion Kop, he had virtually isolated himself from the action on the key point of the battlefield. Lyttelton was relegated to virtual inactivity by a series of demonstrations while Warren, in whom he professed to have little faith, and a deep personal dislike, was for all

practical purposes given command of the entire army with only a divisional staff. Warren for that matter had never before even seen, let alone commanded, fifteen thousand soldiers.

From the top down, appointments were made in a random manner that often ill-matched; personalities, skills or personal inclinations. Buller's designated Chief of Staff, General Hunter, was early on besieged in Ladysmith yet he was never replaced. Colonel Ian Hamilton, an Assistant Adjutant General, found himself commanding an infantry brigade. Lord Lansdowne was directly responsible for many of the key early appointments such as the over-cautious General Sir Francis Clery and Geoffrey Barton of the Sixth Brigade, the headstrong Major-General Fitzroy Hart of the Fifth Brigade, Colonel Long of armored train and Colenso fame, and Lieutenant Colonel Burns-Murdoch of questionable record in the Sudan. Of all the officers requested by General Buller only Generals Hildyard and Lyttelton were actually given there proper assognments.

If the locating and appointment of qualified officers to proper posts proved a problem the same must be said of individual units and even soldiers. "Presently the 'army corps' - so called as a noun of number but never possessing

trained cohesion - was broken up into several portions separated from each other by continental distances."[4] Lyttelton's division in a few short weeks shrank from eight to five and a half battalions for no apparent reason.[5] The lack of a proper table of organization was evident in a many of ways. Even regiments upon arrival in South Africa were broken up into smaller units, and then reconstituted into mixed battalions with a seeming disregard of structural and historic uniformity. The deleterious effect on esprit de corps of such practices can well be imagined especially in view of the army's strong regimental traditions.

Another aspect of this situation was treated by Erskine Childers, when he wrote: "One of the great faults of the British system was proved to be the loss of touch between regiment and the men thus dropped, all count of whose existence was frequently lost for months at a time."[6] This lack of ability to maintain inner cohesion was not due to want of paperwork, for if anything, the prewar structure was overly centralized. In 1898 the Broderick Committee on Decentralization heard testimony from the general commanding at Aldershot that it took "twelve signatures, including two orders from London, to

return an unsatisfactory driver."[7] Sadly, this fault was not corrected in time to affect the conduct of operations in South Africa. Stories of useful maps and reports pigeonholed at the Colonial and War Offices were legion.

Close examination of Gatacre's command gives an especially vivid illustration of the weaknesses of the command and communications channels. A cable requesting 400 reinforcements for the attempt on Stormberg was mislaid and never sent.[8] Communications to Gatacre sometimes came directly from headquarters and at other times via Cape Town resulting in delay, duplication and sometimes unreliability.[9] In one instance he was given orders to raise troops yet no horses or equipment were provided.[10] Each command functioned separately and without effective higher guidance.

With Buller's failures on the battlefield and the breakdown of the British offensive, Lansdowne went directly to Lord Salisbury about seeking a replacement, entirely circumventing Wolseley the Commander in Chief.[11] Lansdowne, in consulting with his aide Captain William Robertson (the future Field Marshall) had opted for Roberts as Buller's replacement, but Salisbury at age 69 felt that

at 67, Roberts was too old for the task. A compromise was arrived at by the selection of Roberts as Commander in Chief South Africa with Kitchener, age 49, as his Chief of Staff. The matter of age may seem a bit strange as so much of the actual campaigning was carried out by the younger generals. What must also be taken into account was Wolseley's feelings at having his protege, General Buller, replaced by his rival and peer, Roberts, in such an underhanded manner. Proper channels were not followed. As a means of consoling Wolseley and his ring, Buller was not removed from his command, but merely superseded. The deleterious effect of this action on morale and army cohesion is clear.[12] Roberts for his part was also not anxious to remove him as he feared it might disrupt a lifetime association and in some way be seen as revenge for the loss of his son. Both Methuen and Warren also survived the change in command perhaps because the War Office itself continued to cherish the same prejudices towards the Boers and remained all too willing to ascribe failure to ill luck soon to be rectified by a superior discipline that would rescue the reputations of all concerned.

Roberts, to his credit, shared no illusions as to the task before him. In a letter to Lord Lansdowne he wrote,

> I trust that I shall be able to do justice to it but you are aware that the present system does not commend itself to me as the best for enabling the Commander-in-Chief to carry out the important duties of his office in a satisfactory manner.[13]

British General Staffs had historically, "consisted largely of kinfolk or friends, selected as much for their personal congeniality as for their abiliy to perform their not very difficult duties."[14]

Roberts had tried to fight the system by requesting fifty officers by name from India only to have them rejected en masse by Lord Curzon, the Viceroy of India, due to fears regarding Russia.[15] Staff work thus devolved upon some seventy officers, some well-trained but many useless but pleasant aristocrats such as the Dukes of Norfolk, Westminster and Marlborough. Real structure was lacking; orders were simply transmitted to the aide-de-camp, assistant adjutant general or secretary at hand. The saving grace was Roberts' phenomenal memory and attention to detail.

Given the systemic problems, Roberts' accomplishment in quick marching an entire army around the Magersfontein position while distancing himself from local rail transport, increases in magnitude. Thoughout his tenure in

South Africa he had to command several hundred thousand men in an area equivalent to England, France and Germany combined, with little help from a professional staff. His reputation as an administrator suffers to some degree in comparison to Wolseley's and Buller's because of his detail orientation and the considerably more fluid circumstances under which he worked. His great bounds of movement left a long and tenuous line of communication. There can be no doubt that his troops sometimes went hungry, his cavalry sometimes lacked horses and the hospital arrangements rarely proved adequate, but Roberts was primarily a commander working within the confines of Jominian thought, and sought the winning of strategic objectives as quickly as possible.

Responsibility for the technical and logistic side of Roberts' plans should theoretically have fallen on Kitchener, a man of no mean accomplishment, but temperamentally unsuited for the post of Chief of Staff, being much too independent in spirit. Neither Kitchener nor Roberts had served wih active units of the British army prior to South Africa and thus neither of them understood the inner working of its systems nor appreciated the flexibility of organizations such as the Royal Army Service

Corps which they had overhastily dismantled.

Kitchener's misunderstanding of staff principles was best demonstrated at Paardeberg, where he rode about the battlefield imposing his will rather than staying at headquarters and manifesting it through proper staff organization. His ad hoc independent arrangement taken without recourse to channels at Paardeberg and other occasions must have led more than one general to admit in retrospect that, "I was in a complete fog" with regard to Kitchener's actions.[16] Naturally such conduct did not lead to effective command coordination and it forced Roberts to frequently carry the weight of both positions.[17] In recognition of Kitchener's limitations and special talents, Roberts tailored his role to that of a deputy, and frequently independent commander. Problems such as the Priska Rebellion, containing Cronje at Paardeberg, restoring communications after the capture of Pretoria and the various De Wet chases were made his special province.

An interesting observation on the workings of the staff system was offered by Buller: "In Pretoria, I found Roberts sitting in one building with his Hindu staff, Kitchener in another with his Egyptian staff, and Kelly

Kenny in a third with an English staff, all pulling against each other."[18] With so many centers of control functioning at one time it should come as no surprise that time and again key points would be left unguarded, battalions isolated or guns missing where needed. One authority noted that,

> the causes of this disorganisation were unquestionably the want of carefully trained staff and the excessive centralisation of command which characterizes the British army. No one ventured without orders to interfere with the distribution of troops, and headquarters has so many cares that it could not always issue the necessary orders.[19]

The differences between appearances and reality were acute, as too much control transformed itself into too little. The need for a uniformly trained staff based on merit was becoming increasingly obvious.[20]

Before the old staff system was given up for good, Kitchener, after Roberts' return to Britain, attempted to act as both Commander in Chief South Africa and as his own Chief of Staff. He treated his commanders as pieces to be shifted about rather than leaders to be kept informed and allowed initiative. Allenby summed up the subordinate column commander's view of the situation: "One is always at high pressure...one is probably only under the same general

for about a month at a time. When he has played about and knocked one's column to rags he goes off."[21] That the "Sidar" as Kitchener was sometimes called was a master of improvisation there is little doubt, but his system of constantly splitting up regiments and replacing officers struck at the very heart of the army's esprit de corps.

Kitchener's all consuming desire for control went awry during the early hunt for De Wet. Far too many columns were in the field for one commander to handle. Smith-Dorian's troops were countermarched so often that they were useless at the cruial moment and Paget and Baden Powell's forces were distracted by diversions.[22] In an effort to speed communications column commanders were under orders to constantly lay telegraph wires along which orders were constantly transmitted. Frequently these were in the clear for lack of cipher clerks and liable to interception.[23]

> He was like one of those stage performers who plays six instruments at once...K. worked over the wires direct with the four principal columns, and twice a day at least, and sometimes half a dozen times a day, gave them their orders. K. was perfectly enchanted with the game of making generals dance at the end of wires like so many marionettes...It was clear he regarded his column commanders as babes in the woods when deprived of his guiding telegrams.[24]

Ian Hamilton claimed he would even "carry on a conversation with his generals right into the middle of the battle."[25]

The drawbacks of Kitchener's system with regard to frequent overcentralization, isolation from the field and time lag became evident. The withdrawal of French's patrols from the Orange River by Kitchener without consultation allowed Smuts into the Cape Colony.[26] Months later his escape was made possible by the confusion arising out of having Rawlinson and French's columns operating in too close a proximity. As they both sought to acquire sufficient rolling stock, Smuts slipped by. Had one or the other an official priority, they might have caught him.[27] Kitchener generally tried to stifle initiative and during the period of drives and sweeps when the whole army was supposed to function as one great machine, only French and Methuen were allowed any real independence. One of the earliest De Wet hunts had been foiled when an officer detailed to hold a position had received word of his proximity and had advanced to meet him only to be outmaneuvered and have De Wet get away through the now vacant quadrant. The officer kept his post despite cries of "Remember Byng", as Roberts threatened his own

resignation rather than penalize a man for independent judgment.[28] Kitchener strove to ensure that such an incident would never recur. The British, unlike the Austrians, never offered a medal for successes achievedin defiance of orders.

During Kitchener's Sudan campaign of 1898, Rawlinson wrote,

> the one serious criticism I have is that this is too much of a one man show. If anything were to happen to the Sidar there would be chaos, as no one but he knows the state of preparedness in which the various departments are. He keeps all information regarding railways, transports, steamers, supply and intelligence; in his own hands, and shows wonderful skill in working the various strings. Everything works smoothly and well, as long as he is at the head of affairs.[27]

Despite all his energy, cleverness, and attention to detail the same could not be done in South Africa where thirty columns had to be managed over a much larger area. After a year of frustration, Kitchener agreed to the appointment of Ian Hamilton as Chief of Staff.

Under Kitchener the Staff's inadequacy in dealing with the multitude of columns both strategicaly and logisticaly had proven of crucial importance. It indicated a failure of managerial technique in an era of increasing

complexity. Men and material functioned in units of increasing size while modern communication methods necessitated fast decision-making processes and greater dispersion of troop strength.

The mere appointment of a Chief of Staff as we had seen under Roberts did not assure proper staff functioning. Hamilton like Kitchener before him was used primarily as a trouble shooter and mediator between column commanders.[30]

If proper managment techniques are necessary for staff operations then how much more so they must be for the running of a modern railroad so vital to the logistics of the war? Great Britain unlike Germany had no Rail Section in its army. In its moment of crises she would have to rely on one officer, one batman, one horse, and one groom plus three and a half miles of a stock-piled light military railway to deal with a geographic problem equal in size to all of Central Europe.[31]

Fortunately that sole officer was Colonel Girouard who had won previous plaudits for his construction of the Canadian Pacific and Soudan railways. Faced with what seemed an insurmountable task Girouard built an organization of several hundred officers and over

five-thousand enlisted men capable of running a railroad under some of the most forbidding conditions.

The problems to be faced included the enormous area serviced by only four thousand miles of rail lines manned by antagonistic foreigners in an openly hostile environment. While well suited to the pre-war shipment of raw materials the rail net failed to tie South Africa together in any manner that was very usefull from a military point of view. Rolling stock was scarce with but 563 engines and nine-thousand coalers and trucks available. Adding to the problem was the enormous amount of traffic that the system would be called upon to carry. In the period from June 1899 to March 1901, 2.6 million men, 780,000 head of livestock and 2.2 million tons of supplies would have to be moved.[32] The very nature of the terrain from the beginning seemed to be against the enterprise's success. Great distances separated the towns on the many single track railways causing numerous bypass problems. Rail lines, particularly in Natal, were marked by lack of water, sharp turns, and steep inclines.[33]

One of the greatest problems remained that of finding enough trained loyal personnel. British railroad administrators envisioned a grade for grade military

equivalents yet the lack of proper training immediately became evident as civil control had to last longer than anticipated.[34] In time a system whereby the Cape Railroad and to a greater degree the Free State Railroad were taken over by British civil employees under military control was worked out. The Transvaal rail system's entire Dutch administration and staff of three thousand had to be replaced however and that placed an enormous burden on the system.[35]

Worst of all from an administrative point of view was that the whole enterprise had to be undertaken under war conditions that resulted in constant attacks upon rolling stock and infrastructure. The maintenance of communications, so vital to the proper running of a railroad was particularly hazardous as the telegraph lines were frequently cut and heliograph signals were dependent on the vagaries of weather. De Wet alone was reputed to have kept seven British construction trains constantly busy.[36] In frustration Roberts, who held the civilians partially responsible for these attacks, resorted to having hostages ride the trains to curtail further mining of the rail lines. Other methods of protection included the destruction of all civil property near points of attack and

the imposition of heavy fines on the populace.[37] Interestingly the most vulnerable portion of the rail system was never attacked or sabotaged: the Vereeniging coal fields, without which the trains could not have run fell intact into British hands.[38]

Armored trains also had an important role to play in railway defense. They were perhaps most useful in providing mobile reinforcement to work trains and acting as a backup to the later blockhouse lines. In the Orange Free State such a train was located every three stations as a counter to De Wet's forays against building parties.[39] While some of the early model armored trains were viewed as virtual deathtraps due to their open tops, the later models incorporated substantial improvements.[40] Aside from added overhead protection, bigger guns and more machine guns, the later models frequently contained greater amenities for the officers which led to their being sequestered for inspection trips. This became such a problem that a special Army Order had to be issued on April 20, 1901 discontinuing this practice, as it was regarded as a misuse of a scarce and valuable device necessary for immediate tactical security.[41]

The issue of control of rail stock was a delicate one

for much of the early part of the war. Timetables were upset when field officers commandeered armored cars for cattle transport or inspections. Whole lines could back up when officers refused to release coal reserves that had been incorporated into their defenses.[42] From a railroad management perspective it was simply uneconomical to send mounted troops by rail less than eighty miles or infantry less than forty but some system of mediation had to be formulated in order to get these ideas across to the field commanders.

Only after several abortive experiments was Girouard as Director of Railways able to fully control all the functions of the running and loading of the railroads. Earlier attempts in delegating this responsibility to staff officers along the lines of communication had proved chaotic.[43] By September, 1900 matters had progressed sufficiently to enable Girouard to get daily reports on all rail movements throughout the theater of operations.[44] As the war continued more power was accumulated by the railway section. The Telegraphy section was gradually absorbed and when the supply of army engineers gave out, unemployed miners were hired under its auspicies to help keep the rail-lines in repair. Such a large organization

was subject to espionage and in a novel effort to maintain secrecy of troop movements, a system of charge per mile was evolved for man, beast and per ton of supply, all subsumed under a gross figure.[45] In this manner no weights or specifics on contents had to be recorded and the various railroads could still be compensated at war's end.

After the crossing of the Modder river it was demonstrated that a major difficulty with using big guns in the field was the strength of the railway bridges.[46] An effort to strengthen them had to be made since at that time the nature of future battles was unclear. Furthermore,as the theater of operations extended to include more territory the railways had to expand with them. The continuous building initially meant a constant shifting of railheads and supplies with surpluses being left at old sites. This method led to considerable waste and a problem of protection. The solution as communication improved was to ship materials on a need for use basis direct from the main base and thus eliminate costly on and off loading as well as to provide better utilization of equipment.

German Staff studies at the turn of the century indicated that a single line railway could support no more

than forty thousand men.[47] What better measure of Girouards' achievement than to note that he more than tripled that figure. Despite periods when guerrilla activity made night running impossible and day trips hazardous, the supplies got through. Where the Germans had felt twenty-four trains a maximum, Girouard had run thirty-nine.[48] An army of one hundred and twenty thousand men had functioned seven hundred and fifty miles from Capetown and another of thirty-five thousand campaigned four hundred and fifty miles from Port Elizabeth, both dependent on single line railroads. Working under relatively primitive conditions nine thousand men and fourteen thousand five hundred horses and mules plus 373 carts and 48 guns had been dispatched from Bloemfontein in nine days in February of 1901 to thwart De Wet. This feat set the record for the war as a troop movement while De Aar held the record for receipt and dispatch of twenty-five trains in one day.

The magnitude of the accomplishment of Girouard's section lies in the vast amount of repair work also accomplished. In the case of the rail line to Komatipoort alone, in the twelve months following its capture, 196 major breaks had to be repaired.[50] Over the course of

the campaign, war related repairs were made on 81 of 102 engines, 25 of 29 coaches, and 393 of 955 trucks.[51]

The lessons of the war for military railroading were many. First of all there was the realization that where as civil railroads functioned with a priority on profit, army engineers had to emphasize speed. The fastest ways of doining things are rarely the most economical. The role of Military Railway Administration according to Girouard was,

A) To keep the military commanders fully informed of the capacity and possibilities of the railway and to convey their orders and requests to the civil railway staff.
B) To protect the civil railway administration from interference by military commanders and commandants of posts; in fact, to act as intermediaries between the army and the civil railway officials.[52]

On a more technical level much information was accumulated. It was realized that unskilled workers could supplement the skilled ones at a ratio of seven to one for temporary structures and three to one on permanent and semi-permanent projects. Supply depots should be located no further than fifty miles from major repair sites. Wagon transport for sixty tons should be located at the railheads. Night work necessitated the acquisition of lights. Temporary bridges constructed of crib piers over eighteen feet high were too fragile for normal speeds. All

trains should carry pumps and hoses in case of emergencies that forced dependence on damaged water supplies. Regarding demolition, key objectives were recognized in the form of girders of bridges, water pumps, and rail crossing points. It was even suggested in a Royal Engineers Institute study that the most effective way to delay an army was to blow alternate rail joints over a fifty mile stretch. It was estimated to take one day per mile to repair such damage.[53]

In the postwar period in recognition of the vital role played by military railway engineers they were granted increased training at their newly established facilities at Longmoor Camp.[54] The Detailed History of the Railways in the South African War could have in itself served as a textbook with its precise listings of time intervals, chains of command, capacities and engineering specifics. The Wood Committee on the Royal Engineer's railway units of 1903 set the tone for the postwar years by recommending the training of personnel on civil railways, increasing the size of the Royal Engineers to a full regiment (established 1907-08) and the appointment of a staff officer on the railways to the War Office.[55]

Another special branch of the army that underwent

expansion as a result of the war was the newly founded (June 23, 1898) Royal Army Medical Corps (RAMC). Originally established to tend to the needs of two corps of infantry and one division of cavalry, the RAMC was organized into seven stationary and three general hospitals. The total cadre consisted of eight hundred and fifty officers, forty warrants, two hundred and forty sergeants and two thousand other ranks.[56]

Unfortunately, as Surgeon Colonel Wilson would later testify,

> the establishment was a peace establishment, intended to cope with the necessities of peace, but not capable of expansion nor even calculated to fulfil the needs of one Army Corps abroad. The hospital orderlies were insufficiently trained, and the instruments and appliances, and medicines, old fashioned. No sanitary knowledge had been imparted, and the lessons of previous wars 1870 and 1876 altogether disregarded.[57]

Reserves of medical equipment were lacking on the basis of a feared early obsolescence.[58] As constituted the RAMC lacked dentists, opthamologists, (spectacles were nonregulation) as well as psychiatrists.[59] The greatest weakness however was not in treatment but in the lack of planning for expansion and possible utilization of private aid in case of war.[60] Prewar niggardliness had

taken its toll in both numbers and quality of medical personnel. As viewed in the Army and Navy Journal "the authorities have made several attempts to effect a reform without increasing the expense by ringing the changes on ranks and titles in the apparent belief that sentimental marks of esteem would be accepted in place of practical concessions."[61] The RAMC was so short of personnel that five of the hospitals had to be stripped and the equipment placed in storage in order to keep the other five operating.[62] By February of 1900 it was becoming something of a national scandal that less than six thousand beds were available for an army of over one hundred thousand.[63]

Public outcry over the typhus epidemic that arose after the capture of Bloemfontein spurred Parliament into action.[64] Under the leadership of Sir Fredrick Treves and Mr. M. Veigh, members of Parliament, a grant of £125,000 was obtained which made possible both the reorganization and expansion of the medical services.[65] From a force that could barely scrape together eight-hundred and fifty doctors for ten hospitals in the wars' early months, the RAMC grew within three years to where it had eighty-five hundred doctors ministering to

twenty-one thousand beds.[66] It seemed as if, "a great lesson is to be learnt from this war. The provision of ten-percent hospital accommodation for the whole force under arms is a minimum but this is ineffective unless it is on the spot where it is required."[67] Postwar reformers would thus put special emphasis on the creation of smaller, mobile field hospitals. As for the ten percent recommendation even the government sponsored Heath Committee could find accommodations for but seven percent in Buller's better supplied Natal theater.[68]

As inadequate in numbers as the RAMC proved to be, it was indeed fortunate that the private sector was willing to help carry some of the load. Eleven private hospitals containing 2,838 beds proved a vital supplement to the war effort.[69] Some of these, such as the Irish and Portland Hospitals had initially been rejected due to the mistaken belief that a sufficient number was already available.[70] In addition within six months four million pounds were raised for the comfort of the troops. Several hospital ships, trains and ambulances were also provided by public subscription.[71]

The British Red Cross proved especially helpful in equipping, provisioning and running the Princess Christian

Hospital train, the first of its kind in the world and special ambulances known as Netley coaches.[72] Many doctors gave freely of their time and effort, and paid out of their own pocket passage and expense money while serving in army hospitals.[73] It should come as no suprise that the private hospitals by means of better equipment, dedication and above all their ability to refuse overcrowding had significantly lower death rates than those run by the RAMC[74] As a last resort in fact, the army had to disperse convalescents to private homes to relieve the pressures on the RAMC hospitals.[75] The old rule of not returning men to duty until fully recovered had been so often violated that the relapse rate had become appalling.

Perhaps another explanation of the poor record of the RAMC in South Africa was the quality of the doctors. The army had long insisted upon young doctors thus limiting the pool of experience. Better qualified candidates shied away from an army career because of enormous job pressure, poor equipment, lack of adequate pay, lack of continuing medical education possibilities within the corps coupled with ceaseless military exams and far too little leave time.[76]

Civilian doctors provided invaluable aid during the

war but as Anthony Bowlby a senior civilian surgeon put it,

> it is, however a great mistake to suppose that civilian surgeons, however skillfull, can satisfactorily supplant the army surgeons beyond certain limits...It must be remembered that a young surgeon with civilian training, however brilliant, cannot know anything about such matters as camp sanitation, the duties of ward-masters or stewards, disinfection of food, what orderlies know and can do and what orderlies do not know and cannot do, and a hundred other things.[77]

The solution frequently arrived at during the war was to allow civilian surgeons to carry out the bulk of the operations while RAMC officers took over the technical administrative chores.[78]

Unfortunately failures of R.A.M.C. officers as administrators were not uncommon. General Buller eventually had to remove Colonel Exhamy, the principal medical officer during the Ladysmith siege. During that action Exhamy had systematically shifted supplies away from the eighteenth field hospital at Intombi to the town where they were made available to his friends and reporters. His concern throughout had been more for the appearance of shined boots and straight sheets than for health.[79]

Oddly, Roberts never saw fit to replace Surgeon Wilson, the officer responsible for Roberts' own army's sorry medical condition during the march to Bloemfontein

and beyond. Roberts had in fact issued a stinging but perhaps not altogether fair rebuke claiming, "the requirements for Kroonstad should have been foreseen and spare surgeons should have been on the spot."[80] The widespread thyphus epidemic that broke out exceeded the capacities of the RAMC on hand and was due at least in part to a breakdown of sanitary discipline.

Along with the shortages of doctors, beds and administrators, the lack of sufficient numbers of trained orderlies soon made itself felt. While as a group these men proved quite dedicated, wartime pressures led to the infiltration of their ranks by others less so and therefore more prone to corruption and frequently lacking the required skills.[81] The answer to the problem, aside from the obvious of tighter screening was the acceptance of female nurses to the military hospital staffs. Such a step was naturally resisted by conservatives such as Colonel Exhamy but personnel shortages made the change almost inevitable. After the dispatch of the Fifth General Hospital, all future staffs had a complement of twenty nurses. If initially the situation was one in which, "we military surgeons were as a body shy of employing a lot of Sisters in the hospitals,"[82] later developments led

Surgeon Colonel Harry Cooper to state, "as a rule you cannot have too many women in the place."[83]

The resounding success of the nurses in the field was registered in Parliamentry Papers and led to the creation of Queen Alexandra's Military Nursing Service, the very name of which indicated the increased recognition, prestige and governmental committment associated with the service.[84] The prewar Army Nursing Service had been viewed as both far less capable and less trustworthy and thus relegated to only safe non-combat areas. With new status, an enlisted rank of lieutenant for those qualified, and an increasing supervisory role for its members, Queen Alexandra's Military Nursing Service was well on its way to its modern role.

Just as the problems of personnel were eventually resolved so too were the increasing problems of obsolescence in medical practice. Over the course of the war many new medical techniques and inventions received their first military tests. On board the S.S. Bavarian experiments with volunteers were conducted with a new thyphoid vaccine.[85] Later, smallpox vaccinations would be made for the first time compulsory for all troops.[86]

Although Roentgen rays had first been used during the

Sudan campaign for battlefield injuries, it was not until the Boer War that the now improved machinery was first taken into the field. The new x-ray machines were sturdier, more mobile and resistant to dampness.[87] With this new equipment major surgery on head wounds involving elevation (removal) of shell fragments could be attempted during the siege of Ladysmith with increased chances of success.

The soldier also benefitted during this war by being issued for the first time an individual field dressing kit consisting of two gauze pads stitched to a bandage sealed in a sterile waterproof container. The men also received identification cards which were to be worn on the outside of their uniforms.[88] This information was particularly useful in dealing with the dead or wounded. The British went on to introduce real "dog tags" to its army in 1906 based upon this system's success in South Africa. Yet another first was the distribution of pajamas as a sanitary measure in hospitals. It may also be noted that the "Lister Bag", still in use today, was developed during the Boer War. This invention consisted of little more than a slightly porous canvas bag which was to be hung in a shady location. By means of osmosis and evaporation the water

was kept cool and provided welcome relief to the soldier in the field.

Finally it should be noted that a revolution in ambulance design occurred as a result of war findings. The two-wheeled Maltese cart and springless wagons were entirely too uncomfortable and liable to upset under battlefield conditions. The new model introduced in 1904 was sturdier and more comfortable as springs were located on the suspension and under the individual stretchers. Further steps were taken to guarantee the ambulances a self-sufficiency of horses on the order of the New South Wales Ambulance Corps.[89] In this manner it was hoped to avoid a repetition of Kitchener's cutting of the Service by 83% in order to stockpile horses during Roberts' initial northward lunge.[90]

In the view of one French commentator the most serious flaws of the RAMC were its decentralization and lack of a strong representative on Kitchener's and Robert's staffs.[91] Without a strong advocate the Medical Corps was at the mercy of the General's whims. Deprived of motive powers the camp hospitals could not keep up with the columns once the Modder River had been passed. As a result camp hospitals began to act as stationary hospitals and the

sick and wounded were inconvenienced by having to be moved longer distances before receiving treatment. There could be no doubt that among the initial flaws of the RAMC were its inability to station doctors with each column, and its low military priority manifested in its lack of both logistic support and exclusive transport facilities on the field.[92]

The weak bureaucratic position of the RAMC was nowhere more obvious than in its dealings with the bearer companies which came directly under brigade orders. The former served admirably in collecting the wounded, dispensing first aid and delivering the patients to the hospitals, but after leaving them to an overworked hospital staff the bearers absolved themselves of further responsibility and returned to their brigade. Conversely during the battle the field hospitals remained relatively idle while the bearer companies extended themselves.[93]

The major complaint of senior medical officers was the enormous amount of red tape. Surgeons spoke bitterly of an inability to operate because of long hours spent behind the desk.[94] The hospital administrators were in fact overwhelmed by problems of understrengthed staffs, poor sanitary conditions and inadequate food.

Overcentralization in requisitioning, led to an inability to purchase vital but mundane items such as thermometers, stethescopes and instruments on an as-needed basis.[95] At the same time the army T.O.E. (Table of Equipment) called for hospitals to be as ready for the Arctic as the Sudan and unnecessarily weighted down the columns and overloaded the books with inventory, some of which was twenty years old and of poor quality. "We were carrying about with instruments which I would have thought would be found only in museums," complained Dr. Treves a prominent participant in the campaign.[96]

Given proper support the situation might easily have been improved from a medical point of view, as can be seen in a comparison between the Natal and Orange Free State Campaigns. As one contemporary put it,

> the clearest demonstration that Lord Roberts and his Chief of Staff sacrificed sick and wounded men in the advance through the Free State, to the supposed exigencies of saving the Rand and occupying Pretoria, is countered by certificates to the perfection of the medical arrangements of another General (Buller) over two hundred and fifty miles to the eastward."[97]

General Buller was of course an old friend of the RAMC and took a personal interest in the preparation and location of field hospitals as far forward as possible. As

an early advocate of nurses, his hospitals received more than their share, as other commanders demurred on their value.[98] Buller's relative success may also be due to having shorter and more secure supply lines, first access to the RAMC doctors who were at least familiar with army routine and to his avoidance of a fever epidemic which so decimated Roberts' command.

As long as modern cupro-nickle jacketed bullets were the principal cause of battle wounds the doctors could count themselves lucky since these were less prone to causing infection than the old style lead bullets.[99] According to statistics issued by the British, forty out of every one hundred men seriously wounded by hard, jacketed bullets who had been surgically treated could be returned to duty after thirty-six days.[100]

Unfortunately for the British the greatest threat to the lives of their soldiers was not the Boer rifles but disease. Historically this had been the case in all wars. The Russian army of the Crimea with its ninty plus percentage of loss to disease represents the nadir of modern military-medical technique while the British figure of over sixty percent for the Napoleonic Wars represents more nearly the norm. The sixty-six percent figure for

disease losses among the British stands out since almost ninty years had passed since Waterloo and medical science had made some great strides in the intrim.

Buller was cognizant of many of these changes and in his prewar capacity as Adjutant-General had issued orders for the mandatory attendance of all quartermasters to a series of lectures on disease prevention and sanitation.[101] The RAMC had contributed by issuing a prewar memorandum on the burning of garbage and the use of quicklime. The new (tested in 1899) Berkefeld filter had been introduced to all units. It was capable of purifying thirty-four pints of water in ten minutes and one of these was issued per hundred men. Earlier model filters had been either too delicate or prone to clogging. Typhoid vaccinations were made available to the men on a voluntary basis.[102]

Although theses safeguards were available many were not adhered to under the duress of wartime conditions. In the aftermath of the battle of Paardeberg man and beast freely drank from a river polluted with slain animals. Time and again poor sites would be chosen for an installation, whether the enlarged Woodstock hostpital over a latrine, the second Worcester's cantonment near the

infected Modder river, or the altogether too close situation of the latrines near the Newtown camp. When on the move, a lack of wood for fuel limited the amount of boiled water; that which was available was used for cooking. The larger columns suffered with a bulkier filtration apparatus that was frequently clogged by muddy river waters. Without a special water section there seemed no way of enforcing liquid rationing. Over the course of the war poor water and sanitation were largely responsible for a sickness rate of 958 men per thousand per year[103] Elizabeth Briggs however, with her emphasis on staff work, felt that the enteric fever epidemic was "contracted in the majority of cases through fatigue, exposure, privation, and short rations."[104] On the whole, sickness and lice did affect the other ranks far more than the officers with their private rations, many uniforms, greater access to baths and less exhausting labors.

In the aftermath of the epidemics an outcry of support for a proper sanitation corps was raised by several members of Parliament.[105] It was claimed by Lady Cecil that, "Far more people have been killed by negligence in our hospitals than by Boer bullets... Men are dying by the hundreds who could be saved."[106] Julian Ralph put the

case even more pointedly in the Daily Mail

> there were twenty-five hundred enteric patients when I left Bloemfontein, and they were in large: left to lie on the ground and be nursed by ignorant and slovenly "Tommy" attendants. They lay in water, they were rained on, and the sanitary arrangements were such that at least in some hospitals, they had to leave their blankets at the risk of death."[107]

In the near term, efforts were made to alleviate the problem by educating the individual soldier at the lowest ranks. Corporals were instructed in filtration techniques.[108] In The Times of London note was made of the efforts to curb enteric. The army created the position of camp sanitation officer. Greater care was to be taken in refuse treatment and the deeper digging of latrines was made mandatory. Filters and disinfectants were to be used more extensively, and horses were to be stabled at a greater distance from the men and food as a precaution against flies.[109]

Foremost among the longer term solutions in disease prevention was the need for a sturdier, less complicated, quicker-acting water filter and the institution of a proper sanitary service with mobile transport.[110] By 1909 it was clear that, "the water supply will always be selected in conjunction with the sanitary or other medical officer

who will satisfy himself as to its fitness for use.[111] From the medical point of view, the main lesson learned by the British army during the South African War was that of the vital importance of hygiene and sanitation.[112] Brigadier Sir James Edmonds would later write that, "the British army owes its exemption from epidemics in the two World Wars to the experience gained in South Africa; the burning of rubbish and dung, in which flies breed was found to be all important."[113]

Inhospitable terrain and long distances from modern health facilities were contributing factors to the inadequate treatment of wounded and sick soldiers. In an effort to alleviate this problem the British Army for the first time tried to incorporate a number of specially constructed hospital ships and trains into the medical support structure.

Initially the wounded had been sent back to Great Britain in ordinary troop ships. The inadequacy of this method as evidenced by the lack of proper facilities aboard such ships and the further dispersal of trained medical personnel was soon recognized. Ultimately it was decided to follow the American and more recent Australian example and provide specially modified vessels as hospital ships.

The Government eventually had eight such vessels commissioned with names such as the Sparta and the Trojan. The Princess of Wales was provided by its namesake and the British Red Cross; the Maine by private subscription of Americans headed by Lady Randolph Churchill, and the Lismore and Nubia by the Cape Colony Government.

The development of the hospital train is of particular interest since it owes its naissance to this war. The three earliest models were deployed in the Natal primarily as transports and suffered from the lack of an internal corridor. This design defect made it impossible to minister to the patients while the train was in motion. Emergency treatments and all feedings could only be accomplished while the train stopped at a rail siding.[114] This process not only slowed down the transport of the patients but also tied up the raillines of an already overworked system.

The later model hospital trains such as the Princess Christian, had seven cars all connected by an internal corridor. Each train had a complement of two doctors, two nurses and twenty-two other ranks. One first class coach was allocated to the doctors and nurses, another car served as a combination kitchen, pharmacy and orderly room: three

coaches served as wards for twenty-four patients each. An additional ward coach was allocated to NCO patients and had twenty beds and the final coach held eight screened-off beds and was reserved for officers.[115]

The work of the ten hospital trains in South Africa should not be underestimated. The role they played in so vast and sparce a theater of operations was vital. Hospital train Number Two alone during the period from November 22, 1899 to August 1902 carried 10,796 patients on 226 trips over 114,539 miles with only seven deaths.[116] A certain prestige came to be attached with service aboard such trains as even the Queen's personal physician Dr. Fredrick Treves, for a time served on one.

By the war's end the RAMC had undergone a substantial expansion. It had grown to over eighty-five hundred members plus eight hundred nurses with responsibility for twenty-one thousand beds. Organization encompassed 151 regimental units, nineteen bearer companies, five stationary hospitals and sixteen general hospitals plus various ships and trains.[117] The enormous geographic dispersion had led to a physical decentralization that allowed for a minimum of movement of the wounded by contemporary standards.[118] Over the course of the war

twenty-two thousand wounded had been treated along with twenty times that number for various diseases. Although preventable by then current sanitary procedures there were seventy-four thousand cases of enteric and dysentary eight thousand of which ended in death.[119]

The rapid and extensive reform of the medical situation in the army both during and after the war was due to several factors. First, the seriousness of the initial failures; second, the widespread criticism voiced by men such as Burdett-Coutts; third Edward VII's personal interest in medical reform, and fourth, the tremendous impact of the many postwar inquiries.

Burdett-Coutts, was primarily concerned with the poor quality of care and the inability of the RAMC to expand to meet the exigencies of the war. In his writings, he recommended using the RAMC officers as liaison staff and administrators while leaving the ministering of the patients to the civilian doctors and nurses. This became common practice in the later stages of the war.[120] His plans for the expansion of the medical services were best presented in an article published in The Times of London on October 8, 1901. Burdett-Coutts suggested that a Militia Medical Staff Corps be created along with an

army medical reserve and an institutionalized medical service for the Auxiliaries. In all of the reserve components uniform and high standards were to be applied to doctors, orderlies and nurses, and a close association with the Red Cross was to be established. Burdett-Coutts was furthermore critical of the lack of a permanent medical cadre within the individual regiments which led to an emotional distancing between practitcioner and patient.[121] Burdett-Coutts' public airing of the Corp's deficiencies rather than working from within the system to improve it won him many enemies, but there can be no doubt of his effect upon the medical reform movement.[122]

The official response to the medical shortcomings set forth in the report of The Royal Commission on Hospitals which stressed the need for a larger RAMC, a surer, more continuous supply system, an effort to keep abreast of modern medical developments, an expanded nursing corps, and the appointment of special sanitary officers. Further study was recommended on giving the RAMC control of its own supply and transport, decreasing paperwork, and combining bearer companies with the hospitals.[123]

Perhaps most important of all, Romer's commission had

come out in favor of a medical reserve. This proposal was seconded by a host of experts including John Furley the President of the Cape Red Cross who stated, "the experience shows us two things, that the army medical service couldn't function without volunteer aids and that these couldn't easily fulfill their mission without preparation in times of peace."[124]

In 1906 an Army Medical Reserve was founded and in 1907 a Territorial RAMC was created. A spate of measures to increase the reserves followed in 1908, including the creation of a Reserve Nurses Corps and a Home Hospital Reserve. The long awaited merger of field hospitals and bearer companies had occurred in 1906 with the introduction of three field ambulance sections per division and an additional one in corps reserve.

At the same time that the medical services were being reorganized and expanded on paper, efforts were undertaken by the Brodrick and Treves Committees to assure a sufficient quantity and quality of recruits. Brodrick's report suggested increased pay, extensive education coupled with ongoing testing and the creation of a continuing civilian advisory board.[125] The Treves committee findings emphasized shorter service periods for doctors as

an inducement to recruitment, a six month sabatical for study after three years service, purchase of the most up to date research equipment at the Millbank Hospital, and a substantial increase in pay.[126]

The effect of these committee's studies and recommendations were soon evident. In 1902 an Army Medical Advisory board of eminent civilian physicans and surgeons was established to consult on hospital and sanitary procedures. The scholarly Journal of the Royal Army Medical Corps was founded in 1903. Salaries were raised for doctors in 1902 to encourage enlistment. The Army School of Sanitation at Aldershot was formed in 1906. Further efforts to upgrade the quality of education resulted in the founding of the Royal Army Medical College at Millbank in 1907. Finally as of 1907 medical officers were offered accelerated promotions so as to encourage reenlistment.

The complete system as of 1913 was a far cry from 1899. Each regiment had its own surgeon as well as trained stretcher bearers who were responsible for immediate diagnoses and transport to the field ambulances which in turn brought patients to one of six clearing hospitals. One of the six ambulance trains could then remove the

casualty to one of the twelve stationary hospitals on the lines of communication of one of the twelve bases of general hospitals, each with over a five hundred bed capacity. Further transport was possible aboard one of six hospital ships to a military hopital in Great Britain.[127]

[1]Symons, p. 38.

[2]Ian Hamilton, The Happy Warrior: A Life of General Sir Ian Hamilton (London: Cassell, 1966), p. 145.

[3]Elgin Report, 41:201-02.

[4]Garvin, 2:491.

[5]Lyttelton, Eighty Years, pp. 232-46.

[6]L. S. Amery, gen. ed., The Times History of The War In South Africa 1899-1902, 7 vols. (London: Sampson Low Marston and Co. Ltd., 1907). vol. 5 The Times History of The War In South Africa 1899-1902., by Erskine Childers, p. 68

[7]Great Britain, Parliament, Parliamentary Papers, (House of Commons and Command), 1898, vol. 8 Cmnd. 8934, "Report of Committee Appointed by The Secretary of State for War to Consider The Decentralization of War Office Business," p. V.

[8]Kruger, p. 122.

[9]Gatacre, p. 222.

[10]Ibid., p. 226

[11]E. K. G. Sixsmith, "The South African War," The Army Quarterly 98(April 1969):96.

[12]Average Observer, p. 39.

[13]Roberts to Lansdowne, 29 September 1900 as quoted in David Pelham James, Lord Roberts, forward by L.S. Amery (London: Hollis and Carter, 1954), p. 343.

[14]Eric William Sheppard, A Short History of the British Army (London: Constable and Co., Ltd., 1950), p. 481.

[15]George John Younghusband, Forty Years a Soldier (New York: G.P. Putnam's Sons, 1923), p. 200.

[16]Horace Smith-Dorrien, Memories of Forty-Eight Years Service (London: John Murray, 1925), p. 152.

[17]Brian Bond, The Victorian Army and The Staff College, 1854-1914 (London: Eyre Methuen, 1972), p. 187.

[18]Brodrick, Records and Recollections, p. 120.
In the postwar era the Indian and Egyptian rings united against Wolseley's followers.

[19]Wilson, After Pretoria, 1: 305.

[20]Grant, p. 151. and
Londsdale Hale, "Letter to the Editor," Times (London), 8 January 1901, p. 8.

[21]Belfield, p. 141.
The condition of Rawlinson's column which marched twenty-five hundred miles between April and November 1901 during the height of winter can well be imagined.

[22]John Phillip Wisser, Second Boer War 1899-1900 (Kansas City: Hudson Kimberly, 1901), p. 213.

[23]Younghusband, p. 207.

[24]Victor Sampson and Ian Hamilton, Anti-Commando (London: Faber and Faber, 1931), p. 116, 163.

[25]Belfield, p. 145.

[26]Harold Courtenay Armstrong, Grey Steel; Jan Smuts, a Study In Arrogance (London: A. Baker Ltd., 1937), p.113.

[27]Colin Robert, Kitchener (London: Faber and Faber Ltd., 1930), p. 160.

[28]Brodrick. Records and Recollections, p. 129.

[29]Henry Rawlinson, The Life of General Lord Rawlinson of Trent From His Journals and Letters, ed. Fredrick Maurice (London, Toronto, Melbourne and Sydney: Cassell and Co. Ltd., 1928), pp. 31-32.

[30]Edmonds, "Memoirs, The Intelligence Division", p. 135.

[31]Charles à Court Repington, Vestigia: Reminiscences of Peace and War (Boston and N.Y. : Houghton Mifflin Co., 1919), p. 207.

[32]Royal Engineers Institute, Chatham, Detailed History of the Railways in the South African War, 1899-1902, 2 vols. (Chatham: Royal Engineers Institute, 1904), 2:XX-XXII.

[33]The steep gradients of the Natal Railroad necessitated thirteen stops for rearrangement of goods between Port Natal and the border stations, as the rate of incline sometimes approached one foot in thirty feet compared to British maximums of one foot in forty feet. Briggs, pp. 105-06.

[34]Royal Engineers Institute, 1:8.

[35]Edouard Percy Girouard, History of the Railways During the War in South Africa 1899-1902 (London: Printed for H.M. Stationary office by Harrison and sons, 1903), p. 10.

[36]Briggs, p. 114.

[37]Archibald, p. 190.

[38]C. De Jong, "Reports of Neutral Observers During The Anglo-Boer War: Reports of Two Russian Military Attachés," p. 52.

[39]Royal Engineers Institute, 1:235.

[40]Unger, p. 46.

[41]Army Order Number Three, 20 April 1901,

Circular Memorandum number thirty-four as quoted in Girouard, p. 81.

[42]Royal Engineers Institute, 1:94.

[43]Girouard, p. 15.

[44]Ibid., p. 16.

[45]Ralph, An American with Lord Roberts, p. 295.

[46]Girouard, p. 66.

[47]Col. Howard Vincent as quoted in Briggs, p. 115.

[48]Col. Howard Vincent, "Lessons of the war: Personal observations and impressions of the forces and military establishments now in South Africa," JRUSI 44(June 1900):649.

[49]Girouard, p. 21.

[50]Basil Worsfold, Lord Milner's Work in South Africa (New York: E.P. Dalton, 1906), p. 459.

[51]Girouard, p. 55.

[52]Ibid., p. 15.

[53]Royal Engineers Institute, 1:135-36.

[54]Crew, p. 115.

[55]Great Britain, War Office, Abstract of the Recommendation of Commissions, Committees and Conferences Relating to Army Affairs 1903 (London: Harrison and Sons, 1903), number 537.

[56]Peter Lovesgrove, Not Least in the Crusades: A Short History of the Royal Army Medical Corps (Aldershot: Gale and Polden, 1951), p. 27.

[57]Esher to King Edward, 10 December 1902,

Esher Papers, "Reports Made Daily to King Edward," pp. 45-46.

[58]Great Britain, Parliament, Parliamentry Papers (House of Commons and Command), 1901, Vol. 29, Cmnd. 453, "Report of the Royal Commission upon the care and treatment of the sick and wounded during the South African Campaign Report", p. 8.

[59]Lovegrove, p. 24.

[60]Frocard, 2:388-9.

[61] "The British Medical Corps," ANJ 37(25 November 1899):287.

[62]Great Britain, Parliament, "Hospital Commission," p. 9.

[63]George Gilbert, La guérre Sud-Africaine: préface de M. le Genéral Bonnal (Paris: Berger-Levrault, 1902), p. 512.

[64]Exacerbating matters was Roberts' leaving of three-quarters of the ambulances behind upon departing Capetown in order to stockpile horses. Eight hundred men had to pay the price in the following forced marches.
Maurice, History of the War, 2:153-54
Two general hospitals, each organized to handle five hundred and twenty men, cared for 1398 and 1600 men respectively during this crisis.
Sir Walter Forster, Hansard 4th series 89 (15 February 1901), p. 224.

[65]Dunlop, p. 145.

[66]Redmond McLaughlin, The Royal Army Medical Corps, Famous Regiments ed. Sir Brian Horracks (London: Lee Cooper Ltd., 1972), p. 22.

[67]William L.A.B. Burdett-Coutts, The Sick and Wounded in South Africa: What I Saw and Said of Them and of the Army Medical System (London and New York: Cassell and Co., 1900), p. 243.

[68]Great Britain, War Office, Abstract of Recommendations of Commissions, Committees and Conferences Relating to Army Affairs: Heath Committee on Sir Thomas Gallwey's Medical Report on the Natal Campaign 1899-1900 (London: Harrison and Sons, 1905), number 685.

[69]Great Britain, Parliament, Hospital Commission Appendix vol. 30 Cmnd. 455, p. 268.

[70]Churchill, London to Ladysmith, p. 392.
As late as March 24, 1900 Roberts had sent a dispatch from Bloemfontein stating that, "Unless the forces now in South Africa are considerably increased, the eleventh [newly formed] General Hospital should be sufficient.
As quoted by Mr. Wyndham in Parliament in Average Observer, pp. 99-100

[71]Vincent, p.612.

[72]John Henry Plumridge, Hospital Ships and Ambulance Trains (London: Seeley Service and Co., 1975), p. 95.

[73]Great Britain, Parliament Hospital Commission, Appendix, Memorandum of Prof. Dunlop, vol. 30, Cmnd. 455, p. 194.

[74]Mr Murray Guthrie M.P. testimony, Great Britain, Parliament, Hospital Commission vol. 29, Cmnd. 454, p. 70.

[75] "Sick and Wounded," Times (London) 10 January 1900, p. 11.

[76]Burdett-Coutts, p. 231.
R. Scot Skirving, Our Army in South Africa (Sydney: Angus and Robertson, 1901), p. 38.
Clifford Allbutt, "Reorganization of the Army Medical Corps," Times (London), 13 November 1901, p. 12.

[77]Mr Anthony Bowlby testimony, Great Britain, Parliament, Hospital Commission vol. 29, Cmnd. 454, p.

213.

[78]Henry John May, Music of the Guns Based on Two Journals of the Boer War (Freda Schoserg and James Alexander Kay), (London: Jarrolds, 1970), p. 128.

[79]Packenham, p. 372.

[80]Roberts to Wilson 21 may 1900, vol. 3, 7101/23 number 327 as quoted in Packenham, p. 423.

[81]Burdett-Coutts, p. 232.

[82]Colonel McNamara testimony, Great Britain, Parliament, Hospital Commission vol. 29, Cmnd. 454, p. 188.

[83]Colonel Harry Cooper testimony, Ibid., vol. 30, Cmnd., 455, p.196. Also see,
Colonel Keogh testimony, Ibid., vol. 29. Cmnd. 454, p. 373.

[84]Army Order number sixty-five, 1902 increased pay, promotion and retirement opportunities and A.O. number sixty-seven, 1902 created the Queen Alexandra's Military Nursing Service with still greater increase in status for its members.

[85]D'Amade report no. 6, 27 November 1899, Ministere de la guerre, rapports de l'attaché militaire, 1871-1900, 7N1219, p. 47.

[86]Oppeheim, p. 19.

[87] "Roentgen Rays in Field Surgery," ANJ 37 (13 January 1900):466.

[88]Denham F. Franklin, "Some Medico-Military War Lessons," USM 23 (May 1901):194.

[89]Skirving, p. 30.

[90]McLaughlin, p. 99.

[91]Frocard, 2:365.

[92]Burdett-Coutts, pp. 72-73.

[93]Loveagrove, p. 28.

[94]Esher papers, 4 February 1903, carton 70/8/1, p. 48. Imperial War Museum.
Great Britain, Parliament, Hospital Commission vol. 29, Cmnd. 453, p. 17.

[95]Alexander Ogston, Reminiscences of Three Campaigns (London, N.Y. and Toronto: Hodder and Stoughton, 1919), pp. 109-11, 119.

[96]Mr. Treves as quoted in Symons, p. 140.

[97]Average Observer, p. 106.

[98]Ibid., p. 102.
Symons, p. 140.

[99]Musgrave, p. 204.

[100]Major William Balck, Tactics trans. Walter Krueger 2 vols. (Ft. Levenworth Kansas: U.S. Cavalry Association, 1911-14), 1:129.

[101] "Naval and Military Information," Times (London), 9 January 1899, p. 10.

[102]Loveagrove, p. 305.

[103]McLaughlin, p. 23.

[104]Briggs, p. 223.

[105] Hansard 4th series, 88 (11 December 1900): 580-82.

[106]Lady Edward (Violet) Cecil to Prime Minister, 30 May 1900 as quoted in Packenham, p. 391.

[107]Julian Ralph as quoted in Average Observer, p. 99.

[108]Crole Wyndham, Questions and Answers for Cavalry Non-commissioned Officers, vol. 14 of Military Handbooks for Officers and Non-Commissioned Officers (London: Kegan, Paul, Trench, Trubner and Co. Ltd., 1904), p. 80.

[109] "Camp Sanitation," Times (London) 13 November 1900, p. 6.

[110]Great Britain, War Office, Extracts from Reports By Officers Commanding Units in South Africa During 1899-1901 vol. 6 Blankets, Waterproof Sheets, Wire Nippers, Artificer's Tools, Camp Kettles, Entrenching Tools, Tents, Filters. W.O. 108/277 pp.178-205, PRO.

"Army Reform," Blackwood's Magazine 171 (March 1902):420.

[111]Great Britain, War Office, General Staff, Field Service Regulations, Part I Operations (London: Harrison and Sons, 1901), p. 69.

[112]Lovesgrove, p. 26.

[113]Edmonds Papers, Memoirs, The Intelligence Division III, 3, p. 36. Liddell Hart Center.

[114]Royal Engineers Institute, p. 55.

[115]Plumridge, p. 92.

[116]Ibid., p. 93.

[117]Lovesgrove, p. 28.

[118]Frocard, 2: 369.

[119]Lovesgrove, p. 26.

[120]Burdett-Coutts, p. 237.

[121]W. Burdett-Coutts, "Reform of the Army Medical Service," Times (London), 8 October 1901, p. 10.

[122]Briggs, p. 400.

[123]Great Britain, Parliament, Hospital Commission vol. 29, Cmnd. 453, p. 69.

[124]Frocard, 2: 340.

[125]Great Britain, War Office, Abstracts of the Recommendations of Commissions, Committees and Conferences, St. John Brodrick Interdepartmental Committee on the Reorganization of the Army Medical Service vol. 10, Cmnd. 791, no. 469.

[126]Brodrick, Records and Reactions p. 166.

[127]John Forster Hubert, Organization: How Armies Are Formed for War (London: H. Rees Ltd., 1913), p. 105.

Chapter VI

Changes in Equipment

The Boer War marked the transition in military methods from the usages of the nineteenth century to the technologies of the twentieth. British commentators lost no time in identifying the uniqueness of the situation, for, as one put it, "this has been the first war in which all the modern inventions could actually be tested in the field."[1] The most conspicuous changes were not necessarily newer or larger guns, warships or armored trains; what stands out are the changes in the mundane items of soldiering life such as uniforms and personal equipment. Perhaps the most obvious new characteristic of the army in South Africa was the evolution towards uniformity of battlefield attire among all types of troops. Initially all the regulars, with the exception of the Highlanders, wore India-inspired khaki-colored drill field uniforms. That color had been adopted on the basis of its camouflage potential and cheapness of manufacture. This long-delayed innovation had been postponed for decades

because its utility could only be appreciated with the widespread use of smokeless powder. Previously with black powder, rapid fire weaponry had been severely handicapped because smoke covered the battlefield. Under those circumstances a camouflage uniform seemed to be superfluous.

For a short period of time Guards Brigade officers continued to wear white haversacks over their uniforms and the men white helmets but the impracticality of that color choice was soon evident. Khaki colors rapidly became a fixation with the army. Highlanders adopted khaki aprons for wear over their kilts, helmets lost their bright hues, gun barrels were painted and even horses were wiped down in permanganate of potash diluted in water so as to achieve a muddy color.

One of the most distinctive features of British battle dress, the puttee, made its debut in South Africa. These khaki colored strips of cloth worn about the ankle and calf served many purposes. Far cheaper than knee or even half boots, puttees offered the same amount of support with far less blistering and better ventilation.[2] Made of cloth rather than leather, puttees were immune to humidity and stiffening. From the soldier's viewpoint they

were also far easier to keep clean or replace. Ease of cleaning and durability were important to the average soldier since he was held financially responsible for any damage to his uniform or pouches.

The short tie-up shoes worn with puttees proved a mixed success. The ease with which they could be taken on and off was appreciated but the tendency of the clump soles to come apart during campaigning led to their replacement by a hand sewn pair.

As one frustrated officer wrote in the same vein in the prewar days,

> to those exaggerated notions of so called "smartness" we owe the overalls we can not stoop down in, the pill box forage cap which is the laughing stock of all of Europe and a hundred and one other eccentricities of the British full dress uniform, which render it the most unserviceable and unworkable in the world.[3]

Perhaps the most pernicious effect of "smartness" however was the need to discipline men to take cover during prewar training. Having to pay for damaged uniforms discouraged ready use of the ground. Fortunately, financial responsibility for field uniforms was one of the first regulations to be changed by wartime conditions. Durability rather than show steadily became a more

important factor as the months passed and the number of men under arms grew. The "smart" drill cloth gave way to a sturdier serge.

Regarding the rest of the kit, individual soldiers were issued for the first time field dressings complete with waterproof covers and directions. Bayonets continued to be on the longish side with the sheaths now painted brown. In order to enhance camouflage the troops were now forbidden to polish their boots.[4] Wherever possible the pack was lightened, including the adoption of the aluminum canteen first developed in Germany.

The helmet in particular proved a bother as it was heavy and uncomfortable while providing little protection from the sun for the eyes, temple or nape of the neck since it lacked an adequate brim. It was also impossible to use when firing prone or when using field glasses in any posture as the back portion extended sufficiently below the medulla and protruded in such a manner as to dig into the neck when the front was tilted up. As the war progressed and the Boers lost their artillery fire-power an unofficial change in British uniforms took place. "We have all discarded our helmets now; (wrote a soldier) we wear soft felt hats - much better for the sun and also for shooting.

When we shot with our helmets we had to turn them back to front, otherwise we could not see our sights when we were lying down."[5]

The entire panoply of personal kit, pouches, water bottle, haversack, bayonet sheath and sometimes shovel was hung in various manners from the Slade-Wallace harness. A complaining father wrote The Times of London, "across his back and around his waist, he is fitting-always with the help of a comrade-the complexity of 1/4" straps and 1/4 pound buckles which he must wear because Wellington's soldiers wore them."[6] The many ills of this system were obvious. Sir Howard Vincent wrote, "you cannot fasten a soldier's body about with straps and impediments which a comrade must fix. You cannot give him equipment depending upon counterpoise-pouches that have to be kept in place by the counter-weight of the great coat."[7]

The method of carrying ammunition loosely in a pouch had given rise to this problem. The harness was defective as the weight of a valise (old fashioned pack) and rolled greatcoat positioned on the back would draw-upward on any less than full ammunition pouches. The pouches themselves tended to empty at a prodigious rate as the flaps were not always kept closed in battle or on the march. The British

lost so many cartridges from these pouches that they were occasionally able to stage successful ambushes around their old camp sites where the Boers had come to salvage ammunition.[8] The Canadians and Boers used American looped cartridge belts which were far less wasteful even if slightly more expensive to manufacture. By the later stages of the war these belts began to find their way into the hands of the British as well.

Medical authorities pointed out that the tight belts worn over battle dress led to more instances of heat exhaustion for lack of air circulation.[9] By the end of the war soldiers were wearing looser fitting wool blouses lined with flannel containing four large pockets. It was an old military adage that outer garment add-ons were the first to be thrown away or lost. Neckerchiefs also replaced stiff military collars in a further effort to make combat attire more comfortable.[10]

Throughout the war there existed near unanimous condemnation of the valise for being too heavy and cumbersome. Thus in campaign it had often been left behind, depriving the soldier of some of its more useful contents such as a spare shirt or extra ration.[11] The large bulk of blankets and coats when taken into the field

was both awkward and dangerous due to the size of the silhouette it created.[12]

In discussing the question of whether the great coat, blanket, and newly introduced waterproof sheet were to be carried by the individual or the battalion transport expense always weighed as a consideration as additional transport and drivers increased the entire cost of operations. All of the gear mentioned totaled 17,900 lbs. for a battalion, or enough for eight General Service wagons with sixteen drivers and thirty-two horses. For an entire corps this meant the additional expense of two hundred wagons, four hundred drivers and eight hundred horses.[13] Even the removal of shovels from the individual trooper and the allocation of them to wagons was a major decision. How much simpler and safer from the soldier's point of view things would have been if an earlier effort had been made to redesign the unwieldy regulation shovel.[14]

One further characteristic of uniform change was the gradual homogenization of styles and nowhere was this more obvious than in its effect on the unique Highlander garb. In the early battles such as at Elandslaagte the Gordon Highlanders still wore their traditional black and white

sporans on green kilts and the officers carried their large claymores. Boer marksmanship soon made the danger of those traditional accoutrements all too evident. The ninety-degree temperature at the Modder river further proved the inadequacy of heavy woolen homespun as a year round uniform. By the battle of Magersfontein, khaki aprons were worn atop the kilts, sporans and claymores were left behind and gleaming buttons deliberately tarnished. In the aftermath of that catastrophe the Scots could not march because of the sun blisters on the back of their legs suffered while being pinned down for most of the day. The next item to be discarded was the helmet since the Highlanders, like so many others, adopted the slouch hat, leading one pundit to remark, "Boer above and bare below."[15] The kilt itself was last worn in battle at Paardeburg.

To have an entire army outfitted in the same manner had advantages aside from ease of supply and economy. Cronje's four thousand men were held at Koedesberg Drift for a day by one thousand cavalry thought to be infantry.[16] On the other hand, the steady merger in dress styles between Boer and Briton led to even more confusion. The Boer night attack at Wilmansprut was

successful in part because of such dress similarity that the soldiers failed to perceive their danger.[17] In the later stages of the war it was claimed that the only way to tell a friendly from an unfriendly Boer was by noting whether or not he had shaved his beard as both sides wore near identical garb, a mixture of traditional Boer and British military styles.

The change in dress was not necessarily appreciated throughout the army. When an army order in January 1902 officially abolished the kilt for all but ceremonial parade and walking out, the Scots protested. Arguments in favor of the kilt ranged from the dire effects on morale if withdrawn, to the theoretical benefits of thick cloth about the abdomen as a statistically borne out protection against stomach trouble.[18] Interestingly, Sir Hector MacDonald, the commander of the Highland Brigade, had first suggested the abolition of the kilt in battle.[19]

The full impact of the war on dress codes was manifested through the report of the Vetch Committee on Clothing of Soldiers in Peace and War. Chief among its recommendations were less alteration in styles of uniform between grades (this was seen as both cheaper and at times safer), simpler and less expensive mess dress, the

institution of a single pattern of greatcoat for cavalry, artillery, engineers, line and staff, and finally the replacement of gold overlays with cheaper and more inconspicuous steel.[20] With the decline in uniform distinctions one of the most obvious supports of regimental snobbery and chauvinism came to rest. The trend of things to come had roots in an army order dated May 1901 which stated that "full dress and mess dress are not to be taken" on campaign.[21] A more utilitarian, less class-conscious army was on the rise and one of its first indications may well have been in the revised uniform codes.

Regarding the matter of officer dress on the battlefield, there was an increased emphasis on full uniformity, as any marked distinction from the other ranks was sure to attract concentrated Boer fire. It took but a few engagements before orders were issued forbidding the wearing of swords in battle.[22] By the time of Belmont, officers were dressing like their men, deliberately dulling their buttons, doffing swords, sullying boots and acquiring rifles.[23] Methuen was quick to abolish the rulebook and spit and polish. He wrote, "I look like a second class conductor in a khaki coat with no mark of rank on it and a

Boer hat and in Norwegian slippers."[24] The reasons for these changes, which also made daily shaving no longer obligatory, became clear in a telegram to Queen Victoria from Roberts,

> it would amuse your Majesty to see the officers in their new costume. They wear belts with pouches and carry rifles slung over their shoulders and but for the gallant way in which they come to the front whenever the danger is greatest it must puzzle the Boers to distinguish them from the men.[25]

One essential piece of equipment that was carried by men of all ranks and in virtually all services was the rifle. This weapon underwent substantial change as a result of new more potent powders and improved bullet design, that made possible higher velocities. Small caliber jacketed bullets allowed for more precise shooting at ever increasing ranges. Not every one appreciated the full effect of these technical advantages. The British, for instance, were slow to adopt new rifle sights and to introduce shooting at longer ranges in training.[26] For some time there was concern that foes hit with small caliber bullets would survive cleaner and smaller wounds.[27]

British entry into the new order of ballistics may be

dated from the development of cordite in 1889 which was first used in the Mark I cartridge of 1891. Aside from being more powerful than its precursors this new explosive proved to be less susceptible to the fouling of barrels but a bit more corrosive. It was similar to the other new powders, melnite, dynamite, etc., smokeless and quite stable. The first British rifle to be developed for the new ammunition was the Lee-Enfield of 1895. Unfortunately the new rounds were now so powerful and long-ranged that most traditional target areas by their very nature became obsolete. Rather than engage in an expensive process of land acquisition and the rebuilding of target ranges the government opted for the development of a special practice round with a smaller charge.[28] The dubious advantage of this innovation can well be imagined.

As often happens when there is no emergency, new equipment takes a considerable amount of time to reach those for whom it is intended. Many of the initial consignments of Lee-Enfields in 1898 went to the Indian Army as the service most likely to see active duty. When the expeditionary force arrived in South Africa from the home islands it was still armed with old style arms such as Lee-Metfords and Martini-Henrys.

The Boer's prowess with his rifle is near legendary and his Spanish model Mauser was far superior to the Lee-Metfords with which the vast majority of newly arrived British troops were armed.

Baille-Grohman's study of contemporary infantry weaponry dramatically expressed the degree of disparity among standard issue rifles. Of the Lee-Metford he wrote,

> it has the lowest muzzle velocity,worst trajectory, least penetration, by a long way, the slowest rate of fire once the magazine is emptied, weakest breech bolt, least rigid woodwork, worst trigger pull, and worst sights even when they are properly aligned. It is the heaviest rifle, and its ammunition shows the same defect.[29]

These conclusions were drawn in a comparison of the Lee-Metford, Mannlicher, Lee Straight-Pull and the German and Spanish Mauser. The higher velocity of the Spanish Mauser gave it more accuracy and superior stopping power. In addition, it could be clip reloaded while the Lee-Metford had to be singly reloaded once the initial clip had been fired. The Lee-Metford was inferior to its predecessor, the Martini-Henry, in stopping power. This shortcoming was at first compensated for by the use of expanding dum-dum bullets, despite their prohibition by the St. Petersburg convention of 1868.

In time, the supply of Lee-Enfields caught up with the army's demand and feedback on its qualities began to surface. Unlike the Mauser it was not continuously magazine loaded, that is to say, once the initial clip was expended, it had to be fired as a single shot piece. All additional rounds were kept loosely in a pouch rather than in clips. The rationale for this unusual arrangement according to one expert was that,

> if men, after discharging eight or ten rounds, had been unable to check an enemy's advance, their morale would be so impaired that it would make no difference to them whether they could put in a clip of eight cartridges or whether they had to load them one at a time.[30]

Rapid magazine fire was from the British point of view only for emergency. The emphasis was to be on single aimed shots.[31] Firing single shot the Lee-Enfield was capable of twelve shots a minute and with an open magazine ten shots in thirty seconds. Its sights could be set for up to a mile and a half.[32] Ballistic tests showed the Lee-Enfield to be one of the best rifle of its day.[33] Aside from the question of rapid fire the advantages of the Spanish Mauser lay in the greater sturdiness of its internal magazine (although harder to clean) and the smoother action of its bolt mechanism which enhanced the

effectiveness of continuous aimed fire.[34]

Perhaps the greatest failing of the Lee-Enfield was not that of the rifle itself but of its sights. Twenty-five thousand of the earliest models were sent to South Africa with the sighting apparatus of the Lee-Metford causing them to fire off by eighteen inches at five hundred yards.[35] This meant that by aiming exact center at ranges over two hundred yards a man-sized target would be missed. It was not until mid-war that it was discovered that sixty-five thousand Lee-Enfields with the troops and two hundred thousand in ordnance shores had defective sights. This inadequacy was explained in terms of designing sights to conform to a testing machine rather than range conditions; clearly the two were often incompatible.[36]

The use of the dum-dum (Mark IV) rounds was another problem. They were originally developed to enhance the stopping power of the Lee-Metford rifle, and it was felt that such cartridges could be useful against the natives especially the Pathans of Northwest India. Because of their supposed utility against savage foes the British and Americans refused to sign the Hague convention which had reaffirmed portions of the St. Petersburg accords.[37]

It was understood that such weapons were not for use against white men for whom other ammunition had been developed. Over the course of the war however several instances of the use of dum-dums were recorded on both sides. On one occasion when a British officer was apprehended he admitted, "I was distressed at my mistake, but there is not a great deal of difference between killing a man with an explosive shell, and smashing him with a lyddite (artillery) shell, although I would not knowingly have used this type of ammo."[38] Nonetheless the Boers, upon capturing Dundee, discovered five-hundred thousand rounds of this ammunition with the distinctive arrowhead trademark of the Woolwich arsenal along with significant other stocks at Glencoe.[39] Not surprisingly charge and countercharge of dum-dum use flew about in the aftermath of Elandslaagte and Nicholsons Nek. The British never made an official admission about its use.

Sir Henry Brackenbury testified before the Elgin Committee that, "The reason why we did not use the expanding bullet in South Africa was not the Hague Convention, however, but because the Mark IV ammunition had proved unfit to be used in war.[40] The soft lead of the bullets caused too much fouling of rifle barrels and the

new harder more accurate "S" type round later became the standard.

A further problem with small arms arose in the cavalry. Armed with only a carbine this branch was at a decided disadvantage when engaged in a firefight with the Boers. The Boer rifles shot nearly 3,000 yards or three times as far as the carbine. Regarding accuracy, rate of fire and durability the carbine was also markedly inferior. The only alternative in the short term, the Lee-Enfield, proved unpopular with cavalry troopers because of its large size and awkwardness of use on horseback. It would take several years of postwar development to solve this problem.

Experimentation in all aspects of war fighting went on in the British army once it had become engaged in South Africa. This was a time in which the abundance of inventions and new materials so appealed to British pragmatism that they could not but be tempted to harness the bounty of the new industrial society to the persistent problems of warfare.

With the expanses of land and sea to be considered in the South African War it was logical for the British to be concerned with the development of improved means of transportation. According to some contemporaries it was

felt that, "among the questions likely to be settled by the present war is the use of cyclists in the field."[41] Both sides realized the potential of bicyclists as the Boers distributed a company of cyclists among their generals and the British culled units from the City of London Imperial Volunteers, the Rand Rifles and the Cape Cycle Corps and retrained two full battalions of the Royal Dublin Fusiliers.42

From the Boer perspective the cyclist proved of little use due to the Burgher's ready access to horses, especially once Boer control of the road network was lost. For the British, with limited numbers of horses and increasing need for mobility, the advantages of cyclists were apparent as the steady rise in their numbers would indicate. Small actions such as Earste Fabrieken in May 1901 when eleven British cyclists fought a running battle with ten mounted Boers that resulted in the capture of nine of the horsemen, indicated the sort of mobility potentially available.[43] For scouting purposes a bicycle was also useful due to the ease with which it could be hidden or even buried in flat terrain. Scout Callister of the Cape Cycle Corps could ride one hundred and twenty miles carrying pigeons to a good vantage point and lay hidden for

some days reporting Boer movements.[44]

The lessons of war time bicycling were quickly incorporated into current thinking. The advantage of two gears in rough or relatively roadless terrain such as South Africa was understood. Experience showed that with one gear rates of only 2 1/2 m.p.h. were sometimes the norm.[45] In Europe where most battles are fought at road junctions the prospects for bicycles seemed even brighter. It was understood that bicyclists could in fact make more frequent and longer forced marches than horses.[46] Roberts was himself a great advocate of the bicycle on the basis of its range and cheapness and kept a file on the subject indicating that trained cyclists could travel 140 miles in two days if necessary and under proper conditions.[47]

Regarding cartage and portage only some minor modifications were available for wagons and pack mules, as these means of transport had been the subject of study for some centuries. A new water cart, with two separate tanks, more taps, a different weight distribution and stronger construction was one positive development especially as the number of such vehicles available was now to be dramatically increased.[48] An important contribution

was made by Major J. T. Johnson, who not only was responsible for the long overdue suggestion that a wagon with interchangeable parts be developed, but also invented a new mule harness that was purchased by the army.[49] The problem of wounded cavalrymen was solved with the adoption of a light prairie wagon introduced by the Canadians and capable of holding four in a recumbent position or twelve sitting. This vehicle was a vast improvement on the Indian Tongas which while capable of keeping up with the cavalry, had proved too small, and inadequate in rough terrain.[50] It was in developments such as these that one can see the cross-fertilization of technologies brought about by the South African War.

In one field of technology, that of traction engines it was the British alone who had any success. The Steam Traction Company of the Royal Engineers had only been founded on November 1, 1899 just in time to be available for the war.

The steam traction engines weighed fifteen tons each and theoretically could travel thirty to forty miles per day hauling forty tons. The water tanks on board needed refilling every seventeen miles so that movement was discontinuous. In comparison it would have taken five

hundred and sixty mules plus attendant drivers and wagons three days to accomplish the same task due to the necessary grazing and in and outspanning of the animals.[51]

Major Crompton in a study of the relative efficiencies of the engines and oxen, felt one of the former's greatest advantages was the shortening of transportation columns. In a test case moving one hundred tons of supplies fifty miles, 169 wagons and 2,360 oxen were required. One hundred and twenty-seven tons of fodder had to be carried for the column that stretched 5,910 yards and took six days to reach its destination. It took fourteen engines hauling an additional fourteen tons of fuel four days to make the same trip and the column was only 410 yards long. Not only could the engines be made bulletproof but, because of the shorter column, they were easier to protect,[52] If a vehicle ran out of fuel or malfunctioned it could be left behind and perhaps retrieved at a later date while with an animal any illnesses would only lead to its death. During an emergency such as the cattle plague of 1901 the traction engines could maintain supply distribution in face of the diminished numbers of oxen.

On the road the tractors moved at eight m.p.h. and

Bennet Burleigh, the famed journalist, noted how, "they leisurely descend into spruits (beds of streams), roll, across, and wheel up stiff climbs like flies walking up a wall. They are not quite helpless, even when the ground has been soaked by rain."[53] Under muddy conditions Burleigh felt that one engine was the equal of eighty oxen.[54]

At steep inclines a tractor could pull itself out by means of cable and a strong anchor since its engine could be directly attached to a winch. The tremendous power and adaptability of these machines was especially welcomed by the artillerists. Major G. E. Wood wrote, "it is clear from what has been done here in getting six inch guns on to high kopjes that, given ordinarily favorable soil, there is an opening for this form of transport within the limits prescribed by water and coal supply."[55]

In a final effort to keep up with the ever mobile Boer, the British army began to use a few dozen automobiles often fitted with special searchlights as an aid to night pursuit.[56] Such early experiments were plagued by the start up problems of a new technology. Automobiles took three to six months to build, frequently had insufficient power and difficulty on rough terrain, and integrally

required fuel support in out of the way locales.[57] Nonetheless a hard core of enthusiasts pushed their case before the Mechanical Transport Committee set up in mid 1900 after the successful London to Edinburgh race.

The War Office mechanical transport trials up through 1902 continued to find in favor of steam traction engines over lorries but, as The Times of London quoted,

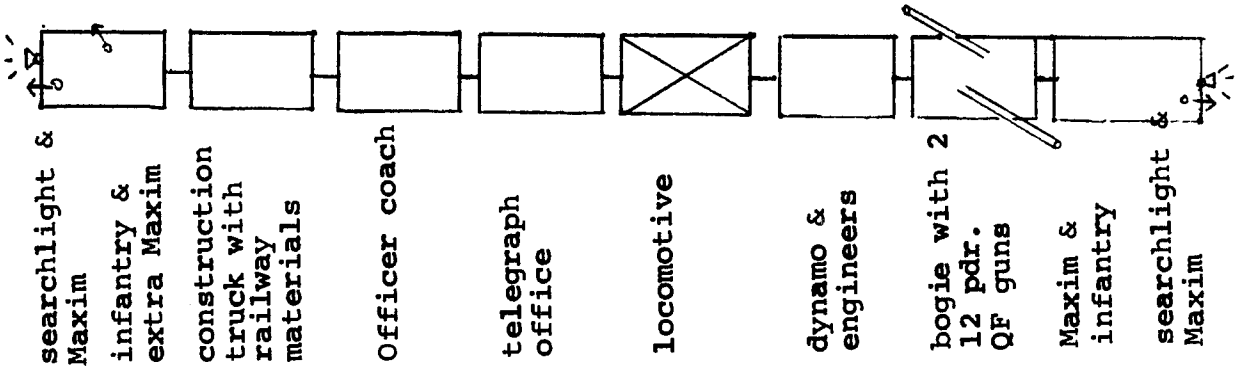
> the Committee would, however desire to call attention to the great possibilities for military purposes of the internal combustion lorry burning heavy oil, as shown by the small combustion of fuel and practical independence of water of the one which we tried.[58]

The automobile had begun to make an impression on other armies. The French army's large-scale use of automobiles in its 1901 maneuvers probably set as important an example as the information arriving from South Africa.[59] The revolutionary impact of this vehicle on warfare would soon be felt. One of its first victims proved to be the past master of mounted warfare, Christian De Wet, who was pinned against the Kalahari desert with exhausted horses by British motor cars in the abortive 1914 Boer rebellion.

Another product of industrial society that saw extensive use and development in South Africa was the

armored train. Considering the vast expanse of land and the thousands of miles of railroad tracks to be patrolled the armored trains seemed a logical solution. The specific duties of these vehicles included acting in conjunction with columns at the terminus of sweeps, acting on the flank of columns to prevent breakouts, reinforcing stations, escorting trains, reconnoitering with mounted troops and patrolling by day and night.60

Typical Late Period Armored Train



Trains such as that shown above, when fully manned, had a crew of fifty. The two twelve-pounders had a combined firing radius of two hundred and seventy degrees.[61] Earlier models were not very sophisticated. The rope armor hung around the early engines gave way to

steel plating on later models.[62] The open top trucks with six foot highwalls gave way to lower walls with overhead protection and reinforced doorways as the initial type proved vulnerable in hilly terrain and very difficult from which to detrain under combat conditions. Perhaps the most modern armored train in service was the one operated by the first Sussex Artillery Volunteers. It had a highly protected engine, several field guns transversed by machinery, special recoil devices and clamps for the attachment of the trucks to the rails to provide greater stability. This train was specially constructed to work in conjunction with cavalry.[63]

On the whole the British seemed enthusiastic for armored trains since they deployed twenty of them. Later models were both upgunned from Maxims to twelve-pounders and up-armored. The Royal Engineers in particular noted the progress made with regard to artillery handling, ammunition storage, rear fire protection and recoil.[64] Critics on the other hand claimed that the trains were vulnerable to being isolated and subject to concentrated attack as was the case with Churchill's celebrated capture. Armored trains were useless by themselves having neither the ability to maneuver or give chase cross country. In

order to be effective they required a considerable escort of mounted troops and scouts. From a certain perspective the trains seemed to serve as the last refuge of the twelve pounders that could not possibly keep up with the cavalry under other circumstances.

The armored trains in many ways may be seen as a weapon suitable only to the unique circumstance of the later Boer War. In the earlier stages when the Boers still had artillery, such a vehicle may well have been an easy target. It was only when the Boers had lost their artillery support that the trains were able to roam with some degree of freedom. Even then however scouts would be required to check for mines and possible rock slides.

Freedom of an entirely different sort was won by the British early in the war with the deployment of observation balloons. Although they had been in use for over one-hundred years these devices were still in search of a proper military role. The most obvious task afforded was that of spotting for the rest of the army and on occasion they did this quite well. At Magersfontein a balloon was able to locate the Boer horses and direct howitzer fire upon them; at Lombards Kop it served much the same purpose and at Paardeburg four ammunition wagons were picked out

and blown up as a result of balloonists' information.[65]

A more innovative use of the balloon was made at the battle of Farquhar's Farm when a balloon was attached to a train and thus able to keep up with the army as it advanced along the rail line.[66] Some experts felt that balloons could be more useful in South Africa than in England because of its clearer atmosphere and less encumbered terrain which could hinder balloon movement.[67] Indeed, the very clearness of the air allowed for an additional use of the balloon in communication. At the greater heights attained by a balloon a heliograph could broadcast messages over intervening objects or enemy forces such as during the Ladysmith siege.

One of the most frequent problems associated with balloons was that of communicating with the troops below. At heights of over five or six hundred feet the simple expedient of yelling proved ineffective. Due to the long ranges of weaponry and the wide expanses of some of the battlefields greater heights were required which in turn meant longer delays between observation, reporting and proper reaction. At the battle of Magersfontein a fifteen hundred yard gap in the Boer line was both reported and noted as filled before the British could take advantage of

the situation.[68] During the Ladysmith siege a more effective operation was worked out by means of running a telephone wire to the balloon. In this manner the balloonists were able to sight for the artillery, prevent surprise attacks, and pick the time and place for sorties.[69]

Weather was another constant limit set on balloon use especially during Methuen's early advance when the winds were strong. Weather problems had led to a greater expenditure of hydrogen gas than anticipated and an urgent request for more canisters had to be processed through England.[70] The fragility of the balloons was also recognized by their strongest proponents.[71] The Boers had early on feared that the British would use them as bombers.[72] The British had indeed run experiments along those lines with the dropping of dynamite but concerned for both the vulnerability of the balloon and the nature of combustible materials on board, they decided against such a tactic.[73]

Limited as balloons proved to be over most of the war there seemed in the postwar period little argument against cutting the balloon factory's budget by fifty percent.

Communication was perhaps one of the most consistent

problems encountered in a swift moving war being fought thousands of miles from Great Britain over such a large territory. For communication with Europe the oceanic cables sufficed but within South Africa other measures were necessary to keep headquarters in contact with the far flung combat units and outposts. Signal flags were of little use having a range of only eight kilometers and a transfer rate of eight words per minute. Much preferred was the heliograph with a range of over forty miles on clear terrain and a speed of twelve words per minute. Heliographs also had the advantage of being undetectable if not in a direct line of sight.

The major problems with this system were its dependence on intermediaries for signal transfer in a hostile country and its need for sunlight. The necessity of numerous relay points pointed to the problem General Hilyard addressed in stating that, "Signaling has been an important matter during the war, and we have at times been sadly upset by not having sufficient equipment."[74] What he might have added was a need for mounted signalers as well who could keep up with the various scouts, officers and columns.

Local battlefield communication presented special

difficulties. There could be no doubt that the British army had fallen behind in field communication in the light of the increased range of weaponry. The prewar abolition of the autonomous signal corps had left each battalion with only a small flag and heliograph section. Both methods were relatively slow and daylight-bound for getting a message across a heated battlefield.[75] Poor communications could only lead to poor coordination. That alone serves to explain the stymying of General Pole Carew's flank attack at the Modder river by his own artillery.

By the end of the war the only real improvement in inter-battalion communication was the replacement of flags with arc lamps which allowed for signaling at night and under certain kinds of inclement weather.[76] For static situations the British for the first time deployed field telephones. Telephone wires were laid from spools attached to the rear of bicycles which made them easy enough to lay down. The problem with the system was the vulnerability of the line to being tapped or cut. In battle situations the dependence on a tenuous wire for crucial information seemed dangerous even if one succeeded in hearing the message over the crude field telephone gear.

Yet another means of communication that saw important wartime use for the first time was the Marconi wireless. It was most vital in communicating with ships at sea and nearly led to the capture of President Kruger amidst his flight to the Netherlands.[77] On land the radio proved less successful due to the large amount of heavy equipment involved. The only real advance was the development of large kites useful in gaining height for the antennae.

Flares and searchlights could on occasion also be used to signal information. Jury-rigged flares made of rags, tow and petroleum products were popular along the blockhouse lines that eventually spread across the country. Searchlights demonstrated their usefulness during the siege of Ladysmith where they proved a most effective means for signaling Buller's army. The Penrose Committee on Searchlights of 1907 reported favorably on their military usefulness. Searchlights were deemed particularly helpful in reconnaissance, night attack (they could be bounced off of cloud cover to light a whole area), prevention of enemy withdrawals, signaling, and as a general aid to the defense. Many of these roles were explored during the Boer War despite the severe shortage of equipment and trained personnel.[79]

While searchlights were for a time dubbed "Rhodes Eyes" because of their role in the Kimberly siege, the real eyes of the army rested on an all too inadequate number of inferior telescopes and binoculars. Wartime experience clearly showed the need for better equipment for reconnaissance, communication and ranging.[80]

Never before had generals seen so much of the battlefield and yet been so aware of wanting to see more. The same may in a sense be said of the general public. Hundreds of correspondents representing all of the worlds great newspapers had representatives in the field. Men such as Bennet Burleigh of The Daily Telegraph, Winston Churchill of The Morning Post, Edgar Wallace of The Daily Mail, Col. Arthur Pollack of The Times of London and many more served the public with daily reports but still they clamored for more. Into this void stepped W. K. L. Dickson whose Biograph Cinema team took some of the very first authentic war movies. These films were popular at the time although by modern standards rather dark, dull and streaky.[81] Yet in looking at those films eighty years later one cannot help but be impressed by a newsreel that so graphically shows us that war had indeed entered the industrial age.

[1] "American Obaervation in South Africa" ANJ 37 (3 March 1900): 634.

[2]Von Heftenn, "Experiences of the English in the South African War as Regards Clothing and Equipment" trans. Jacob F. Kreps from Quarterly of the German Great General Staff in Selected Translations Pertaining to the Boer War April 1, 1905 U.S. General Staff 2d Division (Military Information) (Washington: Government Printing Office, 1905), pp.52-59.

[3]Another Officer, "Letter" Times (London) 13 October 1900, p. 4.

[4]Ralph, Toward Pretoria, p. 120

[5]Yeomans Father "Helmets vs. Felt Hats in Warfare" Times (London) 10 April 1901, p. 13.

[6]Ralph, An American with Lord Roberts, p. 41.

[7]Vincent, "Lessons of the War", p. 634.

[8]Cecil Francis Romer and A.E. Mainwaring, The Second Battalion, Royal Dublin Fusiliers in the South African War With a Description of the Operation in the Aden Hinterland (London: A.L. Humphreys, 1908), p. 184.

[9]C. J. McCartier article in The Indian Medical Gazette as reprinted in ANJ 37 (20 January 1900):474.

[10]Von Hefton, in Selected Translations, pp.57-58.

[11]Great Britain, War Office, Extracts From Reports By Officers Commanding Units in South Africa During 1899-1901, Subjects: Valise Equipment, Ammunition Pouches, Bandoliers, Whether Bandoliers or Ammunition Pouches are Preferred, Whether Web or Leather Bandoliers are Best, Water Bottles, Rifle or Carbine Slings, Method of Carrying Clothing or Equipment, Amount of Ammunition carrried on Man or Elsewhere, Regimental Transport vol. 3, W.O. 108/274 p. 1. PRO

[12]Hector Macdonald to Kitchener, 29 January 1900. Boer War Telegrams, Kitchener Papers, P.R.O. 30/57 no. 17, p. 2.

[13]P. Lake A. Q. M. G., Minutes on Kit to be Carried by a Soldier in War, 22 October 1902, W.O. 32/2661 p. 2. PRO.

[14]Alan R. I. Hiley and John A. Hassell, The Mobile Boer; Being the Record of the Observations of Two Burgher Officers (N.Y.: The Grafton Press, 1902), p.266.

[15]Farwell, p. 374.

[16]Von Heften, in Selected Translations, p. 54.

[17]Wilson, With the Flag to Pretoria, 2:594.

[18] "Abolition of the Kilt" Times (London) 11 April 1902, p. 4.

[19]Hector Macdonald to Kitchener 29 January 1900, Boer War Telegrams, Kitchener Papers, P.R.O. 30/57 no. 17, p. 1.

[20]Great Britain, War Office, Abstracts of Commissions 1901 series no. 477, p. 1.

[21]Great Britain, War Office, List of Articles to be Taken on Active Service, May 1901 W.O. 32/6310. PRO

[22]Ram, p. 161

[23]Ralph, Toward Pretoria, p. 133.

[24]Pemberton, p. 40.

[25]Roberts to the Queen, 15 March 1900, Roberts Papers, 7101-23-110 no. 241. NAM.

[26]Ram, p. 53.

[27]Gilbert, p. 533.

[28]E. G. B. Reynolds, The Lee-Enfield Rifle (N.Y.: Arco Publishing Co., 1962), p. 48.

[29]W. A. Baille-Grohman, "The Cause of Our Defeats: The Service Rifle", Fortnightly Review, 78 (March 1900), p. 381.

The Spanish Mauser was undoubtedly the best military rifle of its day, as this chart helps to show:

NAME	LEE-METFORD	GERMAN MAUSER	SPANISH MAUSER
Bore in inches	.303	.311	.276
Weight Rifle Pounds	9.25	8.40	8.60
Weight Loaded Cartridge Grams	436.7	425.0	398.0
Weight Bullet Grams	215	226	245
Muzzle Velocity Feet Per Second	2,000	2,050	2,300
Pressure Pounds Per Square Inch	41,674	47,000	51,000

Ibid., p. 376.

[30]Reynolds, p. 52.

[31]Ralph, An American with Lord Roberts, p. 46 and

C. B. Maynee, The Infantry Weapon and Its Use in War, (London: Smith Elder and Co., 1903), p.139

[32]Ubique [Frederick Gordon Guggisberg], Modern Warfare, or How Our Soldiers Fight (London: Thomas Nelson and Sons, 1903), p. 18.

[33]Figures of merit at set distances for modern rifles.

RIFLE	Calibre	500 yds.	1,000 yds.	1,500 yds.
Lee-Enfield	.303	.32	1.34	2.22
German Mauser	.311	.77	1.52	4.02
Belgian Mauser	.276	.89	2.48	5.89
French Label	.315	.58	1.29	3.42
Italian Mannlicher	.256	.73	2.04	3.04
Krag Jorgensen	.300	.41	-	-

A figure of merit is the average distance in inches from the center of the target; thus the lower the better.

Director of Artillery, "The Short Lee-Enfield Rifle Mark I" JRUSI 48 (June 1904):70.

[34]Lord Donoghmore, Hansard 4th series, 134 (13 May 1904), p. 128.
Hector-Macdonald to Kitchener, 29 January 1900 Boer War Telegrams, Kitchener Papers, P.R.O. 30/57 no. 17 p. 2.

[35]George Taubman-Goldie testimony, Elgin Report, vol. 40, p. 86.

[36]Reynolds, pp. 55, 62.

[37]Arthur Conan Doyle, The War in South Africa, Its Cause and Conduct, (N.Y.: McClure, Phillips and Co., 1902), p. 109.

[38]Denneys Reitz, Commando: a Boer Journal of the Boer War, preface by J.C. Smuts (London: Faber and Faber, 1935), p. 136

[39]Hiley, pp. 22-23
Dejardin, p. 47.

[40]Sir Henry Brackenbury testimony, Elgin Report, 40, p. 74.

[41] Transvaal War Album; The British Forces in South Africa., p. 98 as quoted in D.R. Maree,

"Bicycles in The Anglo-Boer War of 1899-1902" Military Historical Journal (Kryshistoriese Tydskrif) (June 1977):15.

[42]Villebois, 18 January 1900, p.145.
Maree, p. 15

[43]Wilson, After Pretoria, 1:447.

[44]B.A.H. Parritt, The Intelligences, pp. 210-11 as quoted in Maree, p. 16.

[45] "Military Cyclists and Two Speed Gears" Times (London) 13 April 1901, p. 8.

[46]Grant, pp. 96-98.

[47]Lord Esher to Roberts 1 January 1910 and unsigned letter to Roberts 13 September 1903, Roberts Papers, 7101-23-223-1. NAM.

[48]Great Britain, War Office, Extracts From Reports By Officers Commanding Units in South Africa During 1899-1901, Subjects: Water Carts; Scotch Carts; Maltese Carts; South African Ammunition Carts and Wagon, Ambulance; Wagon, General Service; Wagon (Ox, Mule, Buck and Bristol) vol. 5 W.O. 108/276 pp. 3-25. PRO

[49] Report on Transport 1 July 1900 pp. 4-7 as quoted in South African War Diary "Cavalry Division vol. 3, 14 March 1900- 16 July 1900, Haig Papers, Acc. 3155 No. 35 p. 330. NLS

[50] "Disposal of the Wounded of Cavalry" Times (London), 6 January 1904, p. 5.

[51] "Items from South Africa" 37 ANJ (24 February 1900):609.

[52]Musgrave, pp. 291-92.
Another study showed the true cost effectiveness of the tractors on a trial run from Boshof to Kimberly. Two engines hauling three trucks each (one of which carried fuel) could make the round trip in three days. This

entailed the transport of twenty-five tons and cost the government £36 including fuel, manpower, and amortized cost of vehicle. Twelve oxen wagons did the job in six days at a load cost of £162.

Great Britain, War Office, Supplementary Report on Steam Road Transport Signed Capt. G. P. Scholfield 2 September 1900 W.O. 108/247 pp. 4-5 P.R.O.

It should be noted that experiments were done with a number of different engines propelled by coal, steam, coke and oil with varied results. The most effective on the basis of price and reliability was oil although steam engines were most common during the war.

Our Correspondent, Untitled, Times (London), 5 December 1901, p. 6.

[53]Bennet Burleigh, The Natal Campaign 2ed. (London: Chapman and Hall, 1900), p. 240.

[54]Ibid., p. 281.

[55]Major General Elliott Wood, Engineer in Chief, Steam Transport for Heavy Guns, 6 August 1900 W.O. 108/249 p. 2. PRO

[56]Elgin Report, 40, p. 101.

[57]Aetegal, "Letter" Times (London), 5 January 1900, p. 15.

[58]Great Britain, Parliament, Report of the Trials of Self-Propelled Lorries for Military Purposes at Aldershot from 4th to 9th December 1901, 48, Cmnd. 991 p. 7.

[59]Fritz Morris, "Modern Maneuvers in The French Army," Cosmopolitan 30 (Feburary 1901):342.

[60]Royal Engineers Institute, 1:248.

[61]Special Correspondent, "With the Armoured Trains" Times (London), 29 June 1901, p. 14.

[62]Roger Raoul-Duval, Au Transvaal et dans le Sud-Africain avec les attachés militaires (Paris:

Libraire Ch. Delagrave, 1902), p. 75.
Royal Engineers Institute, p. 75.

[63]George Ethelbert Walsh, "War Mechanism in South Africa," Cassier's Magazine March 1900, p. 359.

[64]Royal Engineeers Institute, p. 243.

[65]Sir Charles Waton, The History of the Corps of Royal Engineers reprint 1954 (Chatham: Institution of the Royal Engineers, 1914), 3:85.
U.S. War Deparment, Slocum Report, no. 2 p. 35.

66 "Armoured Trains in South Africa," Scientific American Supplement 49 (20 January 1900): 20112.

67 "South African Items," ANJ 36 (12 December 1899): 325.

[68]Maurice, History of the War, 1:328-29.

[69]Walsh, p.362.

[70]Great Britain, War Office, Special Report on Organization and Equipment of the Engineer Arm in South Africa (London: Eyre and Spottiswood, 1900), W.O. 108/246 p. 31. PRO.

[71]G. Blanchet, "Le Ballons à la guerre du Transvaal," L'aerophile annee 7 7 (1899) p. 140.

[72]Henry May, p. 37.

[73]Icarus, "Letter" Times (London), 5 October 1899, p. 5.

[74]Great Britain, War Office, Extracts From Reports by Officers Commanding Units in South Africa During 1899-1901, Subject Signalling Equipment, Telescopes, Binoculars vol. 7 W.O. 108/278. PRO.

[75]Esher, War Commission Report to King Edward, p. 74.

[76] "Etwas über der signal dienst besonders den der Englischen Armee," Militär-Wochenblatt 85 (4 July 1900):1462.

[77]Briggs, p. 206.

[78]R. M. Holden, "The Blockhouse System in South Africa," JRUSI 46 (April 1902):487.

[79]The entire force of electrical engineers available consisted of five officers and forty-seven enlisted men.
E. G. Crompton, "The Electrical Engineers, Royal Engineers in South Africa," Electrician 46 (28 December 1900):437.

[80]Great Britain, War Office, Extracts Subject: Signalling, pp. 27-78.

[81]Robert Money Barnes, A History of the Regiments and Uniforms of the British Army (London: Sphere Books Ltd., 1972), p. 148.

Chapter VII

Elements of Victory, Part One: Infantry

Over the course of the war every branch of the British army, along with most aspects of British military usage, experienced some degree of change; nowhere was this more evident than in tactics. For the infantry, the foremost consideration was the enormous increase in firepower. Proper maneuvering and deployment which could lead to initial superiority of position or psychological advantage became even more important than in ages past. Concentrated rapid fire had become so devastating that it was nearly impossible to rectify any initial errors once battle had been joined without suffering serious casualties. Battles were now resolved at an uneven pace. A few minutes at a major tactical disadvantage could prove more decisive than hours of marginal superiority. At Magersfontein seven hundred men were lost in the first five minutes while through the rest of the day barely three hundred men were lost to a combination of riflery, artillery and machine guns. Captain Jonkheer Ram, the

official Dutch observer wrote,

> it appears that the greater part of the loss was sustained by the Highland Brigade, who came first into action and that it was sustained during the first few minutes. That these troops were demoralized is no cause for surprise, but that the other brigades, whose losses were trivling, could not be induced to advance, is a striking proof of the great effect of the modern weapon.[1]

The effect of firepower is dependent on two factors, rate of fire and accuracy. The British had for centuries emphasized both. As compared to other Europeans, Roberts was correct in stating,

> I have good reason for saying that our present system, though faulty in certain respects, especially as regards affording a training in shooting at very short ranges and in providing opportunities of firing at ranges hitherto considered extreme, has yet on the whole, produced good shots.[2]

The British were in fact better than average shots at medium and at what at the war's outset was considered long range.[3] The problem was that almost overnight with the introduction of new weaponry the fire zone was increased by fifty percent from eight hundred yards in 1889 to twelve hundred yards in 1900. C. B. Mayne recognized the fundamental flaw in British technical and tactical development in stating that, "we must remember that the

modern (prewar) rifle is not designed for long range and rapid firing but for rapid loading and an effective fire at five hundred yards and under.[4] The British had developed neither a weapon nor a tactical firing drill in keeping with that of the Boers who emphasized both long range accuracy and quick firing at shorter ranges.

Marksmanship in the early twentieth century was becoming increasingly an individual matter as the utility of volley fire was on the wane. To select individual targets and ranges necessitated a new type of training. As one Boer noted,

> of thirty five men whom we took prisoners, after they had fired at us up to 350 paces, not a single one had his sight correct. Most of them had kept their sights fixed at 800 and 850 yards, because no order to change had been given.[5]

Beginning in January 1901 all lieutenants in cavalry and infantry had to earn a certificate in musketry as a prerequisite to advancement. It was hoped that this knowledge would then be instilled in the troops. As General Rawlinson shrewdly observed,

> one of the chief difficulties we have to contend with is to get the company officer to take a sufficient interest in the musketry of his company and until we gauge his own personal efficiency by the figure of

> merit of his company I fear he will still go on in the same happy-go-lucky way he does at present.[6]

Technology as well as training was transforming old methods at a rapid rate. Magazine fire and smokeless powder meant that the British could no longer advance within six hundred yards to open fire or hold defensive fire to one thousand yards as had been the prewar practice. The British Infantry Drill of 1896 had placed too little emphasis on the fire fight and too much on depth of formations. At Colenso the Boers were outnumbered four to one yet less than a third of the British army was involved in the attack.[7] This grave tactical flaw was in the view of Lonsdale Hale due to the army's complete initial misunderstanding of the rifle's importance.[8]

The Boers for their part did understand modern small arms. To quote Captain Reichman, an American military observer, "I did not learn of any case (when the Boers had determined to hold their ground) that the frontal attack succeeded by its own power."[9] The futility of the old tactics and frontal assault was compounded by an infantry termed by the Times History as being

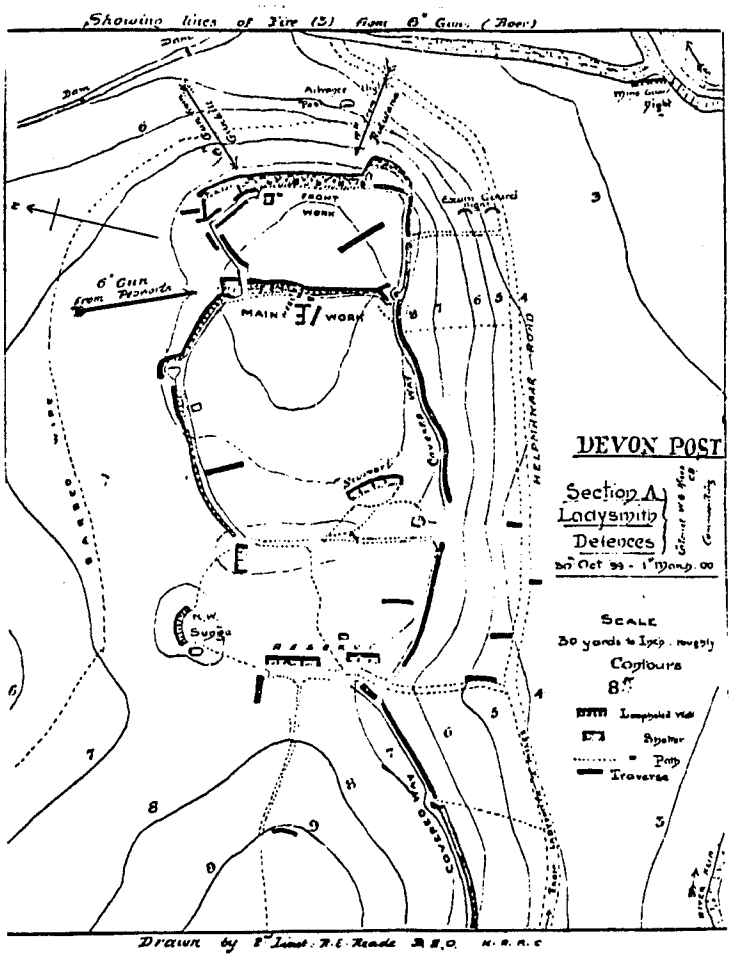
> indifferent shots, careless of cover, slow to comprehend what was taking place, or to grasp the

> whereabouts of the enemy, always getting surprised or lost, helpless without their officer. In a word, the British soldier was well disciplined but ill-trained, one might almost say untrained."[10]

Under such circumstances one could perhaps appreciate the conservative approach towards volley fire as it allowed greater fire control and thus made allowance for the changing of sights, the selection of new points of aim and the reloading of weapons to prepare for an enemy onslaught. Yet in a battle such as at Nicholson's Nek, when no masses of the enemy were in evidence, the flaws of such a system become all too obvious as the men showed an inability to shift for themselves without their officers' direction. The Provisional Course of Musketry for the year 1902 took the bold step of abolishing the volley, as well as encouraging fire from cover and the use of any kind of rest, natural or artificial.[11]

The new long range and flat trajectory ammunition had a radical effect upon defense as well as the offense. Trench lines were moved off of the hillcrests and into the valleys to maximize the grazing effect. Troops in parallel support trenches found it impossible to reinforce the front lines without a substantial network of trenches or covered ways perpendicular to the front. Fortunately the ever

decreasing size of cartridges had made the supply of at least that vital material easier to maintain. By the Boer War 575 cartridges weighed the same as did 380 in 1877 or 270 prior to that.[12]



The previous diagram details the many fall back positions of the Ladysmith defenses in the face of an attack from the north east. The outpost includes

> copious use of barbed wire, listening posts, independent works in enfilade positions, covered ways, artillery shelters and rallying points.[13]

Even in the open without prepared positions a certain advantage always remained with the defense. Longer ranges consistently made it difficult for proper scouting as advance guards could seldom get close enough to contact the main enemy party. Prior to the battle of Spion Kop fifteen-thousand men attempted to cross the Tugela, only to come under fire from a nearby wood. Two battalions encompassing sixteen-hundred men deployed and attacked in extended order with artillery support only to witness three Boers riding off at the last moment. This action delayed the entire column for some time.[14]

Camouflage, smokeless powder and rapid fire had made it extremely difficult to estimate opposition numbers. The increased power of the defense drastically reduced troop densities. Wellingon fought with sixty-nine thousand men on a two mile frontage. In 1870 five thousand men per mile was considered adequate yet at the battle of Magersfontein the Boers were successful in holding a front with only three hundred men per mile, about one-fifth of what conventional military wisdom considered necessary.

Some critics such as Callwell and Bloch had advocated the virtues of the modern defense prior to the war.[15] Jean De Bloch had been quick to point out that despite an initial three to one superiority, the Boers had failed to achieve their offensive purposes. Bloch had earlier postulated the need for an eight to one superiority in the offensive. Later, the British would only gain success when their numerical predominance exceeded three to one.[16]

Numbers were often not enough to assure success. How and where to apply this advantage very much depended on proper reconnaissance. Premonitions of a serious British weakness in this art may be seen in a rather fragmented observation by General Douglas Haig. "Ashamed he (Major Adage of the headquarters staff) noticed that this detachment moved without any cavalry at all...As well let a blind man out without a dog, as infantry without some horsemen to attend and reconnoiter for it."[17]

Time after time major British defeats could be ascribed to their failure to follow the most common of reconnoitering principles. Looking for instance at Herbert Gall's Modern Tactics we find twelve separate points of interest for effective reconnaissance, each of which was inadequately adhered to at various battles.

1) The enemy's advanced posts, their situation and importance. (Modder River and Maggersfontein)
2) Where the most resistance is likely to be met with. (Stormberg)
3) The extent of front occupied, and where the flanks rest. (Modder River)
4) Whether the flanks are naturally or artificially protected. (Modder River)
5) Whether the position is fortified with redoubts, field works, and entrenchements. (Magersfontein)
6) Whether the position favors counterattacks, and, if so, the probable direction of such counterattack. (Spion Kop and Caesar's Camp)
7) The enemy's main artillery positions. (Any battle)
8) The positions of the enemy's reserves, and probable rallying position. (Any battle)
9) The best ground for frontal and flank attacks. (Colenso)
10) Artillery positions from whence these attacks can be prepared and supported. (Colenso)
11) Whether the position can be turned within tactical limits. (Colenso)
12) Places from whence the enemy's batteries can be enfiladed. (Colenso)[18]

Assuming however that the enemy had been contacted and found to be well placed, a new tactical problem would have to be overcome, that is, how to cross a firezone. Long range and rapid firing weaponry had made conventional line and column attacks suicidal. Wolseley had in effect popularized the night attack with his startling success at Tel-el-Kebir during his Egyptian campaign. The open terrain of much of South Africa tempted four generals on three different fronts to attempt this ploy in the early

months of the war: Methuen at Belmont and Magersfontein, Gatacre at Stormberg, Hildyard at Willow Grange and White at Nicholson's Nek. Three of these five cases resulted in disaster. The recognition that large scale night attacks over open ground were hazardous was a hard lesson to learn. Even smaller advances after dark proved dangerous as the Suffolks learned at Grass Hill when 161 died at near point blank range after a cautious approach of seven hundred yards.

One of the clearest lessons to come out of the war was that the degree of success of night attacks appeared to be inversely proportional to the size of the undertaking. In the latter stages of the war both sides had considerable recourse to night fighting techniques.[19] Early on the British sought the dark to cover their advances prior to a charge and the Boers favored daylight for better firing conditions. Later, as the Boers were ever more closely pursued, it was their turn to seek the dark as a means of escape or springing sharp reposts. The British continued to find the night tactically useful as well as a means of establishing a general approach to an elusive foe.

Night attack as a means of crossing the firezone had only a limited usefulness on the modern battlefield. A far

more practical solution, usable under more varied conditions, involved the timing and spacing of the advance in the attack. The larger and theoretically more deadly battlefield allowed for, and in a sense necessitated, the development of a wider deployment and a less obvious approach in terms of speed and direction. After the surprises in close order formation at Magersfontein and Colenso the British began to deploy in a more open order at ever greater distances. At Poplar Grove a British brigade of four battalions went from column to line while still ten kilometers from the known enemy position. Each battalion held a frontage of two hundred and fifty meters and a depth of one hundred and twenty meters with up to twenty paces separating the various lines. Lord Roberts had in effect ended the mass infantry attacks with the publication of a special set of instructions published in February, 1900 suggesting the break up of infantry columns at a distance from the enemy of between 1500 and 1800 yards.[20] The English Drill Book emphasized those early lessons as well: "Close formations are very vulnerable when used against troops provided with modern arms."[21]

Larger battlefields and greater dispersal of troops destroyed the ability of a single general to command a

battle in even the most broad of terms. Far greater reliance would have to be put on lower echelon officers. The classic view of the chain of command according to Pollack had been that,

> the soldier expects to be directed by his officer whether he should take cover behind the ant heap on his right or the big stone on his left; the captain needs to be told whether to attempt seizing the knoll on his left or the farm buildings on his right, and so on right up to the top.[22]

In reality the British depended too much on their NCO's in most matters as their officers often had a non-professional outlook.[23] In battle however officers were expected to lead by personal example and their disproportionate losses testified to their role. The problem in South Africa was that at longer ranges and in dispersed formations tactical situations became more fluid.[24] Losses of officers thus became even more critical. According to Howard Hillegas,

> generally speaking the most striking difference between the Boer army and a trained army was the difference in the distribution of (military) intelligence. All the intelligence of a trained army is centered in the officers; in the Boer army there was much practical military sense and alertness of mind diffused throughout the entire force.[25]

a key point of military education in the later years of the war and postwar era was to, "train the mind as well as the muscle. All ranks must be taught to think for themselves. The greatest fault in our training is that in peace, subordinates never think for themselves, and consequently are unable to do so in war."[26]

The British were indeed fortunate in the early months of the war that their unique organization of small, hundred man companies allowed them to have such a large complement of officers. It was this large pool of personnel that enabled the British to weather the early crisis arising out of the Boer's ability to pick off British officers.

As experience was gained and the officers began to leave their accouterments behind and play a less conspicuous role in the advance, their casualty rate decreased appreciably. A thing of the past were role models such as General Buller, who remained in the thick of the firing at Colenso until wounded or General Featherstonehaugh at Belmont, who rode in full regalia back and forth in front of his troops hampering their fire and drawing attention until he was himself shot. Senior officers now kept further to the rear and the role of junior officer was tactically enhanced. In this manner

military "intelligence" was to be further spread throughout the army.

The new diffused style of fighting meant greater individual responsibility in the finding of cover and advancement by rushes. Interestingly it was the Volunteers and Militia that proved most adaptable to the new forms of warfare perhaps because of their closer ties to a civilian mode of thinking. At the battle of Doorn Kop the City of London Imperial Volunteers (CIV) advanced by rushes and used covering fire while the Gordons were still moving forward in relatively dressed lines.

The purpose of the advance across the firezone, no matter what the speed or concentration, was to gain what might be termed a decisive advantage at the very closest ranges. At battles such as Railway Hill and Hart's Hill a system of longer rushes at long distances and shorter rushes at short range had been developed.[27] Each wave was in itself thin but as the first wave reached its final position it could provide firesupport for the following waves. In this manner the front line could be reinforced to a critical mass.[28]

While some contemporary photographs showed, the British soldier still carrying a full pack in battle, they

are misleading, as in fact he did not. Packs were both onerous to carry and difficult to conceal and thus, dangerous under the new conditions of warfare.[29] The infantryman of 1901 who ran and crawled across the battlefield relatively unencumbered was in marked contrast to the cost-conscious, professional soldier's thinking of 1893 that still pervaded many of the regulations.[30] This was indeed a new soldier, camouflage clad and creeping about inconspicuously with many of the accouterments of centuries of tradition left behind. No battle flags were taken into the field. Whistles replaced trumpets and bugles for signaling and reveille. Even the once stirring drum role was discarded for fear of an errant sound on a night assault or the extra weight on the march.

Advances were now made under the cover of a rolling barrage first demonstrated at the battle of Pieter's Hill. Earlier methods that depended on accurate low angle fire of shrapnel and high explosives on enemy positions had proved ineffective. Some commentators such as Frank Harris went so far as to suggest the creation of a special corps of sharpshooters armed with telescopic sights to cover any advance across the open against the Boers.[31] A matter of universal consensus, as presented in Infantry Drill,

was that,

> the commander of the force will base his plan of attack on the information gained by a thorough reconnaissance of the enemy's position and the approaches to it. If it be bound to offer no cover to the troops attacking, he should seek to attack a flank, or to threaten the enemy's rear in preference to attacking him in front, as unless the ground offers peculiar advantages for the art of the offense a direct attack across the open is costly and difficult.[32]

Pessimists such as Julian Ralph might have felt that odds of even ten to one might not suffice to take a triple line of entrenchments frontally but trained military men could never accept this.[33] Great emphasis was to be put on avoiding such a situation but when frontal assaults were inescapable the soldiers had to believe that they were capable of success. All the camouflage, open order advances, and artillery were designed to bring sufficient numbers to the decisive range. Once there, they prepared for the final assault. "The British have made of the bayonet a weapon particularly their own. With it they have captured the impregnable, and flung back the irresistible,"[34] rhapsodized one anonymous author. C. B. Mayne among others felt that,

> the ideal of every infantry soldier should be to cross bayonets with the enemy and this idea is embodied in the assault...Bayonets may never be crossed, but

> attempt to do so must nevertheless be made, if victory is to be secured. The final advance in mass with bayonet is the decisive act of battle.[35]

Whether the crossing of bayonets was the end or the means of a successful assault is of little consequence when it is realized that its true significance was as a symbol of morale ascendancy. The demonstrated willingness to come to close quarters where injury is the only alternative to successful action remained the final and most crushing of psychological blows that could be inflicted. A foe who was unequal to the trial of hand to hand combat would break and thus become subject to blows and shots without effective reply. Compared to this the utility of the bayonet as a tool or in lieu of ammunition was inconsequential.

The psychological preparation for the bayonet assault goes far beyond military training and into the very popular conception of warfare. Contemporary illustrated accounts of the war such as Wilson's, The Times History of the War or Doyle's account, were full of drawings graphically depicting hand to hand combat. That such occurrences were rare was of little relevance. British writers such as Henry May constantly reiterated the belief that, "The Boers were in great fear of the bayonets."[36]

The Boers however claimed contempt for "British steel" or "cold steel" as no position or piece of terrain seemed to them worth dying for in the face of superior numbers.[37]

Europeans, used to fighting in far more restricted areas and brought up on a wholly different style of warfare would indeed stand on occasion and defend a position to the death. Julian Ralph claimed that South African warfare could also be instructive to the defense.

> We have learned that even British valour, displayed by a number of men equal to the foe, is of no conclusive value under the new conditions, and that if all modern armies could entrench themselves, and could then compel their enemies to meet them in frontal attack war would soon be abandoned as impossible.[38]

Prior to the South African war the British had been hesitant about field entrenchments. The American Confederates, the French, Spanish and Turks in recent wars had all made extensive and at times successful tactical use of fortifications in combat and yet had been defeated strategically. The defensive psychology bred by reliance on field works did not bode well for a victorious army.[39] The British concept of games and avoidance of actions considered "not cricket" (at least so they claimed) further argued against entrenchments. Buller's famous

jack-in-box memorandum of the prewar years is perhaps most indicative of the English way of war. Battles, he felt, could not be won by officers who ducked in action. They must stand firm and set a good example and in this manner the men would do likewise.

Prewar army regulations recognized two types of entrenchments, the half hour and hour type, both of which were designed for kneeling. The half hour type envisioned a one and one half foot breastwork fronting a one and a half foot deep trench with a width of two and a half feet per man. The hour design simply expanded the width to five feet per soldier.[40] Even this rudimentary artifice which offered little protection from high angle fire, was rarely practiced in peacetime since the disturbance of ground even on government owned land, was forbidden.[41] This lack of experience soon showed in South Africa where British trenches were frequently little more than stone parapets, easy to spot and easy to target. The Boers for their part avoided skyline positions, placed their diggings behind their trenches, were careful of overhead protection and made all possible use of camouflage. The Boers, at least initially, used large numbers of native laborers in constructing elaborate defenses and yet continued to build

works along these lines even when manpower was harder to come by. The British infantryman did not even carry a shovel since years of colonial warfare had accustomed him to native laborers and army regulations placed the primary responsibility for field entrenchments on the Royal Engineers.

Early in the war Kitchener wrote, "the Boers are more successful in utilising natural cover than the majority of our own soldiers. It is therefore doubly imperative that artificial protection should be improvised immediately on a position being occupied."[42] This lesson had in fact been learned prior to Kitchener's memorandum. Already at Spion Kop and Magersfontein British infantry had attempted to dig in. In time the process of entrenchment became almost second nature. A logical progression soon led writers such as Edward May to comment, "it may further be insisted that the longer troops occupy a position the stronger should their defences grow."[43]

Pictures of British entrenchments from 1900 on indicate the improvements that had been made. Despite the declining availability of Boer artillery, these later works show considerable care for overhead protection in the face of the continued threat of hand-thrown dynamite. Roofs

were buttressed by rail ties and attention was paid to camouflage and the creature comforts of the inhabitants.[44] The final proof of the resort to field entrenchments by the British was the issuance of shovels to two-thirds of the infantry and light picks to the remainder by 1903. Suggestions were also presented for the construction of various field works from a quick ten minute model to elaborate bunkers.[45]

It was perhaps only natural for the Army to feel that it was adapting to the new ways of warfare and incorporating its lessons into practical drill and tactics. General Hunter had no qualms in announcing "Generals, Regimental Officers, and men have learnt how to minimize losses against magazine rifles and smokeless powder in defensive positions. Now they threaten flanks and turn positions."[46] In theory this was fine, but circumstances unfortunately rarely complied. One unawed officer lamented,

> had it been possible for us to have carried out a methodical attack in extended order on the position the losses would have been far less but time was all important in order to pin the enemy to his ground and prevent his disappearance under cover of dusk, a manoeuver he invariably indulged in during the late stages of the war.[47]

Bloodless victories thus remained a coveted ideal up to the end of the war. As for the earlier battles in which the Boers did stand and fight another set of problems had been encountered but hardly resolved by war's end. Time and again the British had won opening moves of battles such as Potgieters Drift, Trichardt's Drift, Acton Homes and Spion Kop and yet failed to take full advantage of their success. General Negrier felt that the greater intensity along with "the duration of the combat under modern conditions leads to a considerable mental exhaustion which is apparent in nervous lassitude. This explains the impotency of leader and troop the day after a defeat and even after a victory."[48] This nervous exhaustion could in fact set in long before day's end and prevent the troops from fulfilling their role. A steady stream of fresh reinforcements across the extended battle zone to maintain impetus was of crucial importance.

Close examination of the South African situation by Fitz James Edwards led him to believe that,

> the lessons of the present war are not new ones. Only what was to be expected has happened and in my humble opinion our recent reverses in South Africa are in a very great measure due to the fact that modern military teaching has influenced our officers to think that no good results can be achieved except by offensive

> action. Consequently our troops have over and over again been led to attack positions which could not possibly be carried without a very great superiority of force.[49]

A general toning down of an overly offensive tactical school of thought was called for in the face of more sophisticated defenses. It was realized by Elizabeth Briggs that the Boers had, "taught us how to dig trenches, how to take scientific advantage of cover and how to bring down the transport of an army to the smallest limits."[50] It is ironic how many of the war's lessons could have been learned during peacetime be they the value of well constructed entrenchments, the enhanced difficulty of reconnaissance, the new dangers of the firezone, the misplaced faith in the firing line as sufficient self-protection at long ranges and the essential nature of the turning movement in combination with all frontal attacks.

[1]Ram, p. 1339.

[2]Roberts to Under Secretary of State, 20 November 1900, Roberts Papers, 7101-23-110-5, 5:2 NAM.

[3]Reynolds, p. 35

[4]C. B. Mayne, "The Training of Infantry for the Attack," USM 20, December 1899, p. 290.

[5]Balck, "The Lessons of the Boer War and the Battle Working of the Three Arms," JRUSI 48 (November 1904): 1276.

[6]Rawlinson to Roberts, 28 August 1901, Roberts Papers, 7101-23-61 no. 22, p. 1.

[7]Von Lobell, "The Von Lobell Annual Reports of the Change and Progress in Military Matters in 1902, Trans. E. Gunter," JRUSI 47 (October 1903):1131.

[8]Hale, "On Peace Training", p. 297.

[9]U.S. War Department, p. 249.

[10]Amery, Times History, 2:34.

[11] "Musketry Training 1902," Times (London) 20 December 1901, p. 5.

[12]Bloch, The Future of War, p. 5.

[13] Ladysmith Defences, W.O. 108/101, PRO.

[14]Ram, p. 51.

[15]Charles Edward Callwell, "Tactics of Today," International Revue, Appendix no. 30, pp. 50 & 55.

[16]Jean de Bloch, "Some Lessons of the Transvaal War," Contemporary Review 77 (April 1900):460.

[17]Haig, South African War Diaries, Haig Papers, 31 October 1899, no. 38, p. 47 NLS.

[18]Herbert Reay Gall, Modern Tactics 2 vols. 5th ed. rev. (London: Service and Paten, 1899), 1:30.

[19]Wilson, After Pretoria, 2:595, 661, 759, 789, 894.

[20]Maurice, History of the War, 1:445.

[21] Infantry Drill, section 24, paragraph 5 as quoted in, "The South African War" (September 1901):1110.

[22]A. W. A. Pollock, "The Tactical Inefficiency of the Regular Army, Its Causes and Remedy." Fortnightly Review 81 (2 May 1904):832.

[23]U.S. War Department, Captain Reichman..., p. 80.

[24]French authors were especially critical of the dispersed formations. See
Henri Bonnal, La récente guerre Sud-Africaine et ses enseignements, (Paris: Chapelot, 1903), p. 13. and
"Etudes sur la guerre," Revure Militaire des Armées Etrangères 62 (Octobre 1903):226.

[25]Hillegas, p. 103.

[26]J. Vaughan, "Cavalry notes-South Africa, 1899-1900," JRUSI 45 (April 1901):454.

[27]Amery, Times History, 3:200 & 539.

[28]The consciousness of this methodology may be seen in,
"On The Skirmish Line-The Newer Method of Attack," Harpers Weekly, (22 June 1901), p. 625.

[29]Unger, pp. 229 & 243.

[30]Vincent, "Lessons of The War," p. 635.

[31]Frank Harris, How to Beat the Boer; A Conversation in Hades, (London: Willian Heinmann,

1900), pp.20-21.

32 Infantry Drill, section 110 as quoted in "The South African War," (September 1901):110.

33Ralph, Toward Pretoria, p. 230.

34 How to Read War News: a Vade-Mecum of Notes and Hints to Readers of Despatches and Intelligence From the Seat of the War, With a Coloured War Map and a Glossary of Military Technical Terms, Local African and Dutch Phrases etc. Also a Supplementary Chapters on the Situation by G. M. Thael, (London: T. Fischer Unwin, 1900), pp. 16-17.

35C. B. Mayne, "The Training of the Infantry For the Attack," USM 20 (December 1899): 283.

36Henry May, p. 177. also see
Burleigh, p. 198. and
Gall, 2:274

37Note the mocking tone in,
John Y. Blake, A West Pointer With the Boers; Personal Narrative of Col. J. Y. F. Blake, Commander of the Irish Brigade, (Boston: Angel Guardian Press, 1903), pp. 66, 67, 72, 82 and 117.

38Ralph, Toward Pretoria, p. 235.

39McElwee, p. 231.

40Lieutenant-Colonel, p. 167.

41Howard Vincent, "Lessons From the War For Immediate Application: The Organization of British Land Forces," USM 24, October 1901, p. 32.

42 Circular Memorandum No. 26 Duties of Officers Commanding Outlying Detachments, 14 July 1900, as quoted in,
Great Britain, Parliament, Army Proclamations Issued by Field-Marshal Lord Roberts in South Africa, Cmnd. 426, (London, 1900), p. 69.

[43]Edward Sinclair May, Retrospect on the South African War, (London: Low and Marston, 1901), p. 194.

[44]Warding, Cavalry Division, Haig Papers, no. 35, 1:31 NLS.

[45]Frederick Bordon Guiggisberg, Modern Warfare, or How Soldiers Fight, (London: Thomas Nelson and Sons, 1903), p. 20.

[46]Lt. General A. Hunter to Chief of Staff, South Africa 4 August 1900, Great Britain, War Office,South Africa Despatches, Cmnd. 457, p. 140.

[47]Quoting an officer in the Gordons, Macready, p. 79.

[48]Général Negrier, "Quelque enseignements de la guerre Sud-Africaine," Revue des Deux Mondes, (Juin 1902), p. 764.

[49]Edwards, The Defense and Defensive Positions, p. III.

[50]Briggs, p. 438.

THE BOER WAR AND ITS EFFECTS ON BRITISH MILITARY REFORM

by

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THE BOER WAR AND ITS EFFECTS ON BRITISH MILITARY REFORM

VOLUME II

Chapter VIII

Elements of Victory, Part Two: Artillery

The infantry was not alone in discovering a new approach to warfare in South Africa. A good case could be made that the arm most affected by the Boer War experience was the artillery. Before one can address the problem of tactical change in this area however, a brief description of governmental policy and ordnance availability is in order.

In 1899 the Royal Artillery was in transition. In the 1870's the British army had fallen behind the continental powers with its regressive policy of returning to muzzle loaders after having achieved unsatisfactory results with the early Armstrong breech loaders. It was not until the mid-nineties that this policy was abandoned. When the war broke out, the army was thus caught between models and showed a marked insufficiency of quantity, quality, mobility, and reserves of artillery. The Boers by way of contrast, with more limited needs, had bought the most modern weapons from European arms merchants.

A detailed examination of the British ordnance inventory reveals the continued fielding of such relics as the muzzle loading mountain gun (2.5" RML) battery on loan from India. This weapon, which still fired black powder, may have been single-handedly responsible for the British defeat at Nicholson's Nek by its revelation of the position.

Expense and wrong-headedness go far in explaining the flaws of the Royal Artillery. Efforts to create a single gun for both the horse and field artillery led to the creation of a hybrid too heavy for one and too light for the other. The horse artillery needed a lighter gun not only for mobility but to allow for the storage of a greater number of shots on the limber since such guns were expected to act independently.[1] The British ration of 2.5 guns per thousand as compared to five guns per thousand among the continental powers, illustrated parsimoniousness and skewered theoretical considerations.[2] Conservatism in design also played its part as the British continued to use separate shells and charges for even their smallest field pieces long after they became obsolete on the continent.[3] One can appreciate General Brackenbury's enthusiasm over the granting of two million pounds for

ordnance in June of 1900 with an additional ten and a half promised over the next three years.[4]

Money itself could not always solve the problems of the artillery. Efforts to achieve efficiency either through the development of a single gun where two were necessary, (field and horse) or the insistence that only a single type of ammunition (shrapnel) be required for the field artillery, could also have deleterious effects. The British frequently sought to delay mass production of equipment until a final model was agreed upon. An immediate implication of this policy was a wide variety of weaponry,(eighteen types of artillery and machine guns) which led to handling and supply complications. On one hand the army desired uniformity and on the other it had to live with the Mowat Committee's recommendation that a definite proportion of all orders (including the most delicate items) be subcontracted to private industry.[5] Such a policy aimed at future expansion, yet in the short term, it led to delays and ir regularity of products.

In an effort to rationalize the confused artillery picture a Royal Warrant had been issued on June 1, 1899 to establish the Royal Garrison Artillery as separate from the RFA and the RHA. The withdrawal of common shell of both

the percussion and air burst variety from the twelve and fifteen-pounder batteries after 1896 had created a need for a specialized branch to handle the five-inch howitzer BL (breech loader) with its sixty-pound shell, and high angle fire.[6] The RFA was thus limited to a maximum of fifteen-pounders and the more mobile RHA to twelve-pounders.

Specialization of artillery roles was insufficient if the objectives set for the various branches proved inferior to their foreign equivalents in terms of range or rate of fire. The British Artillery Drill Book of 1896 defined the maximum range of artillery at 3,500 yards while the Boers were training their guns for 6,800 yards. The British regarded anything over 2,500 as extreme with decisive range established at 1,500 yards.[7] While both the twelve and fifteen pounders had theoretical ranges in excess of 5,500 yards fuses were only issued to about 3,700 yards. The lack of modern recoil devices, brakes and compound ammunition (shell and charge packaged together) only served to reduce the rate of fire. As for the larger 5" and 6" howitzers, they at first proved both inaccurate and underranged. By war's end their range had been virtually doubled to 10,000 yards, however.

One of the most obvious lessons of the war was the vastly increased effective ranges of artillery. The 7.5cm Creusot fielded by the Boers was meant to be the equivalent of the British twelve-pounder but while it did throw a similar weight shell, it far outranged even the fifteen-pounder, and had a substantially greater rate of fire than either. The British fifteen pounder was an inferior weapon for its size insomuch as it was merely a twelve pounder further bored out and thus less capable of high velocity fire.

The only possible immediate answer to Boer artillery supremacy in the field, insofar as range, was first suggested by General Rawlinson to General White just prior to the siege of Ladysmith.[8] It was perhaps only the prompt arrival of those naval twelve pounders that enabled the British to maintain a sufficiently large perimeter and prevent an overly close investment of the garrison. These naval twelve pounders were true quick-firers such as the Boer guns and while their shells might have been smaller than the 75's, their long barrel at least assured that they would not be outranged. Once new sights were procurred and Percy Scott developed a carriage for the guns' transport, these weapons became one of the mainstays of the

artillery.[9] The experience of ever longer ranged artillery in Africa set off a chain of development. "Ranges which had averaged only 2,000 yards in 1899, crept up steadily, reaching 2,300 in 1900, 2,600 in 1901, 3,200 in 1902, 3,600 in 1903, and (on Salisbury Plain) 4,000 in 1904.".[10]

Having initially been caught with inferior equipment, the British did what they could to remedy the situation. One solution was the acceptance of privately donated pieces of modern equipment. Perhaps the most famous group of such guns was the so called Elswick battery, a gift of Lady Meux. These six quick-firing guns came equipped with telescopic sights (still a rarity), common shell and superior fuses and proved easy to handle.[11]

After the War Lord Roberts claimed that, "our experiences in South Africa have shown us that in the way of artillery material, we are considerably behind other European nations."[12] During the war when time was of the essence the only alternative was to buy abroad. This policy had several advantages outlined in a note from L. Dawson of Vickers and Dawson to Lord Lansdowne since it deprived the Boers of the limited number of ready made modern armaments available on the international marketplace

and at the same time increased British capabilities.[13]

Over the course of the war British representatives scoured Europe buying Ehrhadt quick-firers, Skoda howitzers and whatever else they could pick up. Sometimes problems arose with local public opinion. In one case, a shipment of fifteen pounders bought from Rheiniache etalwaren und Maschinenfabrik had to be transported as "machinery and explosives" for fear of demonstrations or sabotage.[64]

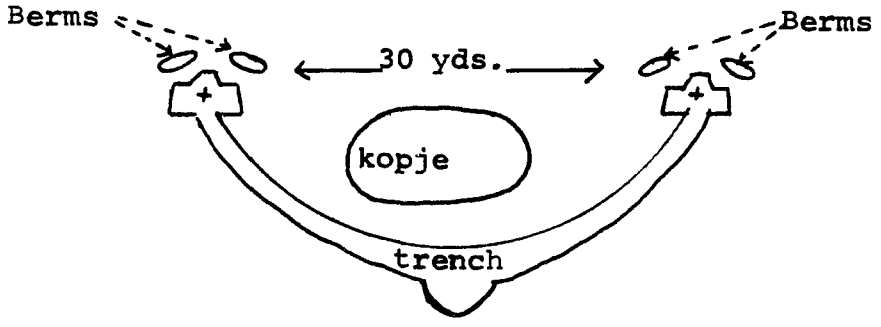
This frantic buying of armaments led to a logistical nightmare as eighteen types of artillery and fourteen varieties of ammunitions were utilized over the course of the war.[15] Even these numbers do not provide the full picture as often times ad hoc weapons were developed which further compounded the supply and refit problem. For instance the 4.7" gun was mounted on a 6" howitzer carriage. Standardization was hardly the rule.

The threat posed by Boer artillery methods forced the British to alter their decades-old methods. The first lesson and undoubtedly one of the greatest surprises of the war was the ability of the Boers to bring large 155mm (six inch) Creusot guns into the field. These guns had an effective range of over 10,000 yards, and fired a shell

weighing 96 pounds. No battlefield area was safe from their searching fire. An effective response was not initially available since with over twice the range of the fifteen-pounder, the 155mm could easily be deployed well behind Boer lines. The ability of the Boers to drag these large, supposedly fortress pieces into the field was predicated on several factors, the most important of which was their mastery of animal teams. It took twenty teams of oxen to draw a single one of these "Long Toms", as they were called. A special set of extra wheels had to be designed for their cross country movement. Finally, since these weapons were so heavy and slow moving the risk in bringing them into the field was calculated in terms of the faith put into the average Boer's ability to skirmish. Had they not been able to fight successful delaying actions in the face of superior numbers, these guns would have been overrun after the first withdrawal. The British, for their part, responded to the Boer's initiative by bringing ever larger guns into the field such as the up-ranged 6" howitzer, developing longer time fuses, and utilizing special tractors to tow this heavy ordnance.

According to Repington the British army's idea, "bred at manoeuvres, that a superior artillery can silence its

adversary in a short time, was not borne out by experience."[16] The emphasis on counter-battery fire and preparation for infantry advances had less than the desired effectiveness while leading to a dangerous over-concentration of artillery pieces. The Boers dispersed and covered their numerically inferior guns in the German manner in use since 1891.[17] The Boer gunners were most concerned with security from enemy fire and a sure line of retreat, thus they frequently deployed behind ridges or hills. This was an effective long-range tactic but could lead to dead zones close in. A system of multiple gun emplacements such as the one employed at Laing's Nek could do much to overcome the problem of dead ground. Not only could both sides of the Kopje be covered if one position received too much fire but the alternate site was already prepared.[18]



The hilly nature of the South African battlefield

facilitated the use of hidden gun positions and protected them from the inevitable British infantry advance. Having scored disproportionate casualties on an ever closer target the Boers would then retire to a fall back position. The British batteries in the interim would continue firing at ever longer ranges. The essence of the Boer artillery placement was overlapping fields of fire. Despite being outgunned by more than three to one in many of the major battles, the superior range and rate of fire of the Krupp and Creusot pieces allowed the Boers to give a good account of themselves. However, with close proximity thus unattainable, it should come as no surprise that aside from Spion Kop the Boers were never able to truly amass an overwhelming converging fire. What the Boers could do quite effectively was to pick off massed batteries and create numerous small areas of crossfire, which proved lethal in conjunction with long range riflery and shrapnel. The pattern of crossfires led the British to favor later afternoon attacks, which allowed the best chance for field entrenchment under the cover of darkness. Frequently, such a tactic would merely result in a corresponding Boer withdrawal during the same evening.

Of the twenty-one different types of guns captured by

the British as of October 1901 the most interesting models were the Krupp 77's and Creusot 75's. These were without doubt the leading field pieces of their day and both easily outperformed the British Armstrong equivalents. The Creusot was the first gun designed for a large shrapnel zone and had a very high muzzle velocity (1,951 feet per second as compared to the twelve pounders 1,574 feet per second) assuring a flat trajectory that worked well with time fuses.[19] Its high rate of fire and velocity tended to put too great a strain on the buffer system which in effect made it a far more unreliable weapon in the long run than the slightly slower firing Krupp piece. The Krupp piece had a sturdy sliding block breech mechanism which, while it still tended to leak more gas than the interrupted screw block of the Creusot, had very obvious potential.

Yet another surprise lay in the Boer use of the Nordenfeldt 5cm "Pom Poms". With a maximum range of 6,600 yards, and a rate of fire of twenty-five shells per minute these self-loading, watercooled weapons, fired light, fixed ammunition on bands, and proved exceptional sniping weapons with interesting morale implications.[20]

British artillery tactics were radically altered as a result of the Boer War. The dominant artillery theories of

the prewar era had been those of Prince Kraft von Hohenlohe-Ingelfinge whose Letters on Artillery published in England in 1887 had emphasized the advantages of the forward deployment of guns in 1870 as compared to the rearward positioning of 1866. The priorities of gun placement were a clear view, a good platform freedom from enemy cover and good cover for oneself. The Artillery Drill Book of 1896 advocated the pushing forward of artillery on the flanks during the attack so as to provide maximum covering fire for the advancing infantry.[21] Colonel Long had made his reputation at Omdurman by just such a reckless use of ordnance. Wolsely had doubts on the effectiveness of such tactics and his commentary on the 1898 maneuvers had been critical of the artillery positioning.[22]

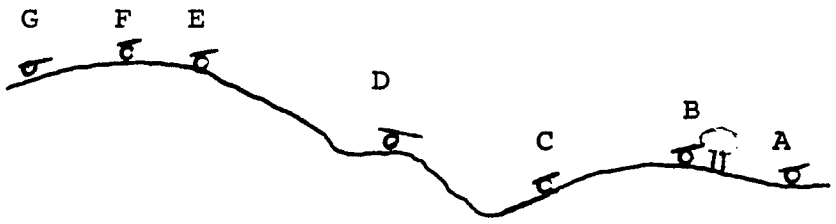
Perhaps no action better demonstrated the firm ground on which Wolsely's reservations were based than Colonel Long's disaster at Colenso where "The artillery galloped smartly into action, unlimbered in the open (for it had no notion of indirect fire), and opened fire over primitive sights with no vistage of a gun-shield to protect its crews."[23] Even as late as Paardeburg the lesson seemed not to have been instilled since the long ranged naval guns

were brought so close (1,100 yards) to Cronje's laager that the Boers were able to pick off the gunners.

In order to appreciate the full nature of the changes resulting from the war one must first recognize that by 1902 artillery priorities had been altered to emphasize a clear view, good cover, lack of nearby enemy cover and a common sense approach towards securing a stable gun platform. The continued prominence of a clear view ensured that the weaponry could indeed function at maximum utility in both the offensive and defensive mode. The new emphasis on concealment would always be a compromise. As R. F. Johnson noted, "concealment prevents a gun being put out of action, but it must nearly always limit its field of action and generally its effectiveness."[24] The French had a saying: "a battery observed is a battery lost."[25] The British for their part could never quite overcome the belief that, "the Boer's guns have often been hard to silence; (but) they have seldom been effective."[26] Since visible and dangerous concentration could not assure success dispersal and concealment were attempted.[27]

Prior to the development of smokeless powder the hiding and dispersal of field pieces was useless since flash and smoke would give the position away. Even with

modern smokeless powders the British continued to conduct peacetime maneuvers with black powder due to the corrosive nature of cordite.[28] Such cautions in training could only dull the full appreciation of modern weaponry. Reaction to artillery firing from the open was naturally easier for a defensive foe who had but to duck in his trenches to avoid its full effects.[29] The Germans had in 1898 adopted greater use of cover in their artillery exercises, for both offensive and defensive purposes.[30]



The effective positioning of artillery required careful study of the terrain. Position A was, in the new line of thinking, the worst since it provided little in the way of view or protection. Position B behind a shrub offered some concealment but allowed for the easy laying in of shots once detected. Position C at the foot of the slope was favored by the Boers and proved hard to detect but presented poor fields of fire. Position D was again

hard to detect but made it difficult to train the weapon downslope. Such a position would in fact necessitate considerable infantry support and entrenchment. Position E on the forward crest would be hard to detect until it opened fire and then would be subject to layered fire although the over shots would be difficult to judge accurately. Position F on the skyline is extremely hazardous and had to be avoided at all costs. Position G behind the crest is difficult to range on, can be easily kept hidden until needed and offered easy access to relatively secure limbers.

Cover for artillery and machine guns could in fact be enhanced through the use of camouflage. V. A. Jackson suggested "that the guns are most invisible when painted in stripes green, grey, and a brown red; the front of the barrel casing being grass green colour."[31] Baden Powell went so far as to experiment with flash suppressors by firing through a blanket to further conceal his position.[32].

What should not be overlooked under any circumstances is the continued fundamental distin
@.d Boer@artillery tactics. The British continued to cast their artillery in an offensive role despite the new

emphasis on cover for it was only by assuming that mode that they could hope to bring the war itself to a successful conclusion. Alan Hiley claimed,

> it cannot be too much insisted on that the value of concealment and cover lies in the retention of mobility the facilities afforded for replenishing ammunition and the augmentation of the enemy's difficulties rather than in any escape from the risk of losses.[33]

A second major new tactical consideration was the issue of dispersion and would at first glance seem to follow logically from the adoption of the necessity for greater use of cover. Actually this issue was by no means clear cut. The physical concentration of an entire battery continued to hold several advantages: unity of command was enhanced, ranges could be more quickly found through the action of a single gun acting for the whole battery, supply was simpler and the conduct of simultaneous and concentrated fire was far easier. The old Woolwich dictum "one gun is no gun" thus continued to have its adherents. The advocates of dispersal could point to the extreme difficulty the enemy would have detecting six separate targets and the greater ease with which positions might be found since a single large area of hard ground often proved more difficult to locate. Under the hot sun and still air

of South Africa even smokeless powders gave off a sufficient amount of haze to reveal a position.[34] To the new believers the efficacy of even a single gun properly located, such as the Boers had demonstrated on the right flank at Val Krantz, was beyond question.

Conservative thinkers continued to believe that massed fire could by itself silence the enemy's guns and force him from his positions. They believed that the best way to achieve this was to begin the action with massed barrages.[35]

During the previous artillery age the first battery to box the other within a one hundred by two hundred and fifty meter rectangle could count on disabling half the enemy within fifteen to twenty minutes. Under the new circumstances of shields and entrenchments that was no longer the case, and counter battery fire became less effective.[36]

Reconnaissance by artillery in the hope of frightening the enemy from his position was for that matter also a dated tactical usage. Doubling the density of fire did not by any means assure the doubling of casualties inflicted. The Boers had clearly shown that in the matter of firing at distant and dispersed targets it was better to

fire as sections than as batteries.[37] At such ranges the individual guns seemed best able to train their own sights. The key to the problem lay in a tactical dispersal that allowed for united fire action. Of one thing it was certain according to Roberts, "in taking up positions, compact battery formations should be avoided, the guns should be opened out, or it may be desirable to advance by sections."[38]

In the later stages of the war when the Boers no longer had any artillery, the British frequently divided their batteries into sections, a practice much appreciated by young officers seeking opportunities for independent command.

At the same time that one set of strategic and tactical factors were leading to greater dispersal in the theater and on the battlefield, under certain circumstances other factors were heading in another direction. The early Boer lead in heavy ordnance in the field had resulted in the formation of corps artillery units consisting of three RHA batteries, three howitzer batteries and three batteries of heavy guns with a flat trajectory.[39] The brigade divisions of artillery (later called brigades) were converted from paper organization into tactical units

commanded by a lieutenant-colonel. The new higher divisional and corps artillery parks represented a British appreciation of artillery reserves as a counter to Boer heavy ordnance. In an earlier age when ranges were shorter, and deployment was slower there had been some hesitancy in withdrawing so much firepower from a direct support role. The new more mobile ordnance available to the British towards the war's end helped to reshape this thinking.

The war had led to an upgunning of the field armies and this in turn had immediate repercussions on tactics. The British never expected to face a shell greater than forty pounds in the field and yet the Boers surprised them with one hundred-pounders. Edward May felt,

> it is no exaggeration to assert that in districts where, previous to the war we or any other European power, would not have risked field artillery the Boers brought siege guns, and where we should have held mountain artillery necessary they unlimbered "Long Toms".40

The consequences of such a change on supply, ranging deployment and mobility were considerable. The physical and negative morale effect of the long range Boer artillery remains quite evident in most British accounts of the war.

Despite their best efforts however, the British never managed to equal the Boer ability to transport large pieces about the field. The Boers also realized the importance of these weapons and this goes far towards explaining why the first "Long Tom" was not captured until over a year of hostilities had passed even though their ammunition had long since been spent.

The initial British response to being outgunned had been to rely upon the navy and the garrison gunners, none of whom had been trained to act in the field. Changes had to be instituted on an ad hoc basis on carriages, sights, range finders and ammunition.[41] By the battle of Colesberg the regular artillerists had adopted the technique of digging the tracks of the guns into the ground in order to increase the ranges up to nine thousand yards.[42] When the larger British guns finally began to arrive on the battlefields it took some time to realize that the proper space for their deployment was in the front with an advance or the rear in a retreat. In this manner they proved most useful in aiding one's own deployment while hindering that of the opposition. Big guns for the British were not meant to fire from the safety of extreme range but to dominate the enemy's rear or enfilade his

positions.[43]

The lessons of Spion Kop where the superior range of Boer artillery held the British at bay while the infantry was decimated, Breakfontein where six batteries were mauled in the open, and Mooi River where two guns and five hundred Boers bombarded with impunity three thousand troops with an attached battery, all took a cumulative effect on British gunnery. In time the British learned to set their fuses properly for the higher altitudes of South Africa. At Spion Kop with an altitude of thirty-five hundred feet above sea level shells were traveling quite a bit further than the British imagined. In order to get a proper burst pattern with the shrapnel, fuses had to be set five hundred yards short.[44] The ineffectiveness of shrapnel at longer ranges had to be accepted, as was the need for specially trained artillery scouts in an era when ranges had progressed beyond normal eyesight.[45] Forward observers would have to be taught to study terrain from an artillerist's viewpoint, paying special attention to ground hollows and vantage points.

Along with the need for forward observers was the necessity of improved communication techniques. At Spion Kop, despite a ten to one superiority in guns, the British

artillery could not be brought to bear on the enfilading Boer gunners or their reinforcements. As the modes of infantry tactics changed, artillery had to keep pace. Without the rigid and easily delineated lines and columns of a bygone era, coordination with the camouflage-clad skirmishing infantry became all the more difficult. When the system broke down, such as at Stormberg, the infantry could find itself under fire from its own guns. When, on the other hand, communication by telephone was adequate the results could prove quite spectacular; witness the Monte Cristo action at the second Colenso.

Aside from fragile telephone wire, tenuous signal flags and newly operational colored smoke there was little that could be counted on to maintain communications over the expanded battlefield. Despite the evident need for expertise in this sphere, artillerists up through 1899 had trained without infantry accompaniment on Salisbury Plain.[46] In the future, as Colenso pointed out, artillery would always have to work in close proximity to the infantry even when setting up a fire base. Long's disaster merely bore out certain prewar theoretical constructs. According to the data of the Prussian General Rohne one hundred sharpshooters would put a battery out of

action firing from a distance of:

880 yards in the course of 2.4 minutes

1,100 yards in the course of 4.0 minutes

1,320 yards in the course of 7.5 minutes

1,650 yards in the course of 22 minutes[47]

By the war's end it was quite evident that artillery could no longer fend for itself. Ian Hamilton noted that no gun was allowed to travel without an escort of at least four hundred men.[48] Some stalwarts such as Leopold Amery continued to believe in unsupported artillery through the Manchurian war.[49] Shrapnel and sword were together insufficient to protect the guns. Artillerymen who were originally outfitted with swords and pistols succeeded in having their official issue changed to rifle and carbine.[50]

Just as the use of modern small arms had made it more difficult for field guns to function in close support on the battlefield, so had it altered ordnance priorities. An unnamed Major General noted "The introduction of the magazine rifle had so enormously increased the importance of shelter trenches and field redoubts that it seems most desirable to concentrate high angle fire on them before the assault instead of trusting to the ordinary field

gun."[51] Howitzer fire was for another reason becoming more important as well. The greater lateral area of the modern battlefield had led to a proportionate increase in dead ground.

A doubtful solution to the problem of dealing with dead ground was the use of balloons. Unfortunately balloons had proven difficult to use on the offensive because their instability made them unreliable for the accurate measurement of ranges and bearings. On the defensive they seemed to have more potential as much could be preplotted although in either circumstance the balloon was quite vulnerable to shrapnel.[52] During the prewar period the British had attempted to arm them with lyddite and explode them downwards by wireless but the experiment had proven unsuccessful.[53]

Balloons represented just one of many attempts to modify traditional methods of delivering explosives. Another such weapon was the much discussed Maxim Nordenfeld 3.7cm. guns, commonly known as pom poms, deployed by the Boers. Firing between fifty and sixty rounds per minute with a range of over thirty-five hundred yards these light guns proved useful in several different roles. On occasion the Boers would use them as long range sniping weapons and

at Lombards Kop this weapon so discomforted an entire field battery that it was forced to move.[54] The general opinion of these guns held among British officers was voiced by Lt. Col. J. C. Gore, "the morale effect is enormous, the active effect inconsiderable, except among horses."[55] In reality the pom poms proved most effective on the defensive, where they could help control the pace and formation of the attacking force. They were also valuable when attached to mobile cavalry columns where their light weight enabled them to keep pace and if a retreating force could be overtaken the pom poms could then deluge them with fire.

Naturally some conservatives complained that the inferior rounds of these weapons as compared to larger field pieces made them unsuitable to a proper artillery arm, yet the Lyttelton committee on pom poms disagreed and several of these "glorified machine guns" were ordered.[56] The British adopted the same Maxim Nordenfeld as the Boers despite the comparable Krupp model's superior ammunition and the Creusot's superior ballistics, perhaps due to its British manufacture.

Regarding the use of pom poms in the British army, the concensus was that it should be deployed singularly and

handled as a battery. By 1904 every battalion had been allocated one such weapon. Additional use was found for these pieces with the artillery since they proved to be excellent range finders for regular field and horse artillery batteries.[57]

Pom poms were the first cousins of the quick-firers developed to defend battleships against fast moving torpedo boats. The French, as early as 1891, under the influence of General Langlois had appreciated the value of these new weapons for land warfare. According to Buat, Langlois believed, "the new principles of artillery revolved about the invention of light, rapid firing, time fused, shielded weapons."[58] These new weapons were further defined in terms of superior recoil mechanisms (either spring or hydraulic), strong percussion locks, quick setting fuses, built-in range finders, wheel brakes, and fixed ammunition. The recoil mechanisms and brakes assured a steady gun platform and made it easy to maintain the training of the gun. Improved breech locks made for a more consistent discharge with less variation between rounds. Fixed ammunition speeded loading, removed the necessity for ramming, left less residue in the barrel and was proof against moisture in the powder. On the negative side,

fixed ammunition was heavier, liable to damage in transport and far more expensive as cartridges were no longer reusable.

The French, with their 75mm M1897, were the first to introduce the entire package of a modern quick firer to land warfare. As word spread of this revolutionary new gun, the other Great Powers hastened to copy it. The British had plans for the conversion of all horse and field guns to these requirements starting in March of 1899.[59] Under the duress of the war, these ad hoc arrangements proved insufficient and an additional eighteen batteries of quick-firers had to be purchased from Germany.[60] The experience of the war quickly showed rapid firing and shielded artillery (as was the Boer's) could force the dispersal of a numerically superior artillery and end the practicality of all massed formations. The high velocities and flat trajectories of the new weapons made them very easy to train on any advancing force.

The need for quick-firing artillery, especially with the cavalry, along with heaviest guns for the infantry and a modern mountain gun remained one of the three great ordnance insights of the war.[61] Due to the greater weight and length of supply columns necessary for their

supply, some cavalry quick-firer advocates were even prepared to accept four gun batteries in order to assure access to these new weapons.[62]

Just as the more mobile and tactically dispersed nature of the war helped to encourage the use of pom poms and quick-firing artillery so too could it be said of the older machine guns. While modern tactical usage has split off the machine gun from these other weapons and labled it a close infantry support weapon it must be remembered that such was not the case at the turn of the century.

The Boer machine guns were primarily on the defensive and forced the British infantry into dispersed attack formations as a result. At the battle of Thabaucheu, two Maxim Nordenfeldt machine guns threw two regiments of lancers into disorder. The machine gun's ability to quickly and constantly correct ranging made them lethal against cavalry which, despite its speed, depended on close packed formations for maximum effect. While the Boers felt confident with their dispersed long-range machine guns the British encountered far greater difficulties in deciding upon their tactical role. The dispersed nature of Boer positions rarely offered an adequate target for such weaponry.

Despite the fact that the British deployed one hundred and fifty machine guns in South Africa, no agreement was arrived at regarding their utility.[63] General Lyttelton thought so little of these weapons that when appointed chairman of a special Committee of pom poms and machine guns he omitted the latter entirely.[64] To opponents, their record seemed a dismal one, overexposed, poorly supplied, immobile and subject to freezing, overheating, and jamming. On the other hand proponents such as General F. W. Kitchener could be equally lavish in their enthusiasm claiming,

> their effects cannot be exaggerated, and if understood tactically the machine gun dominates the whole question of attack in the future...the lost opportunities, owing to the neglect of proper tactical use of machine guns, was the most important lesson of the war.[65]

Through a receptive forum, such as the Douglas Committee on Machine Guns, serious work was accomplished regarding the weapon's future design and usage. Increased ranges, automatic and semi-automatic firing modes, tripods, protective bullet shield, rifle ammunition suitability, durability, and light weightedness were among the recommendations presented for future consideration. Regarding tactics, many of the rules embodied in

Infantry Training 1902, also stemmed from this source.[66]

The war-time experience had clearly proven the clumsiness and difficulty of deployment of machine guns mounted on high carriages, their dangerous exposure to sniper fire at short ranges and ineffectiveness at longer ones. The sixty-eight pound watercooled maxims had given way to the lighter Colt and Hotchkiss models of under thirty pounds. The Colt in particular was popular on the basis of the performance of Sir Charles Ross' privately donated battery of five guns.[67]

Among many professional officers the utility of machine guns had been appreciated since the mid-nineties. During the 1895 maneuvers two Maxims had been assigned to the cavalry division and the Inspector General of Cavalry, General Keith Fraser, had recommended this number be increased to one per regiment.[68] By the time of the Sudan campaign of 1898 the expeditionary force's machine guns had been massed into a battery. For the South African campaign, the number of such weapons had been augmented to a proportion of one per line battalion. By 1908 the official allotment was increased to two per battalion. The old tale that the army's request for four per battalion

between 1907 and 1909 was turned down by the government for "budgetary reasons" continues to sound credible but remains unsubstantiated.

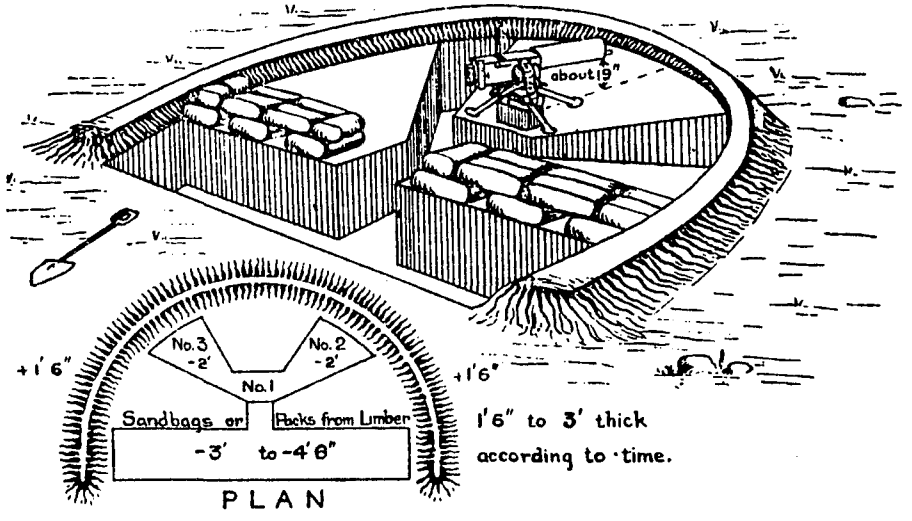
Regarding the tactical utilization of the machine gun, the British, after the Pieter's Hill action had adopted the policy of working the guns in pairs. As the Infantry Training Amendments of May 1909 stated, "the action of the mechanism is liable to temporary interruption by jams. Machine guns should not therefore be used singly under normal conditions. They are organized in sections of two guns which should rarely be broken up."[69]

The British example was followed only by the French. Germany, Japan and Switzerland among others continued to mass machine guns in batteries of six, and Russia of eight, although in 1904 Russia changed to four.[70] In the long run given the unreliability of the weapon the British system proved best as it maximized mobility along with an ability to integrate with infantry units.

As for the actual deployment of the weapon, the British favored the dispersal of the sections along the line whereas many of the French experts favored the maintenance of a strong mobile reserve to frustrate any attack and to cover any offensive.[71] The British hoped

to emphasize the weapon's ability over the middle ground (900 - 1,600 yards) where marksmen could not be consistently effective against the crew members. Two capable men on a machine gun could provide the same firepower as fifty riflemen and were on the average more reliable and easier to direct. The influence of the Boers can be seen in the British defensive mindedness with their machine guns and even more so in the very design of gun pits which were meant to be invisible from over five hundred yards.[72]

TYPE OF GUN PIT FOR DEFENCE.



Further tactical lessons of the war included the utility of machine guns in defending waterways where ripples prove invaluable in ranging, and the difficulty of using the weapons at long ranges. It was not until the development of tracer bullets that the full potential of machine guns could be appreciated.

In the decade following the Boer war, more emphasis was placed upon the proper utilization of the machine gun in the British Army. The four week course given at Aldershot concentrated on signaling, ranging, mechanics and tactics. The cardinal points of the evolving tactical system were concealment, surprise, avoidance of the premature exposure of position and a priority of targets in depth rather than skirmishers. The only difference between the system evolved by 1911 and that of World War I was the number of such weapons per man in the army as a whole, although this ratio was rising throughout the period under discussion. Experience in World War I so altered the proportions of all heavy weapons that by October 1915 a special Machine Gun Corps was created.

Along with the vast changes in the criteria of modern ordnance engendered by the War, explosives themselves had to be reconsidered. Most British artillery, with the

exception of howitzers, used cordite as both a propellant and explosive charge. Cordite was smokeless, three times as powerful as blackpowder and specifically created with the British market in mind. Unlike the more common nitro-cellulose based powders such as pyro-collodion it relied upon nitroglycerine. The advantage gained by this chemical displacement was relative stability. Given the vast extremes of temperature and humidity found within the Empire this advantage seemed well worth the price of cordite's more corrosive effect upon gun barrels. Over the course of various colonial campaigns the ordnance had rarely been used sufficiently for this to be viewed as a problem. In South Africa when the guns were fired round the clock, drastic steps had to be taken to rebore the barrels. On April 30, 1900 a special explosive committee was constituted with Lord Rayleigh as President to look into the matter. It was not until November of 1902 that a sufficiently improved formula was developed and then only with German technical assistance.[74]

Howitzers, unlike the rest of the artillery were not usually located in positions where they could be easily spotted by the enemy due to their ability to fire over intervening terrain and troops. Since their position was

hidden, smokeless powder was not necessary, and a more powerful explosive, lyddite, could be used in place of cordite. With its picric acid base, lyddite, on detonation like the similarly based French melinite and Austrian ecrasite, exuded a poisonous yellow gas which made it essential for the gunners to down large quantities of vinegar as an antidote.[75] If a full detonation took place then a black cloud would arise but much to British dismay that occurred but one time in four with the large 6" shells in which it was used. Roberts, on interviewing former British prisoners of the Boers, cabled Lord Lansdowne, "these officers tell me that after personally witnessing the effect of lyddite, they are unanimous in considering it as of little or no value against purely field entrenchments."[76] Several pages of testimony in a special War Office report lent further credence to the disappointment in the lyddite shell and its unevenness of detonation.[77] Later it was found that the fault was not in the powder. In an effort to maximize the exploding power the British had packed too much explosive within too thin a shell, which burst before complete detonation.[78]

In conclusion it was found, as summarized in a government report, that among the chief lessons of the war

was that, "position, as distinct from siege artillery, may be said to have been used systematically for the first time in the Boer War."[79] Skeptics wrote of long range fire that, "this sort of artillery fire is what we call a waste of ammunition when we do it to others, and a confounded nuisance when they do it to us."[80] Opponents of heavy field artillery based their criticisms in part upon the ineffectiveness of some of the older pieces of equipment. The 15 pounder BL, for instance lacked sufficient velocity to make timed shrapnel effective. Dispersion of troops further served to cut losses, as during the siege of Ladysmith, when one British soldier was killed for every four tons of Boer shells.[81] Perhaps most important from the British point of view was the near imperviousness of field entrenchments to field artillery. At Paardeberg ninety-eight British pieces bombarded for eight days four thousand men who were defending a hastily built series of field-works. Despite the relatively short twenty-five hundred meter range only one hundred casualties were inflicted.[82]

On the positive side, it was argued that any short fall in numbers of casualties inflicted by artillery was due to obsolete equipment or the extraordinary efforts of

those under fire. On September 8th 1900 a company of Gordon Highlanders, marching in column seven miles from the battle of Mauchberg, was struck by a single shell and suffered nineteen casualties.[83] Having to deal with such long range shelling forced an army to spread out far more than it may have wanted to. The presence of naval guns at Ladysmith that could outrange the Boer artillery by two thousand yards doubled the perimeter the Boers had to invest and thus increased the number of men pinned down.[84] The rush to bigger guns led to the first deployment of British rail guns although they had first been suggested in 1891. Under wartime pressure the long standing problem of their stability was solved.

Lord Roberts left no doubts as to his opinion on the matter:

> I trust that in the British army, at any rate, we shall hear no more of the morale effect of guns but of their destructive power, and that generals in command will readily put up with the inconvenience which long lines of guns involve, and the wagons on the march undoubtedly cause, for the sake of heavy well-served artillery the possession of which would in all probability lead to victory.[85]

As early as November 9th 1900 Roberts had written,

> As regards artillery, we must have longer ranging field

> guns carrying a heavier shell without any increase in the weight behind the teams. We must also have a proportion of heavy guns and pom poms with every brigade and division.[86]

Unlike some of his contemporaries Roberts never believed that long ranged artillery was an aberration of the clear atmosphere and open terrain of much of South Africa.

The new generation of guns and tactics that Roberts was calling for had far reaching implications. Greater utilization of artillery could only mean a more rapid expenditure of ammunition necessitating a reconsideration of the number of rounds per echelon and the expected life of gun barrels. Compounding the need for greater ammunition stocks was an appreciation that an increasing variety of shells and fuses would have to be maintained. Longer supply columns to handle the new quantities would further strain the limited horseflesh reserves of the Empire. Sir Arthur Conan Doyle predicted that,

> The bullock guns of the Boers are the forerunners of an artillery which in a country of good roads with steam traction available may assume the most monstrous proportions. The greatest cannons of our battleships and fortresses may be converted into field pieces.[87]

The new artillery, with its greater ranges, necessitated

the procurement of improved telescopes and range finders for the Royal Field Artillery, as well as the addition of signallers and signaling equipment for the Horse artillery, as the Eustace Committee was to point out.

Once the parameters of modern artillery requirements had been established on the basis of the Boer War experience, a host of lesser practical technical modifications began to find their way into experimental designs. Uniformity of parts and mounting was recognized as essential. A battery composed of guns with different sized wheels, brakes and drag shafts simply could not register its fire as quickly as one with uniform composition.[88] Brakes were developed for the gun wheel as opposed to the system of lashings supplemented by wedges developed during the war. The prewar system had used sandbags in lieu of wedges. Wider axles and lower wheels with an emphasis on stability began to make headway in ordnance design as the angle of fire could now be increased by means of the Boer technique of digging firing pits. The development of effectively recoilless guns allowed for the adoption of shields for most sizes of artillery pieces as gunners no longer had to stand clear when firing. The shielding in turn further demonstrated the ineffectiveness

of long range shrapnel which lacked sufficent velocity to penetrate. Newer shrapnel shells had to be developed to work with percussion rather than timed fuses not only to preserve energy but to lessen the possibility of premature detonation when offering covering fire over one's own troops.

With regard to artillery there could be no question as to the war's demonstrating the obsolescence of British techniques and materiel. Tactics would quickly change and continue to evolve over the next decade whereas a complete rearming of the branch was already being called for on February 23, 1900 when Sir Henry Brackenbury, the master General of the ordnance, wrote, "I have put forward a minute saying that we ought to completely rearm the horse and field artillery after the War."[89]

A further ramification of the war for the artillery was the realization of the unreliability of foreign procurements. Buying trips to the continent had many times proven unsatisfactory as agents complained of getting only what the Boers had rejected, exorbitant prices, refusals to sell and late shipments.[90] The next generation of artillery was to be entirely of British design and manufacture.

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[2]Maurice, The Life of Lord Wolseley, p. 473.

[3]Churchill, London to Ladysmith, p. 69.

[4]Brackenbury to Roberts, 9 June 1900, Roberts Papers, 7101-23-11 NAM.

[5]Charles Callwell and John Headlam, The History of the Royal Artillery From the Indian Mutiny to the Great War, (Woolwich: Royal Artillery Institution, 1931), 2:12.

[6]Darrel D. Hall, "Guns in South Africa," South African Military Journal 2 no. 1 (June 1971):10.

[7]Symons, P. 121. and
Lt. Col. p. 153.

[8]Fredrick Maurice, The Life of General Lord Rawlinson of Trent, (London, Toronto, Melbourne and Sydnedy: Cassell and Company, 1928), p. 47.

[9]The naval telescopic sights had far too thick cross hairs for work against trenches.
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[10]Callwell, History of the Royal Artillery, 2:53.

[11]Denbigh, "The C.I.V. Battery of Q.F. Field Guns," Times (London), (1 February 1900), p. 8. and
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[13]L. Dawson to Lord Lansdowne, 26 December 1899, W.O. 108/324 PRO.

[14]Kenneth Brookes, Battle Thunder: The Story of Britain's Artillery, (Reading: Osprey Publishing, 1973), p. 124.

[15]Great Britain, Elgin Report, 40, Cmnd. 1789, p. 85. also see
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[17]Lieutenant General Avon Boguslawski, "Tactical Deductions From the Boer War, Trans. Fredrick Knudsen in U.S. General Staff, Selected Translations..., p. 198.

[18]Edward May, "Retrospect on the South African War," p. 94.

[19]Hall, (December 1971):41.

[20]Sternberg, p. 61.

[21]Gall, 1:255.

[22]McElwee, p. 221.

[23]Robert Devine, Blunted Sword, (London: Hutchinson, 1964), p. 56.

[24]R. F. Johnson, "Thoughts on Coast Defence Suggested by the Boer War," MPRAI 28 (1901): 385.

[25]Marie-Emile Fayolle, Concentration des Feux et Concentration des Moyens, (Paris: Charles-Lavauzelle, 1913), p. 16.

[26]R. F. Johnson, p. 385.

[27]"On 30th October, at Lombard's Kop though we had almost fifty guns in the battlefield, not a gun of the enemy was permanently silenced. They withdrew their gunners, and then when our guns were turned upon another

target, they recommenced firing."
Haig, South African War Diary..., Haig Papers, no. 38, p. 46 NLS.

[28]Edward May, Retrospect on the South African War, p. 116.

[29]Berchem in U.S. General Staff, p. 40.

[30]Berchem, "Notes on the Artillery...," p. 314.

[31]V. A. Jackson, The Organization of Machine Guns and Their Tactical Uses With Notes on Training, (London: Forster Groom and Co. Ltd., 1910), p. 26.

[32]Hiley, p. 262.

[33]C. E. D. Budworth, "Tactical Employment of Artillery as Evolved on the Practice Ground and From the Experience of Modern War," Aldershot Military Society 99 (London: Hugh Rees Ltd., 1908), p. 6.

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[89]Brackenbury to Roberts, 23 February 1900, Roberts Papers, 7101-23-11, p. 2 NAM.

[90]A. J. Dawson, director of Vickers, Sons and Maxim Ltd. to General Brackenbury, Report on Buying Trip, 1 January 1900, W.O. 108/326 p. 9 PRO. and Proposed Purchase of Material of War in Foreign Countries, W.O. 108/327 pp.1-3 PRO.

Chapter IX

Cavalry and the Final Formula

It is ironic that cavalry should have played such an important part in a conflict that in so many ways served to usher in the modern era. Cavalry as it evolved during the war may have reached its maximum utility in warfare.

As constituted in 1893 Her Majesty's cavalry forces consisted of ten heavy, nine medium (three dragoon and six lancer) and twelve Hussar regiments. This proportion departed from the European norm by its emphasis on heavier and elite troops. This imbalance may have been a direct response to the larger organizational troop strength of continental armies from the squadron level on up.[1] Together with many of their European counterparts the British were impressed by the Kaiser's yearly maneuvers on Rossbach field featuring fifty charging squadrons armed primarily with lances. The advocates of shock action cavalry were undergoing a resurgence of influence and their preferred weapon was the lance. Great faith was placed in the theory that the smaller bullets fired by the Lee

Enfield, the Mauser and the Lebel rifles would lack stopping power against the horse.[2] Such beliefs were by no means universally held as evidenced by the unnamed Times of London military critic who wrote "it may be confidently asserted that cavalry trained solely for shock action will fall far short of what will be required in modern war. At the present time little is known about the power of cavalry as now armed in war."[3]

The bulk of British officers rejected the work of Captain Charles Chesney,Lieutenant-Colonel George T. Denison, and Colonel G. F. R. Henderson who had attempted to explain cavalry ineffectiveness in the American Civil War in terms of infantry firepower. Instead they preferred the views of Lieutenant-Colonels H. C. Fletcher and J. A. R. Freemantle, both of the foot guards, with their emphasis on lack of cavalry training and discipline.[4] Henderson's theories advocating independent cavalry divisions specially trained for raiding and reconnaissance remained an object of particular scorn. Henderson had been a great student of the campaigns of Jeb Stuart and appreciated the occasional use of dismounted trooper. Such tactics were frowned upon by regular horsemen. Consequently as pointed out by the military correspondent

of The Times of London, they were insufficiently drilled and aggressive in the dismounted mode. They proved incapable of beating their way through an infantry screen in close terrain and were forever preoccupied with the proximity of their horses.[5]

For the South African campaign the primary cavalry concern should have been with its role as an advance force and not as a shock weapon. Properly deployed such a force would be responsible for:

1) inhibiting the cavalry of a superior force

2) driving back enemy cavalry when one was superior

3) exploring terrain and staking out a wide area of maneuver

4) maintaining constant contact with the enemy by piercing his screen

5) threatening enemy flanks

6) gaining time for friendly deployment.[6]

On rare occasions the purer form of old line cavalry tactics did manifest itself. At Elandslaagte for instance Colonel French's Lancers and Dragoons attacked retreating Boers from a hilltop position barely three hundred yards from their flank. As the two hundred British rode back and forth five times through the Boer ranks inflicting sixty

casualties, the ground was laid for a lasting antipathy between Boer and Lancer. The Burghers could not understand the cavalryman's inability to stop and take prisoners mid-charge nor the British frustration under the general conditions of the campaign. Perhaps the greatest moment for the classically trained cavalryman was French's charge at Klip Drift on the road to Kimberley. Nine hundred Boers were discovered in the process of withdrawing in the face of 5,000 cavalry, 54 guns and 7,500 assorted infantry and mounted infantry. Making full use of surprise, covering fire, and the dust of thousands of thundering animals, French's force swept forward in an effort to break through the lines. While few casualties were inflicted, only one death and twenty wounded were sustained. Most importantly the road to Kimberley was now open.

If Elandslaagte and Klips Drift represent the high point for battle cavalry then far more must be said of its failures. South Africa was often a poor country for a surprise cavalry attack. As Winston Churchill related, two thousand Boers in the open simply could not be pinned by a larger British cavalry force. Constantly harrassed, the British would charge only to sustain twenty dead troopers and 30-40 dead horses while observing the Boer retreat when

still some 600 yards distant. The English would then regroup on their now blown steeds as the Boers returned to their irritating tactic of sniping.[7] True to the then modern maxim of Sir Edward May that "Nothing decisive is ever accomplished in a cavalry action except by flank attacks,"[8] the British seemed doomed to frustration. Poor intelligence could lead to futile frontal charges such as Lieutenant Colonel Hubert de la P.Gough's surprise on finding he had committed two hundred and eighty five men against two thousand of Botha's. Thirty-eight men and half the officers were killed with the remainder captured in this testament to the "cavalry spirit".[9] Even a turning movement as recommended by May had to be modified in the face of modern weaponry. Moller's maneuver at Talana proved so wide as to be out of position at the crucial point in the battle. Outflanking a position "was not a matter of merely circling round this or that parish, but, circling through the next county and perhaps further."[10] By the next war such turning movements would involve whole countries. Frustration built on frustration as two squadrons of the eighteenth Hussars discovered upon meleeing some isolated Boer detachments. Swords kept in battle regulation steel scabbards did not

keep their edge and could not penetrate homespun without resharpening. Encounter actions did not allow sufficient time and the Boers escaped with only bruises.[11]

The discomfort of British cavalry with its inability to keep up with the Boers strategically and to position themselves advantageously tactically was due in great part to the disparity between the load of the average Boer pony (250 lbs.) and that of the British horse (400 lbs.).[12] As R. H. Morrison stated, the British placed "big men on undersized skeleton ponies, carrying a heavy saddle, sword, lance and carbine, cloak and waterproof sheet, wallets stuffed with anything, probably, which it pleased the soldier to stow there, and a third of a sheep or twenty pounds of firewood hung about in addition."[13] Highly impractical, British accouterments featured redundancy in design with no consideration for weight and every concern for show, down to large shiny buckles and bags for holding extra shoes and clay for the numerous superfluous belts. Perhaps the crowning absurdity was while dressed as an infantryman, the trooper often sported a steel net foreshoulder protector against an enemy that forswore the sword.

The heavily loaded horses explain why the British

frequently could not overtake the smaller Boer ponies. Time and again charges would land in the air with blown mounts. At Elandslaagte, Modder River, Poplar Grove, and Ladysmith the cavalry proved unable to fulfill a pursuit role. The cavalry's normal pace was twenty to twenty five miles per day with a maximum pace of fifty miles per day. However even the slower rate could not be maintained for many days. During the "epic" march on Kimberly, French's force covered 150 miles in six days losing 1,500 of 5,000 cavalry along the way while encountering virtually no resistance. In the way of contrast, Morgan's raid during the American Civil War had covered 300 miles in eight days with minor losses as had Stuart's ride of 96 miles in 36 hours around McLellen and Kilpatricks raid of 400 miles in sixteen days. By the time French reached Kimberly the only units in his command still fit were the two brigades of mounted infantry and colonial light horse. Both of these units made frequent stops to rest the relatively untrained riders and allowed for more regular feedings of the animals. In this way the horses inadvertently benefitted from green troops. Horses have one of the smallest ratios of stomach to mass known in comparative anatomy and thus are best off when given frequent access to moderate amounts

of rations.

When General French finally arrived athwart Cronje's line of retreat at Paardeburg, one may wonder how he would have reacted despite being outnumbered six to one had not so many of his men been dismounted. As things were he had no choice but to fight afoot and dig in thereby setting up the capture of Cronje's entire army.

Inordinate waste of horseflesh plagued both sides throughout the war. Of the seven hundred and fifty thousand horses committed by the British barely a third survived, the remainder falling victim primarily to mishandling and relentless campaigning.[14] Conan Doyle felt that even at wars end, "the obvious lesson had not yet been learnt that it is better to give one hundred men two horses each and so let them reach the enemy, than to give two thousand men one horse each, with which they can never attain their object."[15] The Boers consistently attempted to maintain a ratio of two horses per rider.

The British felt they could never have enough cavalry. When officers could write that in October of 1900 that the nine thousand cavalry attached to the two hundred and forty six thousand infanty, attempted to do the job of ninety-two thousand it was understandable why little

consideration could be given to double horsing the troopers.[16] The only alternative was to reduce the load per animal and improve husbandry. The Gordon Committee on Horse Transport would probably go the furthest in integrating the various proposals along this line, namely lighter men, remodeled saddles, smaller wallets, elimination of breastplates where applicable, lightening the lance, and the designing of a sword for parry and thrust rather than the heavier slashing saber.[17] Radicals went so far as to suggest that a choice be made between lance and sword so as to further conserve weight.

One lesson of the war that was immediately obvious to the British was the need for improved scouting techniques under radically altered circumstances. The Boers were virtually undetectable once in position and thus had to be observed while on the march. The omnipresence of their patrols made it difficult to penetrate their screens. Maintenance of the cardinal principle of French cavalry, the so called "conservation du contact" proved impossible. The only reliable information was that gained on the battlefield and even there the Boers were ever capable of shifting position at a moment's notice.

British scouting techniques did in fact improve over the course of the war. Initially lacking in self-confidence and maps, small patrols tended to hover within a quarter of a mile of their columns so as to avoid getting lost or cut off.[18] Later, one or two troops (the equivalent of an infantry squad) would be detached in a picket line at one hundred yard intervals to sweep well in front of the infantry. The remaining troops of the squadron would form a reserve stationed between one half mile to a mile to the rear. This improved system compensated for the lack of officers, overweight and underfed horses that could be outrun by the Boers, and the higher command's lack of faith in the cavalry, and provided greater coverage while offering lesser targets to the enemy.[19]

Just as technique changed over the course of the war, so did armament. The late days of 1899 saw a rush among mounted units departing England to equip themselves with the most modern Lee Enfield 1896 carbines, often doing so out of private unit funds rather than waiting for governmental appropriations. So frantic had been the sales of these weapons that there was literally none left to sell to the government when military policy was at last

officially altered.[20] The carbine proved a major disappointment against the rifle and a switch to rifles was quickly undertaken with the 18th Hussars being the first unit to be so armed. The supreme importance of firepower to all services had become incontestable. Some crack Dragoons, Hussars and Lancers abandoned the sword altogether by the later stages of the war as a useless encumbrance.[21] Whereas early in the war a fifty round bandolier with an additional fifty to one hundred rounds somewhere in the wallets had sufficed, later developments led to two bandoliers across the chest with another draped around the horse's neck in addition to that found in the wallets. This manner enhanced both access and quantity of ammunitions.

Military circumstance had indeed changed. General French's comment that "cavalry like the other arms will of course gain strength in the possession of an improved fire arm and (with greater attention paid to training in its aim) will probably resort to more frequently than formerly to dismounted action",[22] merely reflected the status quo. Already by this time the British cavalry had acted successfully on foot on several occasions such as at Dundee where four squadrons of Imperial Light Horse (ILH) and a

squadron of Lancers had driven the Boers from some ridges and thus allowed the infantry to proceed entrained. At Elandslaagte the ILH had skirmished in front of the infantry during the battle and covered the retreat of the entire Natal field force afterwards. Among traditionalists these new tactics were not appreciated. It was regarded as conventional wisdom that any unit that had engaged in a firefight would be incapable of mounting a final charge and thus (in their view) would nullify cavalry's basic purpose.[23]

Further proof of the altered role of cavalry may be found in its propensity towards the end of the war to carry pick and shovel among its gear. Austrian cavalry had for many years included sections of mounted pioneers but it took the Boers to convince the British of the utility of acquiring even a modicum of training along those lines. The most obvious advantage of such skills resided in the troopers new-found ability to create an improved position when acting on foot.[24]

The net effect of the many changes in cavalry accompaniments and tactics was to improve its performance when dismounted. Considerations along these lines were not new however. Going back to 1881 the British had attempted

to create a limited number of Mounted Infantry similar to pre-Napoleonic dragoons. This small specialized branch gleaned from infantry volunteers had always remained something of a stepchild, shunned by infantry and cavalry alike. The Mounted Infantry Regulations of 1899 specifically recommended that they try to limit their actions to areas of rough terrain with foot action as their primary concern.[25] Mounted Infantry by their very definition were separated from cavalry by their lack of training in shock tactics. Under such constraints and with limited support its lack of popularity may well be understood.

First suggested by Jomini, introduced by the Americans who claimed no credit, and hesitantly adopted by the British, Mounted Infantry were very much in search of a meaningful doctrine. United States practice held that Mounted Infantry could be useful driving in small parties of opposing infantry, holding defiles or important features, reinforcing infantry or plugging a gap, maneuvering in bad terrain, or providing fire support for regular cavalry.[26] Charles Goldman cites Balck as a European authority who envisioned a still broader role for Mounted Infantry including rear guard actions, pursuit, and

protection of bivouacs. Balck however continued to believe in their shock potential and consistently warned against their over-commitment to firefights as this would ruin them for their more important cavalry role.[27] What he overlooked was the essential difference between it and regular cavalry, namely, its lack of training in mounted shock tactics. Infantry could be trained to ride in a month but cavalry required six months of instruction.

In the second stage of the war, marked by among other things the almost total lack of Boer artillery and a concomitant increase in their speed, the British found themselves hard pressed to keep up with their fleet foes. One solution was to convert large numbers of troops to a Mounted Infantry role. By December of 1901 most of the British guns had been sent home as a result of their negligible utility against the mobile guerrilla tactics of the commandos. The artillerymen were retained however and converted to Mounted Infantry. It was deemed easier to train men to shoot than to ride. Not even a battalion of Guards were above conversion. All manner of experiments and suggestions were entertained to speed up the infantry. Mules, despite their hardiness, were too difficult to ride due to their shambling gait and long stride. Two to three

man carts proved fragile and expensive. Yet, with the passage of time, the numbers of Mounted Infantry did significantly increase and no column moved without their ever growing compliment.

Despite their large numbers and important assignments, Mounted Infantry continued to be viewed with scepticism by the rest of the army. Neither infantry nor cavalry officers believed that they were capable of functioning on their own and perhaps the mixed quality of the various Mounted Infantry units helped to explain this. Those units composed of colonials such as the Imperial Light Horse and Brabant's Horse proved significantly more capable of functioning in open order, riding long distances, and shooting. Neither should the number of such troops be underestimated for as early as July, 1900 the 11,584 colonial cavalry (Mounted Infantry) nearly equaled the number provided by Great Britain herself.[28] It should be remembered that many of these men were in fact horsemen, trained shots, and of a more independent spirit than the average soldier. As for the British units, they always suffered by comparison. While Boers and colonials might knee halter or tie a string of horses in a circle when committed to battle afoot, British Mounted Infantry

would always detach every third man of the command to act as horse holders.[29] Practices suitable to a European battlefield where artillery was omnipresent did not count as much in Africa where every mobile rifleman was crucial. Regulations as much as prejudice and dearth of talent combined to limit British Mounted Infantry's utility. One can understand why officers such as Captain Anley complained that "the efficiency of mounted infantry absolutely demands complete equipment for each company and field garrison...My regiment (for instance) was allowed no signalling equipment."[30]

Despite the many presumed inefficiencies of Mounted Infantry there was no overlooking its utility in South Africa. A special War Office study on cavalry brigade composition conducted in October of 1901 recommended the permanent attachment of a battalion of Mounted Infantry to a cavalry brigade as part of the suggested six army corps, thus mandating an entire Mounted Infantry brigade of four battalions.[31]

As Adalbert Sternberg, a German participant with the Boers put it, "the English cavalry produced but poor results in South Africa although there more than anywhere else it had a raison d'etre: it was only when combined

with Mounted Infantry that it was to be feared.[32] Even General Haig who claimed "the mounted attack,...must alway be our ideal, our final objective. (Came to accept the fact that) at the same time, dismounted tactics are an absolute necessity."[33] Radicals such as Lord Dundonald in his Canadian Cavalry Regulations of 1904 came to the conclusion that "for all practical purposes the profitable employment of cold steel is over"[34] believing that a single dismounted and firing cavalryman was the equal of two charging swordsmen. Whereas Lord Roberts' cavalry manual of 1898 echoed the then conventional wisdom on cavalry's avoidance of being caught by a mounted foe when they themselves were dismounted, such was no longer the case in the postwar world. Dismounted fire both in support of a charge or in opposition to one by at least part of the command was recommended by such contemporary authorities as E. E. Booth in his Fort Levenworth lectures.[35]

In conclusion regarding cavalry, it may be seen that this arm by itself hardly lived up to the opportunities offered it. An elitest arm of an army that was as much a social as a military institution, it tended to harbor more than its share of well-bred incompetents. Lord Roberts' view on the matter was quite clear. "Irrespective of the

Household Cavalry, there were seventeen regiments with me in South Africa, the commanders of eleven of these had to be removed, and only one or two of the remaining six were really fit to be at the head of a Cavalry regiment."[36] In cavalry leadership counts almost above all else. To grasp a situation quickly and act decisively is of the utmost importance. Unfortunately, in cavalry commanders this trait was often found wanting. It might be said, at least in the beginning, that the English cavalry showed it could not scout for lack of training, shoot for lack of weapons, march from being overweight, or fight on exhausted horses. Numbers alone could not rectify matters. Despite a four to one superiority it still took four months to pierce the Tugela river line. Even with overwhelming numbers the siege of Mafeking lasted seven months.

There can be no doubt that the cavalry's crowning achievement came in dismounted fighting at Paardeburg and that its penultimate failure came in the countless De Wet hunts. Pure cavalry was rendered helpless in the face of a diamounted Boer who, laying hidden and protected, could shoot onrushing cavalry at greater ranges and at higher rates of fire without revealing his position due to smokeless powder.

In the postwar era traditional roles and tactics would have to be reexamined.[37] The qualities of discipline and cohesion would have to give way to greater independence and initiative. Skill in horsemanship and swordsmanship would have to be balanced by marksmanship. Firepower would have to be increased by the substitution of rifles for carbines, the allotment of a machine gun per squadron and the addition of two pom poms per RHA battery (the brigade complement) as per the recommendations of the Dickenson Committee.[38]

Shifts in small unit tactics and equipment do not in themselves sufficiently explain the ultimate British victory. The War had two distinct stages with the second proving to be far the more difficult for the British to master.

On June eleventh through thirteenth 1900 the Boer armies fought their last major conventional battle at Berg-en-Dal (Dalmanutha) on a thirty mile front occupied by 6,000 men. This defeat left the way open for British occupation of the northernmost reaches of the Transvaal. The Transvaal itself was officially annexed on September 1,1900 and Komati Poort the last remaining outlet to the rest of the world was occupied on September 24th. By mid

October, General Buller had departed for England and his Natal field force was officially dissolved. Lord Roberts left soon thereafter. Throughout the early fall foreign observers and journalists continued to depart. The first edition of Conan Doyle's The Great Boer War was published as the war seemed over. Unfortunately it would take two more years and another nine chapters before Doyle's second edition could truly be judged complete.

As any shrewd observer of the situation would have noted, despite the occupation of all the major towns, not a single important Boer leader had surrendered since Paardeberg. Time and again the British captured towns bereft of all civil and military leadership. General Lord Kitchener had perhaps 200,000 troops of which 100,000 were garrisons with which to pacify an immense area that had broken in open revolt in the aftermath of a series of daring raids staged by De Wet, De La Rey and Botha in late November.

Once again, Great Britain was to be sorely tried by 15,000 elusive commandos. Free of all encumbrances, such as artillery, the Boers roamed at will, attacking isolated British outposts. Tied to railroads for supply and lacking adequate cavalry, there was at first little Kitchener could

do. As the fixed positional situations of the early war gave way to a more mobile form the British once again had much to learn and this time it was Christian De Wet who was to prove their most adept teacher.

> His practice of carrying nothing on the men but their arms and ammunition, his superb night marches, his ruses, doublings, twistings, his bold use of ground and to a certain extent his skill in handling a convoy became eventually the method of his foes. Administrative deficiencies and bad horse-mastership caused the lesson of employing large numbers of led horses to be wasted. De Wet's independence of artillery was ignored and most important of all his scouting was never approached.[39]

At first, due to the insufficiency of cavalry, the British recourse was to multiple infantry columns. The fruitlessness of such a response to mounted troops is self-evident and the pursuant frustration obvious from material such as Rudyard Kipling's poem "Boots". In order to improve the troop's marching capabilities the personal kit was drastically reduced to ten pounds per soldier and thirty five per officer in Methuen's columns.[40] With a new emphasis on speed the marching rate increased considerably. Smith-Dorrien's brigade covered 116 miles in seven days and 245 miles in eighteen, while yet another brigade covered 40 miles in forty-eight hours.[41] Success came to depend almost totally on the army's

marching ability. With overwhelming numbers and firepower the problem was simply one of finding and pinning the enemy. The first Duke of Wellington probably best understood this puzzle for, when asked what he considered the single most important requirement of a soldier in war he was reputed to have stated, "boots", and, when pressed for the second most important item, to have replied, "another pair".

Single columns stood little chance of cornering men such as De Wet, and Kitchener was forced to resort to specially organized hunts with a single commando at a time as a target. The first De Wet hunt, actually organized in July of 1900, took over a month and proved as barren of results as its many successors. Time and again the Boers would escape because some troops were exhausted, others fell for feints, still others were misdirected by an ever tightening command control exercised by Kitchener, or De Wet would find a way across some supposedly insurmountable natural obstacle. The use of a multitude of smaller columns to cover larger areas and to prevent the Boers from doubling back was fraught with particular dangers. If not properly supported and amply supplied such columns could simply be overwhelmed. A finely tuned, well reconnoitered,

calculated dispersal even in march order became an absolute necessity.[42]

Perhaps the most successful of all British column commanders was Lieutenant-Colonel George E. Benson, ably seconded by his excellent South African intelligence officer Major Woolls-Sampson. Benson had placed special emphasis on night marches and his cavalry columns could cover thirty to forty miles in a night and still hit the Boers before they were in the saddle. Wolseley had in the prewar years frowned upon night rides as unnecessarily wearing on the horses. On the other hand, the realities of campaigning had so altered matters that an unnamed cavalry officer was able to write General Evelyn Wood that, "nearly all our work is done at night, and we have not made a night march yet without a fairly good bag resulting."[43]

The successes of Benson's search and destroy operations were such that by the fall of 1901 Botha himself resolved to eradicate the problem. Secretly amassing over 800 men in the vicinity of Benson's rear by means of a thirty mile nighttime forced march, Botha sprung his trap. The thousand odd men of Benson's column were deliberately dispersed by natural obstacles and a series of Boer attacks on the rear guard. In an effort to free his rear guard,

Benson led a hundred cavalrymen to their rescue only to be himself engulfed by a mounted Boer charge. The battle of Gun Hill on October 30,1901 must be counted a major Boer victory, for at the cost of a hundred men the Boers effectively eliminated Benson's column killing, wounding or capturing one third its number including its commander.

If drives conducted by columns may be seen as a purely offensive strategy then the development of the blockhouse system must be seen as a multipurpose phenomenon. Initially, key terrain features had been defended by a series of trenches but by January of 1901, the blockhouse system had evolved. Blockhouses were at first built to protect vital portions of the railroad infrastructure such as bridges and coaling stations. Later, the system was expanded to cover the entire length of the railroad lines. In its maturity, the blockhouse system spread across the open country as well as the rail lines. It came to play many roles: first, that of protecting the rail lines, second, interfering with the free flow of commandos across the country, and third, acting as a source of local intelligence. All of this was made possible by the general openness of the terrain and the near complete absence of artillery among the Boers in the later stages of

the war.

The earliest engravings and photographs of the blockhouses show open-topped metal cylinders built with the assurance of a Boer lack of howitzers and mortars. As the burghers began to improvise hand grenades from sticks of dynamite, a wave of rapid development spread through these previously simple structures. In its final design, according to the system invented by a Major Rice of the Royal Engineers, the blockhouses consisted of two corrugated iron cylinders one of a twelve-foot diameter and the other of fourteen, covered by a pitched overhanging roof. Once the smaller cylinder had been placed inside the larger one and the firing ports aligned, the dead space in between was filled with stone and earth and the whole edifice topped off with the roof. Each blockhouse was then manned by seven soldiers and connected to its neighbor two to four hundred yards off by a row of barbed wire and an anti-wagon trench.[44] There were variations on this theme regarding shape, materials and even purpose but this was by far the standard model.[45]

Under normal circumstances such "pillboxes" could be constructed by twelve men and twenty natives in eight hours. The cost varied from £50 to £70 if done by outside

contractors or £16 if carried out by Royal Engineers. Naturally the larger structure built at key bridges was more costly, sometimes as much as £600 .[46]

When complete, a subaltern, an NCO, five soldiers and ten non-combatants plus dogs (the latter two slept outside) staffed each structure. Every ten blockhouses were commanded by a Captain who had a ready reserve of thirty men. As a further reserve along rail lines there remained armored trains which could be contacted by telegraph. The role of the dogs, first suggested by Major Hautonville Richardson, was to help in reconnaissance, sentry duty and the delivery of messages.[47] The blockhouses were deliberately placed in random alignment to prevent their firing on each other. Nonetheless the future General J. F. C. Fuller remembered lying in bed many a night listening "to a battle on the railway line between Kaffir watchmen who were blazing away at each other."[48] He recalled one instance in which over a hundred miles of front was so preoccupied that thousands of rounds were fired before control was restored and all without inflicting a single enemy casualty.

Despite the steady improvements made in the blockhouse system over the course of the war, they could

not by themselves bring the conflict to a close.[49] For a tremendously expensive undertaking, blockhouse lines were never foolproof. De Wet on one occasion broke through the line between Heilbron and Lindly with 2,000 men plus a herd of cattle while sustaining losses of but twenty-five horses and three men and that experience was not unique. The line could not even effectively hinder Boer communications since the heliograph could easily work above such obstructions. In the end, Rawlinson plaintively wrote Roberts of, "the blockhouse lines which, I am sorry to say, they have now learned to cross almost with impunity in any direction."[50]

In short, one should not be too hasty to praise the blockhouse system as a war winning measure although at the same time one should recognize the system's ingenuity, utility and scope. Ultimately, 8,000 blockhouses were built covering over 3,700 miles.[51] If never impenetrable, they at least acted as filters that in each passage served to whittle away at Boer numbers and morale. As for future utility, the lines of cheap, quickly-built blockhouses represented a tactical dead end in the face of the rapidly improving weaponry available to the smallest units. Even in their day they were something of an anomaly

since they depended upon the Boer's utter lack of artillery in the later stages of the war.

While neither blockhouse lines nor columns could win the war, the addition of a third element, the sweep, may well have proven decisive. Perhaps modeled after Darius' man to man sweeps of Chios, Lesbos and Tenedos these new model drives aimed at covering scores of miles of frontage in a meticulous manner. The entire country was to be divided into zones bisected by blockhouse lines. Moving through each zone in an exceedingly deliberate manner were tens of thousands of nearly shoulder to shoulder infantry for whom every route, provision, reserve, rest area and reinforcement had been preplanned.

Information came to be at a premium, despite the early war's mistake of invaliding home the capable Colonel Henderson (the future author of the official history of the war) and the neglect of Colonel Hume, his successor, as Chief of Intelligence. Hume was the first to suggest a vast expansion in intelligence training, the attachment of one such specially trained officer with each column and greater coordination in its processing. Hume had also advocated the creation of a special unit for counterespionage work. It was through much of his efforts

that this branch grew to 132 officers, an historically high level, although none were specifically school trained.[52]

Better British training and intelligence were still no match for military genius as proved by the first new model drive to catch De Wet on February fifth to eighth 1902. Despite the commitment of 300 blockhouses, seven armored trains and 17,000 troops De Wet was capable of breaking through the blockhouse line with losses totaling 286 including killed, wounded and captured. Within days he reentered the same area, once the pursuit had been cancelled. Just as numerous old fashioned converging column attacks had come to nought in the hands of pedantic officers who failed to use initiative or overeager commanders who jeopardized entire plans for targets of opportunity, the new system could be overly rigid. Kitchener, who had time and again watched Boer leaders slip through his hands hoped by means of his new system to eliminate all need for initiative so that all of the Boer feints and doubling backs that had worked so well in the past would prove fruitless in the future.

Kitchener was not a man easily deterred. Despite the meager returns on his first effort a second drive was

organized within five days. Again De Wet broke through, losing only fourteen killed and twenty wounded of his immediate command. This sweep however had to be counted a success as fifty other Boers were killed and an additional 7,778 were captured, although just how many of these were resisters, rather than civilians, was open to question.

Typical drives could include thousands of men up to a month at a time. The large scale efforts such as the De Wet hunt of 1901 involving 15,000 men in fifteen columns or the 21,000 in seven columns plus infantry launched versus Botha never guaranteed success. The drives did serve to keep the Boers constantly on the move, depriving them of time to rest and refit as well as setting them up for the darting columns and night attacks espoused by Charles Callwell, the noted military theoretician from even before the war.[53] The English never became adept enough at night movements to prevent Boer backtracking. The toll of constant countermarching on troops was tremendous. Rawlinson's column at times averaged twenty-eight miles per day and on one occasion accomplished three night marches in four days.[54] The rare coups were separated by months of relentless pursuit and drudgery as exemplified once again by Rawlinson's mounted column which between April 1,

1901 and June 10, 1902 marched 5,211 miles, killed sixty-four Boers, wounded eighty-seven and took 1,376 undifferentiated prisoners, at the cost of twelve British dead and forty-two wounded.[55]

By late in the war over a third of Kitchener's 240,000 men were mounted and sixty thousand of them were divided into sixty columns that continued to campaign right through 1902. No better proof exists of the sterility of a strategy based solely on blockhouses than this continuous effort in mobile warfare, despite the support of an enormous network of fixed positions.[56] Interestingly the last stages of the war saw a decided emphasis on elite, lightly equipped units led by such independent types as Rimington, Benson, F. H. Damant and Sir John Dartnell, men in many ways remarkably similar to their opponents.

A further ingredient in the British formula for victory, can be identified in the role of civilians, both black and white. It may seem obvious that had the British elected to arm the natives against the Boers in the fighting they would have been assured of an enormous numerical superiority from the start. Such a policy, however, would be fraught with difficulties for white men thereafter in South Africa and perhaps elsewhere. Lord

Balfour as early as July 28, 1899 had already posited the view before Commons that in the case of war no non-whites should be used in combatant roles.[57] By definition Balfour excluded not only South African blacks but also the great bulk of the Indian Army. Baden Powell's command at Mafeking was perhaps the sole exception to this unwritten rule as under extreme pressure he felt the necessity for arming three hundred Baralongs and thus they came to number one third of his garrison.[58] An additional 10,000 natives in various enclaves and independent states were armed so as to help preserve their neutrality and prevent the Boers from violating their borders in an effort to elude the British.[59] This should not lead to an underestimation of the often unwilling native contribution to both sides as laborers and porters.

Lastly, regarding Indian troops, there is the enlightening cable from Roberts to Kitchener dated January 31, 1901 refusing their commitment to that theater on the grounds that, "it would look as if we had no more white troops left. Not far wrong perhaps, but it is as well this should not be generally known."[60]

The treatment of white civilians is a more complex issue than that of the natives, subfused as it were in the

larger problem from the British perspective of determining just whom they were fighting. Initially the British thought themselves to be fighting a foe along traditional European lines, that is to say an army that when beaten surrenders, and when offered parole, abides by its provisions in all good faith. Shortly the British came to realize that the Boers were not a people to abide by conventional dictates and that the enemy was in fact the entire population.

The Boers for their part believed that among civilized people a "white flag war" could exist. Their belief that quarter should always be given and truces be systematically instituted for the benefit of the wounded was rudely shattered by the British recourse to bayonet, lance and saber. Roberts' rejection of a neutral hospital zone at Paardeberg, unlike Joubert's magnanimity at Ladysmith, smacked of barbarism. The Boers had difficulty enforcing any surrender discipline since every individual claimed the right to raise a white flag on his own account. Such a policy led to nasty incidents when some Boers continued to fire long after a white flag had appeared. Further confusion arose out of frequent violations of parole, actively aided and abetted by the supposed civilian population.

In many ways both sides felt the war to be a unique experience. For the British, the hope of an easy reconciliation constantly betrayed itself in what some called a soft policy whereas for the Boers, the novelty of fighting Europeans seemingly necessitated a change from their more ruthless methods of warfare used against natives. How else can one explain the Boer fuseless shelling of Ladysmith with plum pudding during Christmas 1899? Churchill's arrest by the Boers reflected a response to what they deemed an insult since they did not consider themselves natives against whom a European correspondent need arm himself .[61] Had they known the full story of Churchill's role in the armored train incident they could have felt justified on any basis since he had indeed acted as a combatant.

The British felt it necessary to escalate pacification methods in the face of Boer obstinacy. Homes and crops were burned on many pretexts: to cower the enemy Colonel Pilchus devastated thirty square miles of the Orange Free State; to revenge attacks on railroads as per Roberts' order No. 602; and to denude an area of supplies in the cases of Generals Cambell in Fickaburg, Rundle in the Free State, Paget in the Transvaal, and Methuen in

Zeerust. Other reasons for destroying civil property included punishment for the following offences: sheltering Boer scouts as per Robert's April 1900 order, lacking men on the premises when they were known to be on commando, breaking of a neutrality oath or firing under a white flag, communicating with the enemy or simply being close to a guerrilla action, and even for refusing to scout against enemy snipers according to Roberts' order dated October 24,1900.[62] As further proof of the severe straits of British policy martial law was instituted on January 17,1901. Among the various laws promulgated thereafter were pass restrictions governing all movement, limitations on various "prohibited goods" including food for man and beast, leather goods, and blankets. Bicycle registration was required, curfews were applied, commandeering of "excess" horseflesh was instituted, detailed daily hotel reports and an increasing disregard for neutrality of civilians was demonstrated as they were actively coerced into supplying information on burghers still in the field.

Despite the breadth of restrictions and the subsequent widespread violations of these laws placed upon a people who had previously enjoyed freedom, the British should not be judged as intentionally harsh conquerors.

Only fifty-one people were executed for treason over the course of the war and the majority of those (thirty-one) were from the Cape Colony.[63] The Boers themselves realized this. Deneys Reitz, a participant, wrote, "amid all the cruelty of farm-burning there was one redeeming feature in that the English soldiers, both officers and men, were unfailingly humane. This was so well known that there was never any hesitation in abandoning a wounded man... in the sure knowledge that he would be taken away and carefully nursed."[64]

There was however one aspect of British pacification policy that did cast lasting opprobrium upon their methods, that being the institution of concentration camps. The military gave three pretexts for their existence: first, and least plausibly, they were meant to protect the isolated Boer families whose men had gone off to fight; second, they were meant to separate the commandos from the supplies and intelligence that their families could provide, and third, it was claimed that the subsequent isolation would force the burghers into surrender. One hundred seventeen thousand whites and 75,000 natives were thus incarcerated. Approximately 20,000 of the whites died in these camps which had a mortality rate of over twelve

percent per year, and this served as a source of future resentment.[65] More children under the age of sixteen died in the camps than did men on both sides by bullets and shells over the course of the entire war.[66]

The reasons for this disaster were many. The camps originally were sited with military considerations being of uppermost importance. Sanitary concerns were secondary when these posts first began to accept refugees. The Merebank Camp for instance was situated in a swamp. The fact that many camps used untreated water (neither boiled nor filtered) served to exacerbate matters. At the Bloemfontein Camp the problem was poor food and clothing, at Polchefstroom it was lack of tents and at Johannesburg prolonged residence in stables. Commandos added to the problems by their attacks on water supplies and convoys, as well as by allowing their families to fall into English hands and thus swelling the number that had to be cared for. Trek Boer women did not help matters by their unfamiliarity with latrines and lack of proper health habits regarding washing, airing or eating, and they had no one to teach them. An allocation of sixty-five latrine pails for women and twenty-three for men in one camp was insufficient.[67] The British terribly mishandled

administration and supply as the camps were given a low priority amongst military concerns. Boer ignorance of life in a high population density environment coupled with British nonchalance led to tragedy.

Tales of the widespread epidemics of measles, dysentery, pneumonia, scarlet fever, influenza, bronchitis, whooping cough, diphtheria and malaria reached even Great Britain. Spurred by the accusatory pen of Emily Hobhouse the government finally appointed a commission for investigation of the charges.[68] The landmark Fawcett Commission on concentration camps, (the first composed entirely of women), much to the goverment's dismay, largely concurred with the radical Hobhouse. Among its various recommendations the Commission proposed improved medical facilities and shelters and increased food, fuel and medical rations. Underlying the report was a strong criticism of the military's handling of the situation.[69] As poor as things were in the camps for the whites, one can only wonder about the conditions in the native camps where servants were kept and where no records existed, as the Fawcett Commission never visited such sites.

The concentration camps were a failure. Despite the

negative press the Boer men found the plight of their families far less worrisome than the British imagined. In comparison to leaving their families alone on the veldt, the camps seemed reasonably safe. Besides, the commandos were never overly dependent on their families for supply.

Male Boer prisoners of war generally fared far better than the rest of their families since the army had at least some experience in this area. In the view of Colonel Sakhovitch, the Russian military attache, the Boer prisoners were especially well taken care of in view of the British objective of reconciliation.[70] It was only the widespread fear of rescue and escape attempts that led to the dispersal of many prisoners overseas.[71] The banishment decree of August 1901 for those still under arms by mid-September was in itself never a factor since neither side seemed to take it seriously.[72] The Boers consistently released their prisoners after the fall of their towns for lack of secure places to keep them.

By May of 1902 after two and a half years of fighting, the cost in morale, physical and monetary terms had made itself felt on both sides. The guerrilla war had inflicted more than twice the casualties of the conventional phase on both sides. Attrition became the

crucial factor. If T. E. Lawrence was correct in stating that "the printing press is the greatest weapon of the modern commander" then surely, the British misused it and in so doing set the basis for their own eventual defeat in the postwar years.

The desperation induced by so much futile fighting had forced the British to effectively renounce reconciliation and adopt methods that earned for Kitchener the opprobrium "The Butcher". Roberts had been a typical colonial soldier-diplomat whereas Kitchener may be seen as a modern bureaucrat relentlessly pushing and fine tuning a machine. The deliberate destruction of 30,000 farms, hundreds of square miles of farm-land and 3.6 million sheep filled Britain with a sense of guilt.[73] Campbell-Bannerman, the leader of the opposition and future Prime Minister, was moved to question these supposed "methods of barbarism" in Parliament.[74] Conan Doyle felt it necessary to make comparisons to Sherman's march to the sea and the German 1870 campaign in that these were policies "which warfare may justify but civilization must deplore".[75] Stripping the country had only fostered ill-will as the Boers turned to alternate sources of supplies. Concentration camps proved both expensive and

debilitating on the British will to win. Increasing numbers of Britons were becoming disenchanted with the war and in a fit of remorse in the post-war period, they were to pay significant compensation. By the final days of the war it was the will of Lord Milner, more than any other factor, that kept the war going for by then even Kitchener sought a negotiated settlement rather than Milner's unconditional surrender.

Not even the vast wealth of Britain could sustain the seemingly endless struggle in South Africa in the face of an increasingly hostile international environment. While the first war loan of 35 million pounds had been oversubscribed eleven times, and an increase of five pence to the income tax rate had been readily accepted in 1900, more sober reactions had accrued as the war progressed.[76] St. John Brodrick, the Secretary of State for War, was to complain in as early as March 1901, that while the prewar budget had been £20,000,000, the 1899 budget £24,000,000, and that of 1900 £30,000,000, the army's request for £50,000,000 in 1901 seemed excessive. He felt "neither would the Cabinet give it nor would Parliament vote it."[77] The war which the exchequer had predicted would cost 10 million pounds ultimately cost in

excess of 200 million.

The cumulative effect of the various debilitating factors on the British did not in the end prove sufficient to avert what could only be the inevitable defeat of the Boers. By May of 1902 both sides had had enough of the war and at Vereeniging they came to terms. The British had substantially altered their position and while annexation was insisted upon many concessions were offered. No prosecution for Burghers would be launched except for war crimes. The Dutch language would continue in use in both schools and courts. Rifles could be kept, self-government would be reinstated as soon as possible and a loan of three million pounds would be extended to the Burghers to rebuild their farms.[78]

The Boers realized that this was their last chance for a negotiated settlement. Among the chief reasons given for their capitulation were the devastation of the country, fear for those in the concentration camps, an increasingly hostile Kaffir (native) population, loss of property and an inability to keep British prisoners.[79] From the British perspective these were hardly military causes for victory. The cumulative psychological effects of these factors could hardly be anticipated prior to the final

truce. As far as most soldiers could tell there was little light at the end of the tunnel. Witness an item in The Times of London dated December 25, 1901 which still spoke of large areas of South Africa where columns of less than six hundred men could be overwhelmed.[80] The Kitchener dispatches cited, "the total numbers of the surrenders of armed Burghers in the Transvaal were 11,166 in the Orange River Colony 6,455 and in the Cape Colony 3,635," totaling 21,256.[81]

These were hardly prepossessing numbers attesting to a great military accomplishment since the initial Boer forces numbered less than that. Of the 24,000 dead Boers only 4,000 could properly be judged hors de combat as the remaining 20,000 consisted primarily of women and children, victims of the camps. The British lost 22,000 men, two thirds of whom died from disease.

In the end superior numbers, wealth and will power had won out in conjunction with a radically reformed approach to modern warfare. The war had taken far longer and involved far more effort than anyone had anticipated yet as one Australian trooper put it, "A big dog with a thick coat has a hell of a job flea-catchin, but I'll be d____ if I see why the flea gets all the d____

credit."[82]

[1]Britains's cavalry arm had the fewest regiments of any great power in Europe. Its regiments were also smaller in both number of squadrons and in the size of the individual squadron (eighty troopers). Squadrons were at this time the fundamental tactical unit.

[2] "Concerning Our Cavalry," Blackwood's Magazine, 167 (June 1900) p. 776.

[3]Military Correspondent, "Cavalry Training on Salisbury Field," Times (London), 21 Sept. 1899, p. 6.

[4]McElwee, p. 223.

[5]Military Correspondent, "Lessons of the Irish Maneuvers," Times (London), 28 Aug. 1899, p. 11.

[6]Ram, p. 43.

[7]Winston Spencer Churchill, "Some Impressions of the War in South Africa" JRUSI 45 (July 1901):843.

[8]May, Gun and Cavalry..., p. 54.

[9]Farwell, p. 358.

[10]Gibson, p. 45.

[11]Ibid. p. 67.

[12]Bengough, p. 63.

[13]R. H. Morrison, "Lessons To Be Derived From the Expedition to South Africa in Regard to the Best Organization of the Land Forces of the Empire" JRUSI 45 (July 1901):818.

[14]Belfield, p. 117.

[15]Arthur Conan Doyle as quoted in Brabant, p. 323.

[16]Dragoon 10, "Lessons from the Conduct of English Mounted Troops in South Africa," JMSIUS 33 (July 1903):33.

[17]J. D. P. French, "Report on Organization of Cavalry By General Officer Commanding the Cavalry Division 16, November 1900" WO108/250 p. 11 PRO.

[18]Menepes, p. 231.

[19]Vaughn, p. 449.

[20]War in South Africa, Letter From Birmingham Small Arms Co. Ltd. to Col. Lord Cheham, Imperial Yeomanry, 21 Dec. 1899 WO 108 No. 194 PRO.

[21]Charles Edward Calwell, Small Wars: Their Principles and Practice, 3rd ed., (London: Harrison and Sons, 1906), p. 413.

[22]French to Roberts, 15 Sept. 1900, Roberts Papers, 7101-23-30 No. 4 NAM.

[23]Herbert Reay Gall, Modern Tactics, 5th ed. rev. (London Service and Paten, 1899), 1:576. Also see Von Balck as quoted in
Charles Sydney Goldman, With General French and The Cavalry in South Africa (London: MacMillan & Co. Ltd., 1902) p. 414.

[24]The prewar cavalry regiments were incapable of inflicting major damage to a bridge, creating major confusion in a telegraph system or destroying a water ammunition or power supply system. Later reforms built upon increased engineering and technical skills developed during the war addressed these inadequacies.
Major General Douglas Haig, Cavalry Studies: Strategical and Tactical (London: Hugh Rees Ltd., 1907) p. 28.

[25]Goldman, p. 415.

[26]Marlin Craig, Cavalry in the Offensive: Course in Organization and Tactics No. 5, (Ft. Levenworth: Infantry and Cavalry School Staff College Press 1904), pp. 18-19.

[27]Goldman, p. 414.

[28]Cunliffe, 2: 148.
For a comparison of British and Colonial mounted infantry see
Ralph, An American With Lord Roberts, p. 243.
Vaughn, p. 452.
Gibson, p. 327.

[29]Vincent, "Lessons of the War", p. 628.

[30]Great Britain, War Office, War Office Extracts, Signalling..., p. 9.

[31]General P. Lake A.A.G., Minutes on the Composition of a Brigade of Cavalry 29 October 1901, WO 32/6260 p. 2. PRO.

[32]Sternberg, p. 231.

[33]Haig, Report On A Cavalry Staff Ride Held By The Director of Staff Duties 1st to 6th March 1909, Haig Papers, Box 78 p. 30. NLS.

[34]Military Correspondent, "New Cavalry Training," Times (London), 2 June 1904, p. 4.

[35]E. E. Booth, Cavalry in Defence , Course in Organization and Tactics No. 4, (Ft. Levenworth: Infantry and Cavalry School Staff College Press, 1904), p. 17.

[36]It may be further noted that all three cavalry brigade commanders were replaced.
Lord Roberts to Akers-Douglas 29 August 1901 as quoted in
Eric Alexander 3rd Viscount Chilston, Chief Whip: The Political Life and Times of Aretas Akers-Douglas 1st Viscount Chilston (London: Routledge and Keegan, 1961), p. 296.

[37]Traditional cavalry roles included the overthrow of enemy cavalry, the provision of security and intelligence, stemming the tide of disaster, protection of flanks, completing the overthrow of an enemy, covering a retreat and raiding.

[38]French, p. 3.

[39]Childers, The Times History, 5:42.

[40]Ogston, P. 194.

[41]Belfield, p. 108.

[42]Captain R. Martain, The Non-Commissioned Officers Pocket Book (London: Forster Groom and Co. Ltd., 1907), p. 24.
See appendix 2.

[43]Unknown officer to Sir Evelyn Wood, 5 August 1901 as quoted in
Sir Evelyn Wood, Winnowed Memories, (London, N.Y., Toronto, Melbourne: Cassell and Co. Ltd., 1917), p. 296.

[44]Childers, The Times History..., 5: 258.
Alternate materials included wood and masonry while shapes might include octagons and hexagons.

[45]Holden, pp. 483-4.
Further variations in purpose may be seen in the suggestion of General Henry Rawlinson's (later Lord Rawlinson of Trent) chain of movable blockhouses (armored wagons) manned by sixteen soldiers organized in battalions of fifty wagons which could hold a frontage of one mile. See appendix 3.
Rawlinson to Kitchener 19 March 1901, Kitchener Papers, P.R.O. 30/57 no. 17, p. 2.

[46]Holden, p. 484.

[47]D'Amade to Minister de la Guerre, 16 June 1901, Rapports de l'Attaché 1901-03 7N 1230 p. 1169 Château Vinncennes.

[48]John Fredrick Fuller, The Last Gentlemen's War, (London: Faber and Faber 1937) p. 114.

[49]Earlier examples of blockhouse systems that had to be supplemented to avoid failure included the Duke

of Cumberland's line from Inverness to Inverary in 1745, General Dalrymple's of the Isle of St. Vincent against the Caribs, the Russian lines in Circassia of 1813 and General Wyle's Cuban system.

[50]Rawlinson to Roberts 12, March 1902, Roberts Papers, 7101-23-61 No. 30 p. 2 NAM.

[51]Philip Magnus, Kitchener: Portrait of An Imperialist, (London: John Murray, 1958), p. 177.

[52]Farwell, p. 297.

[53]Callwell, Small Wars, p. 485.

[54]Rawlinson to Roberts, 18 April 1902, Roberts Papers, 7101-23-61 No. 33 NAM.

[55]Farwell, p. 355.

[56]E. Rosenthal, General de Wet: A Biography, (Capetown: Unie-Volkspers Beperk, 1946), p. 94.

[57]Lord Balfour, Hansard 4th Series, 10 (28 July 1899), p. 683.

[58]Baden Powel Testimony, Elgin Committee, 41, Question 19874, p. 427.

[59]Packenham, p. 580.

[60]Roberts to Kitchener, 31 January 1901, Kitchener Papers, P.R.O. 30/57 No. 20.

[61]Reitz, p. 49.

[62]Richard H. Davies, "Kitchener's Methods," Independent 53, 7 February 1901, p. 327.

[63]Kitchener to Roberts, 10 January 1902, Chief of Staff Papers Part II W.O. 108/115 No. 544. PRO.

[64]Reitz, p. 144.

[65]Magnus, Kitchener, p. 179.

[66]Farwell. p. 392.

[67]Ibid., p. 413.

[68]See, Emily Hobhouse, The Brunt of the War and Where it Fell, (London: Methuen, 1902).

[69]Great Britain, Parliamentary Papers (House of Commons & Command), 1902, 47,Cmnd. 893, "Report on the Concentration Camps in South Africa by the Committee of Ladies Appointed by the Secretary of State for War Containing Reports on the Camps in Natal, the Orange River Colony and the Transvaal", (London: H.M.S.O., 1902) pp. 9-13.

[70]De Jong, "Reports of Neutral Observers...Col. Schovitch", Militaria 1975 5 No. 3 p. 6.

[71]As of 1901 the 18,000 male Boer prisoners were distributed as follows: Capetown and Simonstown 5,000, St. Helena 5,000, Cylon 5,000, parole 500. The remainder were scattered throughout the country.
Briggs, p. 20.

[72]Garvin, 2:39.

[73]Farwell, p. 253.

[74]Worsfold, p. 467f.

[75]Doyle, The Great Boer War 1902 ed. p. 525.

[76]Kruger, p. 268.

[77]Brodrick to Kitchener, 11 March 1901, Kitchener Papers, P.R.O. 30/57 No. 22.

[78]Childers, The Times History of the War, 5:451-2, 459.

[79]Pakenham, p. 503.

80 "The Blockhouse System in South Africa," Times (London), 25 December 1901, p. 10.

81Great Britain, War Office, South African Despatches, Despatch by General Lord Kitchener Dated June 1902, Relative to Military Operations in South Africa 49, Cmnd. 988 (London: H.M.S.O. Harrison and Sons, 1902) p. 3.

82Harold Courtenay Armstrong, Grey Steel; Jan Smuts, A Study in Arrogance, (London: A Baker Ltd., 1937), p. 122.

Chapter X

Foreign Viewpoints

Much as the British desired to objectively analyze the various implications of their conduct in the South African War the very closeness of the situation in terms of personal and institutional reputation proved a considerable obstacle. Fortunately by the end of the nineteenth century concern for the scientific study of military affairs had progressed sufficiently to provide for international recognition of both specialized journalists known as war correspondents and a corps of accredited military observers. The increasing availability of objective, nonparticipatory evaluations thus became important as an additional source of relevant information.

This is not to say that these observers did not come to the war without preconceptions based upon their own national military training but when the British turned to some of these materials in later years they could at least become privy to a systematic alternative analysis and the possibility of having attention drawn to subjects otherwise

neglected. Naturally the attaché reports themselves remained secret at the time. Frequently however the self-same authors drew upon their experiences to publish on the subject. Scores of detailed articles and books were published on the techniques of modern warfare as demonstrated in the Boer War. Most importantly many of these materials were translated into English and thus made available to an army notorious for its introversion and insularity. In studying British military reforms, translations were more important than the original foreign document because they were more likely to have been available and thus influential.[1]

Over the course of the war nine armies posted official observers with the British and six armies had observers with the Boers.[2] Those observers traveling with the British army tended to have higher rank due to its international prestige. The accomplishments of their compatriots with the Boers should not be underestimated since most of them had seen combat previously and Captain Allum in particular would go on to a noteworthy career in reforming the Norwegian army based on his experiences in South Africa.[3] While attachés on both sides were treated with considerable respect, they did not necessarily

enjoy the same privileges and this would ultimately be reflected in their work. The British for instance would not allow foreign observers onto the battlefields and so censored their despatches as to nearly cause an international incident. Attachés, unlike commentators,did not normally file tactical pronouncements from the field. When Lieutenant Thomson was found to be too critical in a private letter to his wife, it took the personal intervention of several fellow officers to prevent his being deported.[5]

Official observer reports are most useful regarding the earliest portions of the war as many attachés left during the guerrilla period under either the advice of the various governments, the strain of the campaign or the belief that there was little left to be learned.[6] The importance of foreign commentary for the entire conflict should not be overlooked despite the fact that so much was written by many who had no first hand experience of the war; witness the study by the Great General Staff of Prussia.

In considering the various foreign viewpoints primary emphasis should be placed upon French and German sources for theirs were deemed the most modern armies. For the

French observers, matters of mobilization, tactics and command proved of major concern. Strategically speaking the French found the South African War of little use since the armies were of such small size in comparison to the continental scale. Commandant Fonville further criticized the seeming lack of strategic groupings and campaign objectives.[7] The Anglophile attaché Captan J. du Pontavice was complimentary of the order with which the early mobilization especially of the naval forces took place, while still decrying Britain's dependence on foreign livestock in order to undertake any operations. Perhaps most impressive from the French standpoint was the substantial outpouring of quality manpower from throughout the empire. This was a major concern for the French as they too sought to tap the resource of a far-flung empire in any future conflict.[8]

Captain d'Amade in a more searching critique, noted that the English Army had survived by improvisation for decades dealing with combat in all manner of climate, and this very variety bred disorganization. Such a system could only work in the face of adequate intelligence so that the proper combination could be brought to bear. In South Africa where this system broke down and dissemination

of information was faulty, the results could prove catastrophic.[9] D'Amade was fortunate enough to stay in his post sufficiently long to witness the British rectifying the very flaws he had noted.[10]

The most serious problem encountered during the war from the French perspective was battlefield tactics in the face of modern weaponry. The impact of increased ranges, smokeless powder and magazine firing rifles was recognized yet the French never seemed to accept them as sufficiently daunting so as to provide a full explanation for the British failure to achieve decisive tactical victories. Many critics were ready to claim that a British propensity for frontal attacks was their downfall.[11] D'Amade at least credited the Boers with the ability to change positions rapidly and thus alter the character of the battlefield.[12] A still shrewder insight was presented by an unnamed officer who noted the hobbling effect of impedimenta and lack of decisiveness that allowed the Boers time to regroup at Spion Kop.[13]

French tactical doctrine of the time stressed an extremely aggressive use of the advance guard to pin the enemy to a position and prevent redeployment. From the French perspective, the British on the field were too

defensive-minded being preoccupied with guarding against surprise, screening and reconnaissance.[14] The French army maneuvers of 1900 had featured an entire division marching to within 400 yards of a strongly held village, dressing ranks and firing at thousands of invisible enemy for twenty-five minutes before charging and being judged victorious despite a lack of artillery support.[15] Coming from this tradition Colonel Ruffey's critique of Robert's deployment at 1,000 meters is understandable if hardly palatable to the British.[16] Ruffey claimed that the English battle procedure of taking up a defensive position in the hope of drawing the enemy into a hasty attack and thus uncovering their position while leaving an opportunity for a counterattack, was entirely too passive.[17] This seemed especially true against the Boers who rarely attacked, lacking, from a European point of view, a proper understanding of modern weaponry and discipline. The French for instance felt the Boers always broke off from battle just when it should have begun. The British preoccupation with what the French simplistically called firepower of the extended line, led to a British neglect of the psychological and physical concentration necessary for the final rush.

Denser formations lay at the heart of French tactical theory. In 1902 a comparison of various field manuals showed the Italians in the charge mode with six yards per man, Britain with four to six, Germany with four and France with three.[18] The British failure it was claimed was not due to lack of manpower but doctrine. Premature deployment and a nonaggressive advance guard prevented the establishment of an ordre profondeur. Without a forward deployment and perseverance even the most massive of reserves proved useless, witness Vaal Krantz where only one brigade attacked, one demonstrated and three remained inactive.[19] Underlying the French theory was the belief that modern weapons, while altering the battlefield, do not necessarily cause more casualties. They believed that while the defensive seemed to have gained in power of resistance it had lost the ability to inflict a decisive check due to the diminished power to pursue. Counterattacks had became all the more difficult to carry out. As long as the repulsed force had access to modern weaponry and was not completely demoralized it would be nearly impossible to stage a general pursuit.[20] Offensive forces had increased their maneuverability but suffered a diminished capability to gain accurate

information. Above all else the French continued to believe, as did Napoleon, that "all progress in armament rebounds to the benefit of the offence." The pure offensive remained the French way.

Despite what some experts felt were minor casualties the British believed it was necessary to alter their tactics after the "Black Week". Heavy frontal attacks gave way to interminable turning movements which so chagrined the French.[21] Maneuver seemed to mean more than position and a lack of pinning frustrated British hopes of a decisive battle. The English became convinced that there was no real estate so vital that it had to be taken or that the Boers would defend to the last. The early part of the war had demonstrated to them the enormous problems involved in working even small columns into attack positions.[22] The French, on the other hand were also aware of the increasing breadth of the modern battlefield and viewed with dismay the decline of command control.[23] Recognizing the problem did not necessarily lead to its quick solution since the French army continued to use messengers on the battlefield who were vulnerable to capture or being killed. The British had some time earlier switched to a more extensive use of signals.[24]

Decentralization of command was a factor that had to be lived with and despite a preference for higher troop densities than the British, France's infantry regulations of 1904 authored by General Negrier, emphasized simplicity and initiative while addressing sections rather than companies as the basic fire unit. What the French could not accept in light of their larger armies was Roberts' theory of inviolable fronts. At some point there had to be a flank and if not, then a hole could always be punched.[25] General Louis Maud'huy perhaps best summed up the French proclivity in stating "infantry has two means of action, fire and movement, the first create results and the second exploits them".[26] To break the line was the task assigned to the rafale, a short very intense fusilade of artillery and musketry delivered from close range for maximum psychological effect.

Regarding defensive tactics the French felt reassured on the basis of the Boer war experience. The objective was to force premature enemy deployment so as to prevent proper reconnaissance of one's own position. A judicious use of forward posts was thus seen as the key to success. A widely dispersed enemy advancing on a hidden position would be an easy target for a well planned counterattack by

defenders who had saved their ammunition for the crucial rafale.[27]

When on the defensive, the rafalé had three components: artillery, machine guns and small arms. Machine guns, which at this time had a rate of 400 shots per minute were, under the French system, widely dispersed over a defensive front but remained under brigade control. The British practice of placing them in the battalion and using them in an offensive mode was frowned upon as a detriment to the offensive spirit of the infantry due to the machine gun's slow rate of deployment and the difficulty of their supply.[28] In both attack or defense the French continued to rely primarily on infantry since only they could provide absolutley mobile and aimed firepower.

Artillery was viewed as an extremely useful means of suppressing enemy fire. Similar to the British, the French put their faith in shrapnel but while that of the British was judged inferior by even its practitioners due to its minimal number of balls (180) and lack of dispersion, that of the French was judged superior since it contained 280 balls.[29] In theory the French army contained 3.3 quick firing 75's per thousand men, each capable of firing twelve

shots per minute. Each gun in turn was supplied with two hundred and eighty shells allowing a battery to fire forty shots per minute for twenty-three minutes eighteen seconds into an area four hundred by one hundred meters. All of this was exclusive of higher echelon larger pieces.[30]

Regarding British artillery tactics, the French were unanimous in their criticism. Long, blind, preliminary bombardments such as 24 hours at Vaal Krantz or 36 hours at Magersfontein were no alternative to sound reconnaissance and they merely served to announce an attack.[31] Great faith was placed in howitzers to destroy any exposed enemy artillery and maintain suppressive fire until friendly troops were within 150 meters of the objective. Langlois' theories on creeping barrages were virtually ignored. After Colonel Longa' catastrophe the English tended to hold their artillery back, unlike the French practice of rushing it forward. As late as 1910 commentators continued to contrast the French Army's brazen use of artillery continuously at less than 2,500 meters as compared to the more conservative British and blame it on the open nature of Salisbury Plain and the South African experience.[32]

The French sought to draw the enemy to the parapet before the start of the infantry fire fight. Split-second

timing was necessary to get the attacking infantry into position rather than the prolonged wasteful barrages that always appeared to stop at the crucial moment.[33]

If British artillery usage showed the French little of interest the same could not be said of the Boers. The importance of concealed batteries was understood and the hazards of counter battery fire appreciated. Postwar tactics would deemphasize massed artillery and counter battery fire and pay more attention to decentralized batteries in positions of surveillance. Such tactics would theoretically provide more positions from which to rally troops, force an enemy into earlier deployment and provide greater opportunity for cross fire.[34] The practice of dragging ever heavier guns into the field was met with a mixed reception. While quite useful in providing covering fire for the lighter guns deployment, the heavier pieces also tended to slow down the entire army. Furthermore, it was doubtful as to how often one would find clear fields of fire from four to nine thousand meters in a European theater of operation.[35]

Regarding English artillery, the French studied materiel on a case by case basis. The guns were found to be outdated, and the corrosive effect of cordite on gun

barrels was noted. While cordite itself was waterproof the gun cotton primer was observed to be highly susceptible to dampness.[36] The use of khaki paint on artillery and gun shields was appreciated but the greatest interest was shown in English range finders.[37]

British cavalry usage was an area given short shrift by the French. Consistently out of position or handled too cautiously, British cavalry seemed of little use in a major battle.[38] Mounted infantry, while useful in the colonies, was believed to have little utility in Europe. It was feared that mounted infantry would have an adverse effect upon the morale of any cavalry it was cooperating with since it had such a strong proclivity for dismounted action which was anathema to the true cavalry spirit. Good cavalry, it was held, could still achieve spectacular results if ably supported by artillery and infantry.[39] Independent cavalry columns were seen as a strategic deadend since such a disproportion in arms was unlikely to occur in Europe and the horsemen available would serve a better purpose in close support of the other arms in a more traditional manner.[40]

In an overview the French claimed to have learned little of inordinate significance from the South African

experience beyond a few subtleties in camouflage, use of terrain and rapid rifle fire.[41] Almost everything else they examined was found wanting whether mounted infantry, tactics, strategy or equipment. French histories of the war are rife with accounts of slovenly reconnaissance and command practices.[42] Their predominant use of the various studies of the war was to reinforce preexisting theories and opinions. Not even the good showing of British reserve forces, for instance, was sufficent to cause a single French commentator to look beyond the difficulties of differing skill levels and equipment standards and realize their true potential.[43] The French had in fact already developed their 1914 technique and nothing witnessed in South Africa would have much effect on them.

What the French saw according to one countryman who fought with the Boers, Colonel Villebois-Mareuil, was an "immobile warfare, the warfare of 200 years ago; for everything is out of date in the ideas and in the methods of the Boers, and yet the incapacity of their adversaries makes them the masters of the situation."[44] The guerrilla warfare period was of no consequence whatsoever. The war simply presented the perceived monumental defects

of the British army and convinced the French that in order to survive as a Great Power into the twentieth century Britain would have to make some compromises in the traditional social, political and economic make-up of her army in addition to a thorough rethinking of military doctrine.[45]

How right they were and what direction would ultimately be taken spells the difference between the two armies' conduct in 1914.

French was the most likely second language to be studied by a British officer and France's army the most likely model for European soldiers for centuries but in recent times German views were regarded with increasing respect as their recent domination of the battlefield and military science could hardly be ignored. Dating from the days of von Moltke, Germany and in particular the Great General Staff, had made a systematic study of warfare with rarely paralleled results. Part of its success lay in the superb quality of its military attachés. For fifteen years Britain had been regarded as such a military backwater that the post had been left unfilled. In 1898 Graf von Luttwitz was appointed and soon was supplying up-to-date perceptive reports.[46]

Several examples of the insightful nature of various German reports are available. Of primary interest is the critique of Buller's prewar maneuvers that was printed in the German official history published in 1903. Allowing for some after-the-fact reasoning, it recognized that many of the perceived faults of the campaign were in fact institutionalized prior to South Africa. Among the various criticisms listed were a lack of clearly defined objectives leading to a scattering of forces, premature and over-extended deployment of troops on the battlefield, insufficient musketry training and a lack of a clear cut theory of combined arms.[47] A second comment of some insight based on some knowledge was issued by the Kaiser, who remarked, "Great Britain would require a hundred million Sterling, 200,000 men and a year to finish the work that the action of the South African Republics had brought about."[48] Aside from those of the Boers, this was probably the single most accurate prognostication on the war. Finally, The Times of London, October 16, 1899, cited the previous day's issue of the Militär Wochenblatt (the Prussian General Staff Journal) which predicted a long guerrilla war along the lines of those encountered by Spain in Cuba in the aftermath of any

conventional military victories.[49]

About British strategy in the war the Germans were on the whole critical. The policy which called for the holding of various isolated border outposts was potentially disasterous and gave the Boers several opportunities to inflict defeats in detail. A further consequence of this policy was that it effectively limited Britain's strategic alternatives and robbed her of initiative. A better strategy from one commentator's point of view would have been a withdrawal of the garrisons so as to provide an initially stronger, single strike force.[50] Far more indicative of German military thinking was their frustration with the British policy of action by fits and starts rather than by a smooth working of a timetable. To quote Clausewitz,

> a pause in military operations is, strictly speaking, contradictory to the nature of the case, because both armies, like two hostile elements must continue to destroy one another without ceasing; the military operations should, therefore be continued just as clock-work, which has been wound up, goes until it runs down.[51]

British training and tactics were further areas of criticism. Over-emphasis on colonial warfare had its drawbacks or as Major Balck put it,

> it is always suspicious if troops have become accustomed to consider insignificant losses, common to colonial wars, accompanied by great physical exertions, as indications of good leadership. Great victories are, as a rule, invariably accompanied by great losses.[52]

The irony was that while on maneuvers,the British deployed in perhaps over-extended order to compensate for the anticipated effects of modern weaponry; in action they continued to practice in the most retrogressive form of firepower. By way of comparison there was not a single instance of Prussian volley fire in 1859 and it was rarely used in 1870. Since 1888 it had been dropped from German training exercises and yet the British continued to practice this archaic technique in deference to their colonial experiences. British regulations in force at the war's beginning allowed individual firing at ranges only under 500 yards.[53]

The German view of a typical British encounter with the enemy was of small (5 to 7 men) patrols riding forward to reconnoiter only to be easily driven off by Boer marksmen without themselves ever having dismounted or adequately reconnoitered the enemy's positions.[54] The English would then unlimber their artillery and fire into

the blind while the infantry deployed. With insufficient thought to a prolonged combined arms firefight they would lurch forward to medium range before opening fire. It was said by Lt. Col. von Lindenau that, "Instead of attacking with the rifles brought from the rear they attacked with their legs."[55] since on many an occasion they fired their rifles neither early nor long enough, considering their foe.

The greatest failing of the British system from a German point of view was the thinness of their firing line which thus could not hope to gain an ascendancy of firepower nor push home a bayonet charge. Balck, one of the most conservative of critics, attacked the problem from a different perspective when he voiced concern over the Guards Brigade's premature opening of fire at 1,200-1,300 meters at the Modder River and the Sixth Division's similar action at 1,600-1,700 meters at Paardeberg. Such extreme range fire was to his mind an invitation to the loss of initiative.[56] No matter if the British fired early or late, or for long or short periods of time, grounds were found for criticism as soon as the results proved less than favorable. The underlying flaw appeared to be a lack of density on the battlefield. Objective studies showed the

Boer War to have had consistently the thinnest held frontages of any conflict between the Napoleonic era and the Russo-Japanese War. For this reason alone the conflict may have gained distinction in that it featured a singular lack of decisive, conventional battles. Not only did such battles seem pointless but they would have been impossible to imagine in Europe in the face of better trained troops in deeper formations ready to counterattack. Von Balck was full of irony when he stated that, "while great stress was laid upon narrow fronts and thin firing lines prior to the Boer War, opinions swung to the opposite extreme after the War."[57]

The skirmish line was viewed as an admirable maneuver formation but unsuited to decisive results. To quote Clausewitz,

> let us not hear of generals who conquer without bloodshed. If a blood slaughter is a horrible sight, then that is ground for paying more respect to war, but not for making the sword be blunter and blunter by degrees, until someone steps in with one that is sharp and lops off the arm from the body.[58]

The British had become so cautious in their tactics as to deprive themselves of any opportunity for decisive victory. As William Cairnes, an Englishman writing in the German

vein put it,

> it was not the small bore rifle and smokeless powder nor the loss of men (which was comparatively small) that caused such shrinking from frontal attacks; it was the misgivings of the leaders of their own capacity, and consequently the shaken confidence of the troops in their leaders.[59]

All of this is not to say that when called upon the British soldier would be found wanting, witness the seventy-five percent casualties among the officers and the thirty-five among the other ranks in the Black Watch at Magersfontein or the fifty percent losses of part of the Irish Brigade over a night and day at Paardeburg.

What appeared most often at fault was the breakdown of small unit tactics. At Spion Kop defeat was blamed on uncoordinated minor attacks which allowed the Boers time to redeploy. Poor use of terrain and a mishandling of troops were a constant factor. Either the British launched frontal attacks without waiting for flanking forces to be in position, such as at Dundee, or they so tied the hands of their commanders with overly detailed orders as to prevent any use of initiative, such as at Vaalkrantz.[60]

At the heart of this English problem was again the thin line attack. The question was thus raised as to how the

second line was to know when to advance and carry the first line home with impulse. If launched too soon, and superiority had not been achieved, then both lines would be repulsed. If too late then the two lines together might not have sufficient strength to carry the objective and the whole process would have to begin again.[61] Lack of available force was rarely the problem since thirty-five percent of the army was left uncommitted at Magersfontein, forty-three percent at Colenso and fifty-three percent at Spion Kop. After careful study of Colenso, Magersfontein and Spion Kop, Colonel Von Lindenau concluded that, "the failure in all three cases was due far more to the lack of energy in the carrying out of the attacks, and the unskillful formations adopted, than to any errors of direction."[62]

What became obvious over the course of the war was that a psychological check to the commander in which the chances of victory were made to appear dubious was often more critical than any repulse of the troops. General Roberts' famous order of the day dated 26, January 1900 was to some eyes already a statement of defeat for it admitted to the concept of an inviolable front which in the abstract no German officer could accept. It stated that,

> against such an enemy, every attempt to capture a position by frontal attack will certainly fail. The only chance of success lies in the possibility of turning one or both flanks, or, which will mostly be equally effective, of threatining the enemy's line of retreat.[63]

The Boers also understood this concept. Christian De Wet mocked "the English, with their well known predilection for a flank attack on every possible opportunity."[64] The British often failed to accompany such moves with a sufficiently strong frontal assault. The major German theoreticians of the period (Moltke, Schlieffen, Caemmerer, Schlichtung) acknowledged the necessity of a turning movement but at the same time emphasized the importance of the pinning attack. To admit to the existence of an inviolable front was to undermine the troops confidence and thus jeopardize the movement as a whole. General Schlieffen felt that a modern army corps of three divisions supported by 144 guns could hold a frontage of five miles and staged maneuvers on this scale in 1904. This was in itself evidence of some change since a prewar corps would have held one third this frontage.[65]

In the attack or defence, the Germans made use of field works and thus were most impressed by the Boers in

South Africa. Such considerations led to criticism of the British who had inadvisably put aside the Wallace spade upon debarking. Even when these were reissued the men did not know what to do with them as was the case at Spion Kop.[66]

Further discussion of the German viewpoint necessitates an analysis of their system. The key was prolonged firefights and the method involved complete units drawn up in succeeding waves rather than long lines side by side. Optimum opening ranges were six hundred yards although variables such as terrain and marksmanship were appreciated. A certain admiration was felt for the Boers' ability to open fire effectively at one thousand yards.[67] Driefontein, as conducted by General Kelly-Kenny was the only battle of the war in which the Germans found the deliberate build-up of the fire line and the deployment in depth and command control that their system demanded.[68] As an unknown observer noted, for the Germans, "it is no longer possible to drive an enemy from his position, he must be shot out of it."[69]

Just how to develop the necessary fire density was an issue of considerable controversy in the German army at the turn of the century and the influence of the Boer War

should not be underestimated. Conservatives such as General von Caemmerer favored thicker lines and consistent fire thus alleviating control problems. The reformers such as Lindenau and von der Goltz were more willing to experiment with skirmishing lines and bounding tactics.[70] Some radicals such as Adalbert von Sternberg went so far as to advocate hundred man companies since the modern battlefield had become so spread out as to break down traditional small unit tactical communications.[71] Perhaps most important was the view of the Great General Staffs' official history which included a plea for common sense and a freedom from the constraints of formalism.[72] The fruits of this thinking were evident in the German Infantry Drill Regulations of 1908 (IDR) which emphasized that, "combat requires thinking leaders, trained to rely upon themselves, and skirmishers having initiative."[73]

Interestingly as early as 1903 the Austrian von Bogusławski had commented on the Germans' greater resemblance to the Boers than the British in terms of fire effect and field craft. These were skills that could only be developed on terrain and not in camp.[74] The IDR of 1908, in light of the Boer War, only served to reinforce

trends in the German army long since established or as an admiring Col. Henderson put it, "it is the initiative of the subordinate leaders, this quality, which multiplies the strength of an army, that the Germans have succeeded in training to something near perfection."[75]

Regarding artillery, the Germans surprisingly had little to say. The Boer use of larger caliber ordnance in the field naturally came as something of a shock. The Germans introduced ten companies of Foot Artillery (future classification heavy artillery) in 1901, amidst virtually no discussion.[76] The phenomenon of dug in, shielded and camouflaged pieces was also recognized and a solution propounded along the lines of discontinuance of artillery duels, closer coordination with the infantry and the addition of further howitzer batteries linked by means of heliograph or telephone to balloons.[77] The Germans felt the British had been misled by the Boer War into the belief that future attacks would continue to be delivered in thin lines and thus had mistakenly developed a higher velocity howitzer with a larger bursting area containing forty-two pellets per pound. The Germans remained satisfied with the low velocity shell carrying forty-five pellets per pound on the supposition that primary targets

would remain relatively dense.[78] The forward disposition of ammunition with the guns was a practice they both came to agree on in light of the war and the proven difficulties in resupply once forces were engaged. Thus the Germans shifted toward the British system in the postwar years.[79]

The lighter artillery pieces also suffered neglect in the German reading of the Boer War. Occasionally a commentator would note the effectiveness of the pom-poms against a formed infantry unit or at Driefontein against a British artillery battery, but on the whole, no enthusiasm was evident.[80] Balck shrewdly called into question the continued German practice of massing machine guns in six gun batteries. He also believed that, "the machine gun is above all to be employed at long ranges. In open country it will seldom be possible for the gun to reach a position in the first line where moreover the gun would offer too good a target."[81] This was in direct contradiction to the German practice of pushing the guns forward.

One area in particular in which the Germans and British had reached a consensus as a result of the South African experience concerned the cavalry. The tactical complexities of the modern age had been at least

recognized. Both England and Germany had adopted the three pace interval between ranks of horsemen while most other nations remained with two and Russia with one. It was hoped that such dispersion would increase maneuverability and lead to less disruption in the charge should the first rank falter. The same two nations, (in a classic example of military pedantry) mandated the fastest gallop speed (400 meters per minute) to cover the firezone as compared to Austria's 375, Italy's 350, France's 340 and Russia's 283 meters per minute. The British also carried the heaviest allocation of ammunition per trooper of any cavalry force in Europe.[82]

General von Benhardi, the foremost German cavalry theoretician of his time admitted that, "while the tactical role of cavalry has decreased, its strategical importance has considerably increased.".[83] The British response to this assertion was to create the largest cavalry division in Europe with thirty-six squadrons and 9,500 men. A distant second was Austria with 8,200. The other Great Powers held fast to smaller units. Not only was the British organization huge, it was also the only one to include machine guns (twelve) and at least twice as much (twenty-four guns) artillery as its peers. Even its

percentage of engineers was the highest in Europe. The British had created an organism perfectly suited for South Africa and quite capable of looking out for itself under those circumstances. The Germans found such an organization far too awkward. Its component four brigades of three regiments, each of only three squadrons, were regarded as far too weak to meet their continental counterparts.[84] On each level below that of division be it brigade, regiment or squadron the British organization was the smallest. The quadrilateral structure was also judged inefficient since it required far too many officers and could often lead to commands that were either too big, too small or ad hoc (a brigade plus attached squadrons).

While the Germans recognized the effectiveness of dismounted cavalry using smokeless powder and modern rifles they were conservative in their approach towards up gunning this arm. Generals von Rohne and von Kohler led the old guard while General von Bissing and Major Balck sought to imitate the British by adding more artillery and machine guns. Both groups however remained committed to using large masses of cavalry in a shock manner on both the strategic and tactical plane.[85]

According to Bernhardi, the cavalry's most important role lay in strategic reconnaissance of an offensive and defensive nature. Shock action versus all possible opponents represented a secondary priority while dismounted action was viewed as less important.[86] The preferred weapon of German cavalry was the lance because as no other weapon it emphasized the offensive spirit. To drive in enemy outposts was to attack; a lance was perfectly useless in the defensive mode. The use of carbines or even rifles only seemed to dissipate the strength of a regiment since such a large proportion of men would necessarily be allocated to the holding of horses. The English with their dropping of lance and sword had, in the German view, emasculated their cavalry.[87]

Major Balck perhaps best summed up the German position in stating, "according to all experience, mounted infantry invariably degenerates into inferior cavalry; when mounted, it is helpless against cavalry, and when dismounted, it is hampered in its movements by the led horses."[88] Of the Germans only Sternberg, who had actually fought in the Boer War, advocated a British style mounted infantryman. The French General Francois de Negrier and eventually General Bernhardi came to favor the creation

of a multi-role cavalry. But no continental cavalryman of importance would go as far as the English theorist Erskine Childers: "I shall argue that the steel weapon ought to be discarded or denied all influence on tactics, and a pure type of mounted rifleman substituted for the existing hybrid type."[89]

Still in an overview about a war that could bequickly cast aside for its uniqueness regarding troop type, terrain, disparity of numbers and length of supply lines, the Boer War offered the Germans considerable opportunity for evaluation of the British army and reevaluation of their own precepts. The initial Boer offensive proved the effectiveness of a levee en masse. Quick opening moves in a campaign were not limited to professional armies. The Boer's failure was due to an indecisive strategy, a lack of discipline, combined arms tactics and poor organization rather than to a reliance on citizen soldiery.[90]

Pure frontal attacks were viewed as wasteful but not impossible. Balck wrote that "the South African War shows plainly that whoever wishes to obtain a decisive result must press the attack home in spite of all difficulties."[91] The keys to successful attacks were reconnaissance, flank protection, coordination of all arms,

support of the firing line and the commitment of reserves when advantageous.[92]

Underlying the German appreciation of the war was the disdain for a conflict that seemingly argued against the success of large scale maneuvers and great cavalry charges.[93] Roberts was castigated for maneuvers that failed to lead to battle. In his own defense he wrote, "My desire and object throughout the campaign were to deal the Boers a decisive blow, certainly not <to manoeuver rather than fight>. I manoeuvered in order to be able to fight the Boers on my own and not their terms."[94] To the Germans the reality of battle had been sacrificed to the illusion of speed.

On a strategic level the war showed that defensive warfare cannot be decisive; yet on the offensive, a direct advance along a vital route could in turn force a strategic battle. Fortified locales proved their value as an object against which an enemy might be pinned. Rearward lines of communications had demonstrated a surprising vulnerability while perhaps most importantly, as Fritz Hoenig put it, "the Boer War teaches how great can be the resistance of a determined national levy against a crushing superiority, and how important in war are morale forces."[95]

Interestingly the offical viewpoint on the guerrilla warfare period was that it offered little tactical value.[96]

Of the British system, one German critic wrote, "the two great weaknesses of the English military system are: first mercenary enlistment, and second, the defective military training of the officers and men."[97] The official history went even further in stating,

> the rigid fettering with forms and rules, to which a false system of peace traing had condemned leaders, avenged itself bitterly during the South African War. In this experience, so pregnant of warning for the future is contained the most important lesson of the whole war.[98]

With little else in the way of evidence by 1914 one can well see at this early date the grounds from which the Schlieffen Plan grew.

Before consideration can be given to the other international viewpoints of the war in South Africa it would be useful to compare the military systems of France and Germany, the two leading continental powers and in this way better define the British system. The German system depended increasingly on self-reliance and initiative. Artillery was generally more decentralized than that of the

French and firepower of all types was theoretically to be opened at longer ranges and for greater periods of time. Fire ascendancy was crucial to the final German advance and all three lines of infantry were to be committed to achieve this objective, unlike the British who sought to husband the third line for a final assault. German units tended to be smaller than their French counterparts and the cavalry available to lower levels of command. Whereas the Germans attached 600 sabers per infantry division the French held 1,200 sabers with the corps reserve. While this worked out to the same number of troopers, the French view was that their system would cause less wastage of the cavalry.[99]

The French system relied on their high command, split second coordination between the various arms and the tremendous psychological effect of a brief yet very intense fusilade, the rafalé. The British and Germans sought to usher in their attacks with shell, and the French depended upon shrapnel.[100] The French system emphasized economy of force in light of its relatively (as compared to Germany) limited manpower. An attack had to be made at a decisive point and for that reason an extreme aggressiveness was fostered upon the forces of the advance guard.

As late as 1913 both the French and German cavalry were still being trained in the continental manner as shock troops while England attempted to raise troops suitable for both mounted and dismounted action. Russia, Japan and the United States emphasized dismounted drill in the aftermath of the Russo-Japanese War and their own national experiences.[101] Neither the French nor the Germans anticipated that the next war would be substantially different from those of the past. General Janson in Germany and Generals Langlois and Nigote in France, with their predictions of larger battles in terms of area and time span, were in a decided minority.[102]

Regarding the direct impact of the war, an American General Staff publication noted,

> French and German tacticians are loath to ascribe any serious revolution in tactical principles to the experiences of the Boer War; but rather that abnormal terrain, faulty handling, and widely divergent training, temperament, and armament of the opposing forces brought about unusual tactical maneuvers and formations which will not stand the test of future military operations conducted under normal conditions.[103]

Perhaps most indicative of the altered circumstances was the closeness of European geography and predilection for campaigning in spring and summer when vegetation

abounded and fields of fire were most restricted. These two factors alone, it was assumed, would suffice to mitigate the tactical constant of South Africa, firepower. Additionally there remained the problem of far greater troop concentration in covered terrain. As long as the continental experts remained convinced that the uniqueness of South African warfare outweighed its similarities to Europe, little would be done to change military practice.

Change was least likely to occur in the more conservative states of Eastern Europe and this to an extent is reflected in their commentary on the war. The Austrian writer, Albrecht von Boguslawski, observed the anomaly of the terrain as a factor magnifying the effect of firepower. Riflery in his view had not increased in effectiveness since 1870 due, as Caemmerer had pointed out, to the decreasing densities of troops in the firing line.[104] Frontal attacks had in von Boguslawski's view become impossible thirty years previous and had remained so despite a sixty percent increase in brigade frontage. The problem for commanders was to ascertain whether they were being confronted by a fully manned enemy line in an age of camouflage and smokeless powder. Such a feat could only be achieved by pressing home some form of attack if one's

scouts proved ineffective. His advised technique for the infantry was a series of long rushes (ninety meters). Boguslawski felt "the greatest difficulty does not consist in charging home but in leaving cover to begin the attack."[105]

Discipline was a considerable concern of Boguslawski's, perhaps reflecting conditions in the Austrian army. Austrian regulations differed from those of the British in their greater emphasis on a coherent firing line. Frequently Boguslawski found the British first line in confusion as the result of a fear of being fired upon by their supporting ranks.[106] The long firing lines of the Boers were to his view not worth "a copper" since they were held in such a sterile mode. While acknowledging that the war proved every man could be his own pioneer and thus increased the power of the defense, decisive results could only be achieved in conjunction with maneuver and attack.[107]

While Boguslawski was widely cited by his contemporaries, the Russian observers were virtually ignored. Colonel Stakhovich's attitude toward the British is best summed up in his description of the battle of Paardeburg: "the attack began at ten in the morning and

was conducted in the usual British manner, in a disjointed, halfhearted <not to say fearful> way, without reserves, without concentrated effort on any one sector."[108] Of the Boers he had even less to say claiming they were fit for an "operetta", knowing neither how to attack nor defend. When marching or retreating all they could do was shoot.[109]

Armies and their officers are a reflection of the society that raises them. The considerations of a representative of a small liberal nation such as Holland may have some relevance to its larger and similar neighbor across the channel. Rather than being overwhelmed by the scale of the South African war, Captain Jonkheer Ram found that "the events of this war constitute a powerful plea for the smooth, perfectly trained and appointed army, as against huge imperfectly trained masses of men."[110] In other words a raison d'etre for a continental Dutch army was found in the wilds of Africa. For Ram the great lesson of the conflict was increasing self-reliance, initiative and decentralization, a marked contrast to the French view. Ram felt that "if, then, we may expect that on the side both of the attack and of the defence the frontal extension of the company will be much greater than it has been up to

now, the question arises whether the strength of our tactical unit is not at present much too great."[111]

In addressing the issue of faltering British frontal attacks Ram boldly confronted chauvinists who claimed a superior French or German morale and dwelled upon the psychological factors of the modern battlefield. He assumed that lack of a visible enemy, depriving the troops of a concrete objective while obviously weakening the attacking force, was clearly detrimental to morale. Compounding this factor was the relatively high rate of casualties, at what was obviously viewed as very long ranges. Even the near misses at long ranges were as good as hits judging from their effects on the various units' resolve.[112] All that was missing from Ram's picture was a description of the increasing feeling of isolation of the individual. With Ram we would have a thoroughly modern appreciation of battle.

The two American observers of the Boer War also proved astute in their observations and to a certain degree reflective of their national military institutions. Captain S. L. H. Slocum of the 8th Cavalry, who spent the most time there, was particularly attuned to the problems of the mounted troops. His criticism of British

reconnaissance techniques at Tugela, Magersfontein and Stormberg thus carried some weight. Unlike the British Lt. Col. May, who dissembled on the issue and claimed that too much faith had been put in balloons, Slocum attacked on both fronts seeking a more aggressive use of horsemen and greater utilization of modern technology.[113] Regarding cavalry he wrote indicatively of his own service,

> my experience has convinced me that the day of large cavalry bodies meeting in a melee is past, and that cavalry using a long range carbine, with a bullet not under .35 caliber, and instructed as ours is, quickly to dismount and use it, will defeat any opposing horsemen trying to get home with sabre or lance.[114]

Slocum continued to believe that the small caliber Mauser (.276) and the Lee-Metford (.303) round had insufficient stopping power to consistently halt a horse. Captain Carl Reichman of the 17th Infantry held identical views in that, "the arme blanche is useful today only under circumstances where the enemy is helpless and can be knocked on the head with a club as easily as stuck with a lance or cut down with a saber."[115]

In discussing British infantry Americans tended to take a less critical posture. Captain Slocum admitted, "they have not the individuality and resources of our men,

but for indomitable courage, uncomplaining fortitude and implicit obedience they are beyond criticism."[116] As proof of the barvery of British officers, John Wisser cited in his series in The Journal of U.S. Artillery, the loss of 14.5% of their number as compared to corresponding German losses of just 4,5% at Spichern one of the more bloody engagements of the Franco-Prussian War.

Looking for reasons for British failure in battle the Americans were reduced to repeated incantations on reconnaissance and inferior small unit tactics. It was noted however that although forty-six pages of the British drill book were devoted to the offensive only five lines addressed the problem other than in terms of frontal attack.[118] American regimental attack formations of this period resembled their British peers in that the first line of skirmishers was followed by a support at 200 yards with a reserve an additional 300 yards behind. The difference was the second line (read battalion) which followed the first line reserve at a distance of six hundred yards was to march forward in platoon columns. As the Boer War showed, any column eleven hundred yards from an enemy not totally suppressed was in danger of being annihilated.[119]

The American school of thought on infantry attack at this time put enormous trust in its ability to silence the opposition prior to the actual onslaught. The United States for that reason was the only major power to maintain an army reserve of artillery. Russia, by means of comparison, was at the other extreme since it lacked any higher artillery organization beyond the divison.[120] These tendencies were ironic since the Americans, who prided themselves on spontaneity, evolved a highly rigid system, whereas the Russians who generally overcentralized, had worked out a fluid system which appeared to lack a major punch. For the Americans strict adherence to the previous artillery doctrine after the Boer War could have been disastrous since the war proved how difficult it was to gain absolute fire ascendancy in the modern battlefield.

Change was at the heart of the British experience in South Africa and that was duly noted by the esteemed American journalist, Julian Ralph, who observed much of the war first hand. In an article for the The Army and Navy Journal he wrote, "when peace is declared in South Africa the finest fighting machine in the world will not be the German Army, but the British Army."[121] Yet only a few months later he would conclude his account of Lord

Roberts' campaign with the contention that "thorough reform of the army is essential to secure the prosperity and safety of Great Britain."[122] This is not to say the intervening time had been wasted for as Captain Reichman points out the British had vastly improved in use of terrain and scouting.[123] On the whole however the enormity of the task of reform confronting all levels of the army merely started with tactics.

Perhaps some of the most insightful thinking on the war appeared in Ralph's publications. He quotes at length an unnamed fellow correspondent who claimed that new weapons,

> will make our generals extremely cautious in ever committing infantry to an attack which will involve an assault, it will necessitate long marches, it may bring about battles which will last several days-the men being fed at night. Night work, with pick and shovel, by the assailant may be restored and a kind of small siege be undertaken in preference to the loss involved in a direct assault.[124]

Ralph effectively concluded that in the face of futile frontal assaults on trenches, "intelligence, transport, money and staying power are likely to be the great factors in the wars of the future, brute courage and dash sinking further into the background."[125] A better definition

in one sentence, of World War I would be hard to find.

The essence of the modern stalemate was perhaps most shrewdly confronted by the Swiss artilleryman, P. Van Berchem. On one hand artillery was devastating against massed attacking opponents and yet on the other, nearly ineffective despite three and four to one superiority against their opposite number. The battle of Dewettsdorf was for Van Berchem a classic case where three Krupp 7.5 cm's and a machine gun spaced 50-200 paces apart held eighteen British guns at 2,600-3,000 meters for half a day until the British were reinforced by an additional twelve guns. The Boer guns were nearly undetectable, but if sighted, they were quickly moved.[126] What seemed even more prepossessing, was the unlikelihood of any European power gaining such a numerical superiority along any extent of front. A partial solution lay in the proper selection of gun size and shell type. Van Berchem concluded that "the occasions for using shrapnel will be much more rare; we must turn to the study of another projectile and have recourse to heavy calibers."[127] This lesson was in fact supported by Captain Ram whose, "impression was, however that the English shrapnel did little harm and that the prestige of the British ordnance with the Boers was

gained chiefly by common shell,lyddite and other."[128] The importance of these neglected findings from the Boer War for the ensuing decades cannot be overestimated.

Van Berchem was critical of the British artillery practices not only in comparison to the Boers but to the Germans as well, whose regulations he quoted at length. The English predilection for exercise in the open, unlike the Germans' insistence on digging in at every opportunity both in offense and defense, was foolhardy. The solution for the future lay in the use of heavier calibers in the field so as to cover the deployment of lighter guns which in turn would facilitate tactics.[129]

Without doubt, the most important military thinker to consider the meaning of the Boer War was Jean de Bloch, the Polish financier and adviser to the Czar. His prewar classic The Future of War had in many ways predicted the enormous impact of the magazine rifle with its increased rate of fire, range and precision coupled with smokeless powder. With these modern weapons, fields of fire would become more important than the hazards of approach. With longer ranges and the new priority in position selection, the impossibility of accurate reconnaissance was only to be expected.[130] Bloch

predicted that men would blindly attack and, "at first there will be increased slaughter-increased slaughter on so terrible a scale as to render it impossible to get troops to push the battle to a decisive issue."[131] For the men to continue forward would take inordinate courage which ordinarily would be boosted by nearby comrades in arms, yet in this modern battlefield men had become so spread out and isolated that it would be difficult just to maintain a firing line.

For Bloch there was no solution to the modern stalemate. The issue was one of preventing the useless expenditure of lives. He quotes an unnamed General, "we have nearly as many guns as spades, but I am inclined to think the humble and rather despised engine of war the more useful of the two."[132] Artillery was ineffective against men in the trenches; thus men would tend to stay there. For further proof of the deadlock he cites one Colonel C. M. H. Downing who stated,

> from my experience of South Africa, I consider that the artillery in the attack still have the same role to play as ever, namely, to support the infantry attack; and the only way to do that is by keeping down the fire of the defenders though without necessarily inflicting actual loss thereby.[133]

This admission of the inability of artillery to actually neutralize the enemy sets up for Bloch the inevitable slaughter when the suppressive fire lifts and the defence applies rapid fire into close range targets. The only alternative was a further stalemate as each side remained in its trenches and refused to become cannon fodder.

Cavalry's role as a combat arm was obsolete. Mounted troops gained power by swiftness and mass yet as ballistics improved, smaller infantry units could fire far more rounds in less time. Instead of two volleys by two hundred men at eight hundred yards the same number would surely kill over five hundred horses at the same distance especially if they came from over two thousand meters which Methuen suggested as possible.[134] Cavalry was useless against infantry or artillery and he believed that when confronting an opposing cavalry force they could merely dismount and render mounted action useless.[135]

The best case to be made for the traditional soldier was that Bloch's studies were too removed from the battlefield and that all the analyzers of mechanisms and ballistics do not necessarily translate themselves into efficient action. Poor training and personnel idiosyncrasies could still play havoc with even the most

modern armed foe. To Bloch this seemed a slim reed on which to develop a tactical system.

Ultimately Bloch was no greater a critic of the British army than of any other army of the time. He doubted that the Germans would have done any better under the circumstances. Their China expedition was marked by every flaw from showy impractical uniforms to a breakdown of logistics for a force numbering a mere 15,000. No evidence then available could convince him that the Germans had solved the riddle of modern arms and the trench warfare any better than the British.[136]

The lasting value of Bloch's work resides in his opposition to all mass armies. The full basis for this belief is to be found in his tome, The Future of War but everything he learned in the Boer War served to reinforce this opinion. Jean de Bloch concluded that,

> for whatever form of hostilities between nations may assume in the future, it is absolutely certain that superiority of financial resources will ultimately decide the issue, and for this reason money must be husbanded for the occasion instead of being lavished upon useless organizations. A belligerent has only to remain strictly on the defensive and spend his money judiciously in order to reduce the enemy to ruinous inactivity.[137]

Reviewing, as in this chapter, only a sampling of the

enormous body of literature written by contemporaries on the matter of the Boer War, one cannot help but be impressed by the breadth and depth of criticism of the British Army. The English were shaken, as the writer Rooinek noted,

> if we were to judge by the articles in the foreign press, the Army, after its experiences in South Africa had sunk very low in the estimation of the world. Every kind of reflection, not only on the competency but even upon the personal courage of both officers and men, was freely made and as freely accepted.[138]

The public and governmental response took two forms. The defensive posture is best related metaphorically in the story of the nettled reply of a wet nurse to Sir Andrew Clarke when he found fault with her suckling, "Could you have done any better?"[139] Alternately and fortunately it is the second response, that of reform, that proved the more lasting and important.

[1]For example see,

Dal Verme, Count Luchino. "An Italian View of the Boer War," JRUSI 44 (1900):663-73, 777-91, 906-21 and 1047-62.

Prussia, Grosser Generalstab Kriegsgeschichtliche Abteilung. The War in South Africa, Prepared in the Historical Section of the Great General Staff Berlin, Trans. Col. W. H. H. Waters. London: J. Murray, 1904.

Von Lindenau. "What Has the Boer War to Teach Us As Regards Infantry Attack? A Lecture Delivered Before the Military Society of Berlin, 5th March, 1902," JRUSI 47 (1903):48-56, 186-95 and 314-25.

Langlois, H. Lessons From Two Recent Wars (Russo-Turkish and South African Wars). London: Mackie and Co. Ltd., 1909.

[2]Foreign military observers traveling with the British forces included:

Captain Slocum, U.S.A.
Captain J. du Pontavice, France
Captain Baron von Luttwitz, Germany
Major Gentiline, Italy
Colonel Stakhovich, Russia
Captain Robert Trimmel, Austro-Hungary
Major Esteban, Spain
Captain Hiraoka, Japan
Captain Arvid M. Thie Wester, Sweden

Foreign military observers wth the Boers included:

Colonel Reichman, U.S.A.
Lieutenants J. Ram and Thompson, Holland
Captain Julius Allum, Norway
Lt.-Colonel Romeik-Gurko, Russia
Capatin Demange, France
Lieutenant Raoul-Duval, France
Lieutenants C.J. Asselberg and M.J. Nix, Dutch East Indies

[3]Allum, "Report of Captain Allum Regarding His Stipendium Tour to the Boer War, January to July 1900," Trans. C. De Jong, (unpublished), p. 27.

[4]Robert Trimmel, "South African Campaign, Precis of a Lecture," JRUSI 45 (Feb. 1901):185.

Desjardins, p. 73.

[5]C. De Jong, "A Neutral Military Observer in the Anglo-Boer War in 1900: The Norwegian Captain Julius Allum," Kleio: Journal of the Department of History, University South Africa Pretoria 8 No. 1 & 2 (June 1976):19.

[6]Ibid., p. 18.

[7]Fonville, p. 117.

[8]J. du Pontavice to Monsieur Le Ministre de la Guerre, 12 Oct. 1899, Campagne Contre L'Allemagne (1914-1918), Attachés Militaires Grand-Bretagne, Rapports De L'Attaché Militaire 1870-1900 7N 1219 p. 2 Château Vincennes.
Ibid., 13 Oct. 1899 p. 3.
Ibid., 9 May 1900 p. 2.

[9]D'Amade, "Guerre Sud-Africaine 1899-1900 Des Faits, Des Remarques, Des Suggestions d'Amade signed Oct. 25, 1902" Armée des Indes Guerre suit Africaine 1894-1912 7N 1250 p. 136 Chateau Vincennes.

[10]D'Amade to Monsieur Le Ministre de la Guerre, 14 Dec. 1903, Service de Renseignements 1901-03 7 N 1230 no. 2426 Châteuau Vincennes.

[11]B. M. p. 213 and
"Etudes sur la guerre Sud-Africaine," Revue Militaire des Armées Etrangères April 1902 p. 217.

[12]D'Amade, Guerre Sud-Africaine... p. 27.

[13] "Etudes sur la guerre Sud-Africaine," Revue Militaire des Armées Etrangères July 1902 p. 23.

[14]Col. Ruffey, Etude critique du règlement Anglais des trois armées, élaboré par Lord Robert le 1er Mai, 1902, (Charles Lavauzelle: Paris 1903), p. 170.

[15]Somers H. Somerset, "Army Manoeuvers in France", Nineteenth Century 48 (Nov. 1900):812.

[16]Ruffey, p. 24.

[17]Ibid., pp. 149-50 and
D'Amade , "Marche de Lord Roberts de Bloemfontain a Pretoria No. 25 Dec. 1900", Armée des Indes... p. 23.

[18]Symons, p. 811 and
Infantry C.O. "Spring Maneuvers in South Africa," USM 28 (Jan. 1904):383.

[19] "Etudes sur la guerre Sud-Africaine," Revue Militaire Des Armées Etrangères 60 (June 1902):456-57
Gilbert, P. 579.
Ruffey, p. 55.
Fonville, p. 119.

[20]As proof of the declining decisiveness one may note the following percentages of casualties and prisoners of troops engaged in various battles:

1815 Waterloo Fr.	42.2	1899 Magersfontein Brit.	7.4
1866 Sadowa Aust.	20.6	1899 Colenso Brit.	5.8
1870 Woerth Fr.	41.1	1900 Spion Kop	4.2
1870 Sedan Fr.	42.2		

Culmann p. 114.
Ruffey, p. 48.

[21]F.N. Maude, "The French View of the Transvaal War," USM 27 (Aug. 1903):519.
Henrie Bonnal, La recente querre Sud-Africaine et ses enseignements (Paris: Libraire Militaire, R. Chapelot:, 1903), p. 17.
It was the rare Frenchman who saw in these tactical changes any improvement.
Captain Fournier, Nouveaux règlements de manoeuvre de l'armée Anglaise; etude critique (Paris: R. Chapelot, 1903), p. 65.
General Wolseley had for some time recognized the declining ability of British infantry to sustain losses and he feared that 5 to 7% casualties would now be sufficient to halt an attack. The following evidence from the last century seemed to support his contention.

Albura	48% casualties	Quatre Bras	20% casualties
Waterloo	29% casualties	Alma	9% casualties
Inkerman	31% casualties	Modder River	7% casualties

ANJ (30 Dec. 1899):419.

[22]Bonnal, La récente guerre, p. 28.
Général Hippolyte Langlois, Conséquences tactiques des progres de l'armement etude sur le terrain (Paris: Charles Lavauzelle, 1903), p. 37.
Général A. C. Gerome, Essai historique sur la tactique de l'infanterie depuis l'organisation des armees permanentes jusqu'à nos jours 2ed. (Paris: Charles Lavauzelle, 1903), p. 459.

[23]Fournier, Noveaux règlements, p. 55.

[24]Sommerset, p. 809.

[25]Ruffey, pp. 27, 32-33.

[26]General Louis-Ernest de Maud'huy, Infantry (Paris: Charles Lavauzelle, 1911), p. 102.

[27]Frederic Culmann, Tactique d'artillèrie le canon à tir rapide dans la bataille (Paris: Charles Lavauzelle, 1906), p. 65.

[28]Maude, "The French View," p. 527.
Gerome, Essai historique sur la tacticque de l'infanterie, p. 463.

[29]Gilbert, p. 556.
D'Amade, Guerre Sud-Africaine, p. 30.

[30]This was almost the same formula that was to fail so disastrously in 1914.
Gerome, p. 448.

[31]Fournier, La guerre Sud-Africaine, 2:XXIV.
Demange, Guerre Du Transvaal, Journal de Demange 26 Juillet - 25 Sept. 1900. Armée des Indes, p. 43.

[32]H. A. Bethell, Modern Artillery in the Field: A Description of the Artillery of the Field Army and the Principles and Methods of Its Employment (London: Macmillan and Co. Ltd., 1911), p. 292.

[33]Ruffey, pp. 32, 35, 38.
Fournier, "Nouveaux reglements," p. 17.
Maude, "The French View," p. 527.

[34]Gilbert, p. 588.

[35]D'Amade, Guerre Sud-Africaine, pp. 64, 67, 135.
Fournier, La guerre Sud-Africaine, II:XXXVII

[36]D'Amade to Monsieur Le Ministre de La Guerre, Campagne Contre l'Allemagne (1914-1918). Attachés Militaires, Grande Bretagne, Rapports de l'Attaché Militaire. 1871-1900 7N 1219 no. 421 p. 1 Chateau Vincennes.

[37]Ibid., 1901-02, 7N 1220 no. 82 p. 1.
Culman, Les detachements de contact, pp. 1-2.

[38]Fournier, "Nouveaux reglements," p. 10.
D'Amade, Guerre Sud-Africaine, pp. 94-95.

[39]Fournier, La guerre Sud-Africaine, II:XXXVII.
Commandant Gerome, Essai historique sur la tactique de la cavalerie (Paris: Charles Lavauzelle, 1906), p. 424.

[40]Ruffey, p. 62.

[41]D'Amade, Guerre Sud-Africaine, p. 140.

[42] "Etudes sur la guerre Sud-Africaine 1899-1900," Revue Militaire des Armées Etrangères 60 (Sept. 1902), pp. 129-152.
Ibid., 59 (June 1902), p. 457.
Ibid., 59 (April 1902), p. 309.
Izzet-Fuad, Le contact: etude de guerre moderne (Paris: Charles Chapelot, 1906), p. 28.

[43]Gilbert, p. 485.

[44]Villebois-Mareuil, p. 73.

[45]B. M., p. 208.

[46]Hilbert, p. 180.

[47]Grosser Generalstab Prussia Kriegsgeschichtliche Abteilung, The War in South Africa Authorized trans. Col. W. H. H. Waters (London: John Murray, 1904), I:71

Lord Roberts was cognizant of the German official history of the War's dependence on attache reports and cites Col. Neville Chamberlain as his source on this matter.

Roberts, "The Boer War Through German Glasses," p. 5.

[48]Briggs, p. 16.

[49]Correspondent, "German Military Opinion," Times (London), 16 October 1899, p. 6.

This attention paid to the Germans should come as no surprise since far more German than French articles found their way into the pages of the J.R.U.S.I. and as Lothar Hilbert suggests, "from 1870 to 1900 the British military leaders went to school in Germany: in many ways the British military attache in Berlin became the medium of this infiltration of German patterns into the British Army"

Hilbert, p. 149.

[50]Major von Scheibert, "Uber strategische Bedeutung von Befestigungen im Lichte der Kriege in Sudafrika Virginien (1864/1865)," Militär-Wochenblatt 62 11 July 1900 pp. 1494-95.

[51]As quoted in

Grosser Generalstab Prussia, Kriegsgeschtliche Abteilung, The War in South Africa; The Advance to Pretoria, After Paardeberg the Upper Tugela Campaign etc., Authorized trans. Col. Hubett Du Crane (London: John Murray, 1906), 2:45.

[52]Major William Balck, Tactics, Trans. Walter Krueger (Fort Levenworth Kansas: U.S. Cavalry Association, 1911), 1:110.

[53]Gunter, p. 802.

[54] "Military Observations on the War in South Africa translated from the Militär-Wochenblatt," JRUSI 46 (April 1902):477.
Grosser Generalstab, 2:328, 335.
Gunter, p. 803.
If the British were to place their faith in their legs at least they were well prepared, since they not only had the longest stride in Europe as per regulations, but also the highest cadence next to the elite Italian Bersaglierie. For a complete breakdown of stride and pace at quicktime, accelerated time and double time for various nations see
Balck, Tactics, 1:54.

[55] Lt.-Col. von Lindenau, "What Lessons Can We Draw from the Boer War for Our Infantry Attack," Trans. Capt. Carl Reichman JMSIUS 32 (May 1903):424.

[56] Lt. von Gentz, "The German Infantry Regulations As Tested By the Experience of the Boer War," Trans. Lt. S.M. De Loffre from La France Militaire in U.S. General Staff, Selected Translations, p. 124.
Balck, Tactics, 1:150.

[57] Ibid., 1:234, 238, 240, 242.
"Idees Allemandes sur la tactique (influence de la guerre Sud-Africaine)," Revue Militaire Des Armées Etrangères Aug. 1903, p. 77.

[58] Karl von Clausewitz as quoted in
Major Balck, "The Lessons of the Boer War and the Battle-workings of the Three Arms," Translation JUSCA 15 (Jan. 1905):703.

[59] Cairnes, p. 283.

[60] Albrecht von Bogusławski, Taktische Folgerungen aus dem Burenkriege und der Gruppenangriff (Berlin: R. Eisenschmidt, 1903), pp. 16, 27.
Wisser, pp. 119, 170, 202.

[61] Gunter, p. 803.

[62] Lt.-Col. von Lindenau, "What has the Boer War

to Teach Us As Regards Infantry Attack? A Lecture Delivered Before the Military Society of Berlin, 5th March, 1902," JRUSI 47 (March 1903):318.

[63]Lord Roberts order of the Day 26 January 1900 as quoted in
Major Balck, "The Lessons of the Boer War and the Battle-workings of the Three Arms," JRUSI 48 (Nov. 1904):1278.

[64]De Wet, p. 108.

[65]Charles à Court Repington, Essays and Criticisms, by the Military Correspondent of the Times, (London: Constable, 1911), pp. 212-214.

[66]Centurion, p. 230.
Schiebert, p. 1495.
Grosser Generalstab, 1:31, 2:146.

[67] "Military Observations," 46 (Feb. 1902):219.
Oberst A.D. Konstantin von Braun, Taktische Eindrucke Wahrend des Sudafrikanischen Krieges in Natal 1899-1900: Erganzt Wahrend der Kriegsgefangenshaft in St. Helena 1901-02, (Berlin: R. Eisenschmidt, 1903), p. 15.

[68]Grosser Generalstab, 2:49-51.
Cunliffe, 2:575.

[69] "Military Observations," 46 (April 1902):472.

[70] "Idées Allemandes," p. 74.
Von der Goltz, "Military Lessons of the Transvaal War," National Review 42 (Nov. 1903):391.
Prewar British regulations (1896) had prescribed 30-40 meter rushes but by war's end 70-90 were the norm as it was found difficult to have the men consistently rise once under fire. The 1905 regulations for instance mandated the 70 to 90 meter method. The Germans took a different approach. Von Cammerer and the British regulations of 1896 spoke of "firing on the go" which seemed to make little sense against a hidden enemy. Von

Boguslawski, von Lindenau and the anonymous author of "Military Observations" emphasized shorter bounds with smaller groups of men using aimed covering fire. Such a system would provide less exposure and diminish fatigue.

Balck, Tactics, 1:89-91.

"Military Observations," 46 (March 1902):357.

Gunter, p. 804.

Von Lindenau, 47 (Mar. 1903):321-2.

[71]Sternberg, p. 210.

[72]Grosser Generalstab, 2:344.

[73]Paragraph two German I.D.R. 1908 as quoted in

Balck, Tactics, 1:109.

Further proof of heightened emphasis on small unit tactics along with traditional values of aggressiveness and firepower from the IDR may be found on the same page in Balck.

[74]von Boguslawski, p. 13.

[75]Henderson, The Science of War, p. 8.

[76]Charles Callwell and John Headlam, The History of the Royal Artillery From the Indian Mutiny to the Great War, 3 vols. (Woolwich: Royal Artillery Institution, 1931), 2:66.

[77]Sternberg, p. 251.

Balck, Tactics, 2:419.

[78]Bethell, Modern Artillery, pp. 128-9.

[79]Von Heydebreck, "The British Army of the Present Day," Contemporary Review 93 (March 1908):271.

[80]Grosser Generalstab, 2:32.

[81]Balck, Tactics, 2:270, 297.

[82]Ibid., 2:29, 32, 117.

[83]As quoted from Bernhardi's Cavalry in the Next War" in "German Ideas On The Role and Employment of Cavalry," JRUSI 48 (July 1904):826.

[84]Balck, Tactics, 2:13.

[85]Grosser Generalstab, 1:166.
"German Ideas On The Role and Employment of Cavalry," JRUSI 48 (Aug. 1904):954.

[86]Fritz James Maine, Notes on the Training, Equipment, and Organization of Cavalry For War, (London: William Clowes and Sons Ltd., 1910), pp. 1, 9.

[87] "German Ideas On The Role and Employment of Cavalry," (July 1904):825.
Ibid., (Aug. 1904):947, 949.

[88]Balck, Tactics, 2:18.

[89]Sternberg, p. 235.
General Francois de Negrier, Lessons of the Russo-Japanese War, Trans. Louis Spiers (London: H. Rees Ltd. 1906), pp. 72-74.
Erskine Childers, War and the Arms Blanche, p. XII.

[90]Fritz Hoenig, "The Lessons of the South African and Chinese Wars," JRUSI 45 (March 1901):290.

[91]Balck, "Lessons of the Boer War," p. 1280.

[92]Balck, Tactics, 1:340.

[93]Cairns, p. 268.

[94]Roberts, "The Boer War Through German Glasses," pp. 2-3.

[95]Colmar von der Goltz, "Military Lessons of the Transvaal War," National Review 42 (Nov. 1903):387.
Hoenig, p. 294.

[96]Grosser Generalstab, 2:289.

97 "The South African War of 1899-1900 translation from the Jahrbucher-fur die deutsche Armee und Marine," JRUSI 45 (July 1901):852.

98Grosser Generalstab, 2:343.

99Wagner, p. 10.

100Maude, "The French View," p. 518.

101John Hubert Foster, Organization, How Armies Are Formed For War, (London: H. Rees Ltd. 1913), p. 10.

102Bloch, The Future of War, p. 52.

103U.S. General Staff, p. 4.

104 "Idées Allemandes," p. 78.
U.S. General Staff, p. 7.

105von Boguslawski as quoted in
R.H. Peck, Infantry in the Attack, Course in Organization and Tactics, no. 14 (Ft. Levenworth, Infantry and Staff School: Staff College Press, 1904), p. 18.
Boguslawski, pp. 38, 43 & 64.

106Citing von Boguslawski
Braun, p. 24.
Boguslawski, pp. 44-45.

107Ibid., pp. 72, 77.

108Stakhovich report dated 18 February 1900 in
De Jong, 5/3 (1975), p. 14.

109Stakhovich as quoted in
Jean Carrere, La querre du Transvaal, 2 vols. (Paris: Ernest Flammarion, 1901-03), 2:251.

110Captain Jonkheer J. H. Ram, "Observations on the War in South Africa," JRUSI 48 (Feb. 1904):168.

111Ibid., p. 160.

[112]Ibid., 48 (Jan. 1904):50.

[113]May, Retrospect on the South African War, p. 123.

[114]Captain Slocum report of 6 June 1900 quoted in U.S. War Department, p. 86.

[115]Captain Richman extract U.S. War Department, p. 251.

[116]Captain Slocum report of 6 June 1900 quoted in U.S. War Department, p. 79.

[117]Wisser, "The Second Boer War" 13 (May - June 1900):265.

[118] "Foreign Items," ANJ 37 (17 March 190), p. 683.

[119]Wagner, Organization and Tactics, p. 143.

[120]Ibid., pp. 14 & 379.

[121]Julian Ralph, "Changes in Modern War," ANJ 37 (31 March 1900):733.

[122]Julian Ralph, An American with Lord Roberts, (N.Y.: F.A. Stokes Co., 1901), p. 314.

[123]U.S. War Department, "Reichman Report," p. 247.

[124]Julian Ralph, "Lessons of the War," Harper's Weekly 44 (11 Aug. 1900):756.

[125]Ralph, "Changes in Modern War," p. 733.

[126]P. Van Berchem, "Notes On the Artillery in the South African War," trans. Capt. William Lassiter, JUSCA 21 (May - June 1904):318, 321.

[127]Ibid., p. 315.

[128]Ram, 38 (Feb. 1904):163.

[129]Berchem, pp. 314-316.

[130]Jean de Bloch, "The Transvaal War: Its Lessons in Regard to Militarism and Army Reorganization" JRUSI 45 (Nov. 1901): pp. 1320, 1322.

[131]Jean de Bloch, The Future of War: In Its Technical, Economic and Political Relations (1899 reprint ed., N.Y.: Garland Pub. Co., 1972), p. XVI.

[132]Bloch, "The Transvaal War," 45 (Dec. 1901):1432.

[133]Ibid., p. 1422.

[134]Ibid., p. 1435.

[135]Bloch, "The Transvaal War," 45 (Nov. 1901):1343.

[136]Ibid., p. 1327.

[137]Jean de Bloch, "Some Lessons of the Transvaal War," The Contemporary Review 77 (April 1900):471.

[138]Rooinek, "The Influence of the South African War Upon the Prestige of the Regular Army," USM 170 Aug. 1914, p. 494.

[139]O. Eltzbacher, "Our Unready Army and Some Historic Parallels," Nineteenth Century and After 52 Oct. 1902, p. 625.

Chapter XI

Postwar Reforms: Education, Promotion, New Equipment and The Future of Cavalry

With the end of the war a mood of somber introspection and reassessment took hold of the army. A war that had destroyed more reputations than it had created could not help but indicate the flaws in the system. The heroes such as Roberts and Kitchener received their bounties ($500,000 and $250,000 respectively) and promotions.[1] But along with fame and power came the responsibility for reform. To carry out such a program required forceful and courageous officers. Roberts was perhaps too pessimistic when he wrote, "it is really astonishing how few officers have made names for themselves in this war, the more so as the commands have not been confined to old men, quite young ones have had their chance and scarcely half a dozen have shown any great military qualities."[2]

Roberts rued the professional demise of Buller, Methuen, Gatacre, Warren, Broadwood and Long. The "heroes"

of the war, White and Baden Powell who held their own, French, who had overwhelmed an outnumbered foe at Kimberley, Churchill, who had escaped, and bugler Dunn and his charge, did not seem the material with which to staff a war office. Future high ranking officers such as French, Haig, Gerald Ellison, Rawlinson, Callwell, Henry Wilson, William Robertson and J. M. Grierson, who all prospered under Roberts' auspices, were at this time all too junior in rank. The senior officers from which Roberts was forced to make important appointments, such as Buller to the Aldershot command, the Duke of Connaught to Ireland and Evelyn Wood to corps commander, left him profoundly troubled.[3]

The constraints of Roberts' office, hemmed in by Royal, Parliamentary and War Office bureaucratic prerogative, did not sit well with such a man of action. He complained that no Secretary of State or Parliamentary Committee ever asked him to deduce the lessons of the war or presented him with a bill of particulars of the military needs of the Empire. He felt that,

> all the evidence goes to prove the necessity of creating a General Staff whose duty it would be, in addition to the work now carried on by the Intelligence Branch, to work out the larger questions of strategy,

> and of Imperial Military requirements, leaving to the Commander in Chief the discipline of the Army and the control of the personnel of your Majesty's forces.[4]

Kitchener, Roberts' protegé, had found his post in India just as confining although perhaps by virtue of distance as much as by Imperial design he was able to install radical changes.

While Kitchener had his failings, it must be recognized that he had an eye for talent and an appreciation for a sound military education. His officers selected for special consideration included Haig, Rawlinson, French, Julian Byng, Hubert Gough, Herbert Plumer and Edmund Allenby. This group which overlapped with Roberts' favorites, contained the leading soldiers of the Empire's next war, as well as a host of lesser lights such as Ian Hamilton, Smith-Dorrien and A. Hunter Watson. They were all products of the South African experience.

In reality the future leaders had little recourse but to serve in South Africa as a means of career advancement since the Staff College had been closed early in 1900 due to the War. When reopened in November the course of study had been so broadened as to take advantage of the experience gained in the war. Greater emphasis was placed

on the administration and organization of lines of communication. Kitchener had stressed the need for officers with military schooling and an independence of spirit which the school now endeavored to produce.[5] In keeping with this need for initiative was the introduction of naval officers to the program in 1901. Commenting on the effectiveness of this move Lord Esher praised the naval officers who loaded troops at Mauritius and landed the Naval Brigade without awaiting orders. He claimed "it was doubtful whether any military officer in your Majesty's army would have dared to undertake such responsibilities, whereas there is no reason to suppose that many sailors would have shrunk from them."[6]

The arrival of Rawlinson as commander of the Staff College further increased its efficiency and prestige. He eliminated many of the onerous and outdated exams while encouraging personal evaluation by senior officers. The Staff was upgraded to include six future Generals, and naval officers were added as instructors.[7] The publication of the South African War Stores Commission's report increased the impetus for study at the Staff College and led to the introduction of special courses at the London School of Economics. King Edward VII had opposed

the writing of articles by serving officers but by 1911 under the auspices of General Nicholson this had been largely overcome as Britain attempted to keep up with her continental peers in theoretical matters.[8]

The altered status of Staff College graduates between 1898 and 1911 was self-evident. Where previously attendance was seen as a sign of unnatural ambition or undesirability for service within a regiment it was now regarded as a prerequisite to higher achievement. The manifold failures of various staff operations during the war attested to the failures of the old system. With the Duke of Cambridge insisting on equal opportunity for regimental officers and Camberley graduates to staff appointments the desirability of such an education was questionable. The Duke sought to integrate the experience of the line officer with the technically more proficient Camberley graduate. Of the 460 generals and staff officers serving in South Africa, only 120 had graduated from the staff college while among the special services they numbered barely one seventh the total.[9]

With increasing professionalization and the creation of a General Staff in 1904 the makings of a schism in the army between those with Staff College degrees and those

without became evident. Officer enlistments began to drop off in this new atmosphere. A Precis for the Army Council in May of 1905 found the following reasons for this,

> with regard to pay, many consider that the pay though never adequate, was not too small when too much was not expected and when officers came into the Army to have a good time. But now that more work is expected and officers have so much less times to themselves, they can no longer be expected to pay out of their own pockets for the privilege of soldiering.[10]

The greater commitment of time and effort was required of all ranks of officers, not just the seniors. The Akers Douglas Committee on Education of 1902 had recommended higher levels of education for even the lowest subaltern in subjects as diverse as English, math, science and tactics. The Army could no longer afford to have many of its brightest Sandhurst (the military college) graduates go off to serve in India merely because it was cheaper to live there. Standards within the College itself were raised in 1907 when rankings were based upon graduation rather than entry exams.[11] Higher requirements led to the call for increased pay which in turn opened the Army to professionals and less to the dilettante, sportsman or simple seekers of society.

The war had shown the faults of an overly class-

conscious approach for the provision of officers. As Major E. L. C. Berger wrote,

> surely it is much better for the regiment and for the service to fill company vacancies from this material (N.C.O.s) than, as happened during the South African War, to import gentlemen, very nice, athletic fellows many of them, but, who, for purposes of command owing to ignorance of military matters, were often a danger not only to themselves but to the soldiers placed under them.[12]

Significant reform along these lines would take decades but a start was made. The old system of promotion based on reports of brother officers who were lifelong friends proved remarkably resilient. The groundwork of the army would have to be overturned for just as the navy selected junior officers and placed higher officers by seniority, the army functioned in reverse by emphasizing regimental association before the individual's quality had been ascertained. The merger of garrison and line regiments in 1905 which forced the shifting of personnel between units was thus merely the first step. A system of promotional exams proved ineffective and a greater importance was placed on field work during the increasing numbers of maneuvers held in the decade after the war.[13]

Educational and promotional reform represented a

small fraction of the change the army was to undergo in the forthcoming years. Of no arm was this truer than that of the cavalry which had to reconsider its mission, tactics and weaponry in the light of wartime experience. At the forefront of controversy was the new rivalry between the mounted infantry and traditional cavalry. Led by Erskine Childers, the author of War and the Arme Blanche and The German Influence on British Cavalry, and to a lesser extent Roberts, the mounted infantry advocates prophesied an end to shock action as the primary objective of cavalry. Reconnaissance and mobile firepower were to be the essence of the horsemen's existence.

Lord Roberts had begun to move in this direction during the war with his creation of a mounted infantry division in April of 1900. By 1904 the changes were sufficiently pervasive as to cause The Times of London correspondent to comment, "it is nothing less than a revolution in cavalry tactics to which Lord Roberts has lent all the weight of his practical experience."[14] Even after his retirement in 1904 the Mounted Infantry Manual, published in 1906, continued to reflect in part his thinking. Mounted infantry had evolved as a separate branch. The manual read, "the principles of infantry

training will govern their employment, their increased mobility being utilized to enable them to cover greater distances."[15] Tactical employment was officially restricted. Mounted infantry could perform as a mobile pivot of maneuver, with machine gun and horse artillery, and act as a fluid reserve. It could also serve, "as a portion of a mobile column in minor operations and in savage warfare, in which case, when cavalry was not available, it may have to perform duties of reconnoitering, scouting and patrolling."[16]

All of this was more limited than what Sir Charles Knox had envisioned or Sir George Cheaney had advocated with his army of Dragoons going back to the 1870's. All cavalry armies or vastly increased numbers of multipurpose horsemen were popular for a time, especially among civilians who had followed the Boer War from afar and experienced the army's frustration vicariously. It seemed that such armies would be impossible to defend against and equally difficult to attack.[17] Roberts was himself never of the radical school. Instead he believed with his friend, the noted soldier and historian, G. F. R. Henderson that cavalry may have reached its zenith in the American Civil War with its emphasis on firepower. German mounted

infantry advocates such as Franz Geuzinger, whose heavily underlined Précis of (German) Modern Warfare may be found in Roberts' archives along with his own reflections on South Africa, form the foundation of his beliefs.[18]

Dating the birth of mounted infantry within the service from the advent of Roberts as Commander in Chief is perhaps unfair since the first companies were actually formed in 1888. Early recruitment methods had created a problem which was never effectively overcome. Skimming the line battalions of their elites left resentment in the hearts of many an infantry commander. The alternative of retraining cavalry proved just as awkward. The solution arrived at by 1910 was to levy thirty specially trained men and one officer per battalion only when at war. Three companies and a machine gun section would then constitute a battalion and two of those the mounted infantry brigade. The mounted infantry had thus ceased to exist as an independent peacetime arm by the end of 1910.[19]

That the mounted infantry survived the demise of Roberts is a testament to its utility during the war and the fame lavished upon it by Kipling's "M.I. (Mounted Infantry of the Line)". The army had grown dependent on them. Roberts stated, "I can scarcely call to mind an

occasion while I was in command in South Africa when cavalry were ordered out when the commanding officer did not beg to have some M.I. sent with him."[20]

Cavalrymen were of course upset by these upstarts and would only go so far as to admit their utility in the unique circumstances of South Africa against an unusual foe. Forced to arm themselves with rifles, cavalrymen attacked those who adopted the weapon by choice. Believing in the charge and offensive spirit they could not comprehend a mounted force behind an enemy that could not charge. The gravest concern was voiced over a decline in cavalry ethos for those who thought they could fight better afoot than mounted. The mounted infantry were invariably poorer riders, mounted on inferior horses and thus could neither meet opposing cavalrymen on equal terms nor keep up with the Boers. These truths did not improve their standing. Even dismounted mounted infantry had its critics since tactics were predicated on a secure refuge for the horses and such a large proportion of troops would be relegated to their care so as to diminish the firing line.[21]

The pressure of circumstances during the war had led to uneasy coexistence between the two philosophies.

Ideally if the mounted infantry had been kept as an independent reserve it would not have been as frequently misused and thus subject to cavalrymen's criticisms. Isolated, it would have functioned as a local reserve and near reconnaissance force freeing the cavalry for its own perceived role.

In the postwar era conservatives would ultimately have to compromise and adopt the rifle as a standard weapon but not without substantial resistance. As a long term professional force the British Army enjoyed a certain luxury of time for training. The British cavalry served seven years rather than the typical continental three, enabling it to attempt a mastery in some cases of three weapons, sword, lance and rifle. The essence of the problem was to create the ideal cavalryman who could defend on foot and attack on horse, something no cavalryman could accept. Earl Haig perhaps best summarized the quandary,

> mounted infantry is only a makeshift to compensate for the slow movement of infantry on the battlefield, and to serve, as occasion offers, for protection of guns or as a support to cavalry. The role of the two arms must be kept quite distinct; never must cavalry be permitted to become mounted infantry, nor the latter to attempt to become cavalry."[22]

The question of cavalry tactics was in many ways both

the cause and result of the choice of weapons. Conan Doyle summed up one extreme position, "there was, outside artillery, only one weapon in the world, the magazine rifle, and that the only place for swords, lances and revolvers was in a museum."[23] Also found in this camp would be Henderson, Childers, Churchill, Roberts, Callwell, Sir Charles Oman, Ian Hamilton the French General Negrier and the Austrian Count Wrangel.

F. M. Edwards, speaking of dismounted action found that,

> this comparatively new, and still much neglected role of modern cavalry, is perhaps the most important of all its duties, as on service hardly a day will pass without its being called upon to use its rifles, whereas the opportunities for employing shock action will only be occasional.[24]

Childers buttressed these findings by claiming that of the 40,000 dead or wounded suffered by both sides in the war only fifty were reputedly inflicted by sword or lance. The Boer rifle was responsible for 29,000 casualties.[25] War Office studies testified to the negligible use of swords in the field as compared to earlier wars.[26] Roberts, in a 1908 letter to Childers, pointed to thirteen instances in volume five of The Times History of the

War when Boers charged firing while mounted as compared to a single ineffective British saber charge.[27]

Starting with the Dickson Committee's finding that, "a more prominent position must be given to the training of the cavalry soldier in the use of the fireweapon,"[28] the regular cavalry slowly began to change its ways. Roberts pressed for the symbolic replacement of the rifle bucket with a sling to indicate the primacy of the weapon over various horse accoutrements.[29] By Febuary 1,1903 Roberts had officially labled the lance as an encumbrance, and relegated the sword to a secondary weapon. Army Order 39 of March 1903 sanctioned the use of the lance only for escort duty at reviews and ceremonial parades.[30]

With the ascendancy of the firepower school a decision had to be made between rifle and carbine. The carbine, despite its lighter weight eventually gave way to the longer ranged Lee-Enfield Short rifle specifically designed for cavalry. Over-sighted carbines during the war had proven ineffective against the Boers.[31] The British thus became the only rifle-armed cavalry (as opposed to carbine) in Europe in 1914.

That the sword had survived as a secondary weapon was a testament to a number of factors including its original

pervasiveness and the disinclination to waste all the materiel and training previously invested. It was claimed that the lance interfered with every cavalry function save the charge as it encumbered dismounting, firing and concealment. Regarded as inferior to the sword in protracted melees and difficult to master when little time or money could be spared for a third weapon, the lance was consigned to the dustbin of history. Maintenance of the sword on the other hand rested upon tradition, its cheapness as compared to a pistol and the fact that it was always "loaded".[32]

That there still remained an issue of sword or lance at all, speaks to the resiliency of the conception of cavalry as the arm of surprise. Lt. General Henry Wilkinson wrote, "let no one think that the day of cavalry is past. In dust, smoke, fog or snow, before daylight and after dark, good regular cavalry with faith in their weapons and well led will yet win battles and change the fate of campaigns."[33] It was felt that only the lance and sword lent cavalry the offensive capability and spirit necessary for victory and that all the mathematical calculations regarding rounds per minute per yard would come to nought in the face of a superior will to win.[34]

As long as the possibility of shock remained, lancers continued to hold forth with their arguments, namely the weapon's tremendous morale effect in the charge and utility in pursuit against crouching foes. The probability of the lance's usefulness against natives continued to be recognized; witness the Indian Army's decision for its retention. If useless against modern foes, then it could be left behind on account of its cheapness. Some purists argued in its favor based on the success of some Cossacks against Japanese Dragoons in the recent Russo-Japanese War. Finally the unrealistic nature of the army trials that had ultimately led to the lance's retirement was criticized on several counts including the removal of pennants that upset opposing horses, the disallowance of attacks upon opposing horses and the counting of only point strikes rather than the round wave, while the swordsmen got credit for any strike with their clay covered blades including their unsharpened back edge.[35]

As long as Roberts and his circle remained in office, firepower remained the most important consideration for cavalry as even the sword went into temporary eclipse. A steady increase in the number of rounds carried per trooper was instituted peaking at one hundred in 1907.[36] The

new cavalry school at Netheravon on Salisbury Plain was opened. Khaki web gear became standardized and the Hussars lost their sabretache and shabraque. The Inspector General's Annual Report of 1905 noted vastly improved brigade training, scouting technique, musketry and signaling.[37]

The Roberts and South African influence continued in ascendancy through 1908 by which time increasing continental concerns, the German model of lance equipped cavalry and a tendency to look on the Boer War as a unique circumstance had undermined the postwar reformers theoretical foundations. Of these reasons it was the growing attachment to France and antagonism for Germany that would ultimately have the most important tactical implications.

As late as June 1908 one could still read in The Times that,

> since the Boer war the British cavalryman has to a large extent been in the melting pot... A whole series of revolutionary ideas has been mooted and the transformation of dragoons, lancers and hussars into a hybrid savouring chiefly of the mounted infantryman has approached within measurable distance of realization.[38]

Roberts' desire for a demonstrated ability in dismounted

tactics had at last been achieved and internationally recognized.[39]

In 1909 the lance was officially brought back from tactical neglect. The ragged appearance of lancers on parade had led to an increase in training which in turn had led to greater emphasis on battle drill. Under the stewardship of Inspector General of Cavalry Allenby a final compromise which would last until 1914 was reached.[40] Riflery was to continue in emphasis although the new organization of three Household regiments, seven Guard Dragoons, three Dragoons, six Lancers and twelve Hussars was considered unbalanced in favor of heavy types theoretically constituted to overthrow other cavalry by shock action (i.e. weight of horse and rider plus mass in depth). Allenby did go so far however as to incorporate a larger number of machine guns in each regiment along the lines of the South African experience and Japanese methods. Although there was a rather low proportion of cavalry to infantry the British now constituted a Cavalry division of four brigades each of three regiments based on the 1909 experiments.[41]

The return of more traditional cavalry tactics was fraught with difficulties. Years of training led to

broad-fronted attacks to avoid concentric fire. Oakhampton was one of the few places in England where such large numbers of troopers could be committed to a charge. To overthrow opposing cavalry greater densities were required. The Ashdown maneuvers of this period illustrated the possible hazards. The Household and regular cavalry inadvertently crashed as each attempted to culminate charges in front of the grandstand without a clear understanding of the other's position.[42] At the same time, criticism not unlike that heard at the beginning of the Boer War, began to mount of premature charges, declining cohesion and lack of coordination with other arms.[43] Ian Hamilton probably made the most succinct criticism of the revived cavalry spirit in his appreciation of Russian field exercise of 1909. At this time a cavalry regiment was considered destroyed for frontally charging an unlimbered artillery regiment, whereas, "our umpires would have adjudged the other way about, otherwise they would have been wiped out of the Army List."[44]

Despite various efforts, by 1911 it was quite clear that reactionaries had won the day in the matter of cavalry tactics. Haig's dictums were already dated long before Liddell-Hart wrote in amazement of his (Haig's) view that

the,

> "role of cavalry on the battlefield will always go on increasing", his assertion that modern bullets have "little stopping power against a horse," and the "single formula" in which he epitomized his ideas-that "the organization and training of cavalry must have as its basis" the necessity of "mass tactics".[45]

Cavalry bias combined with British traditional belief in its professional soldiers to forge a case for the mounted arm. Other armies dependent on conscript infantry could never, it was believed, stand a charge. Faith was further placed on the tactical imponderables such as ammunition giving out or that some local condition would lead to surprise. The reactionaries continued to press for a major battlefield role despite the evidence to the contrary provided by the Boer War.[46]

While changes may have failed to take permanent root in some fields such as cavalry tactics, there is no mistaking the Boer War's impact on virtually every item of British equipment. The effort of supplying thousands of troops for South Africa brought home to the Vetch Committee on Clothing, the waste involved in the prescription of so distinct home and field uniforms that only the shirts and socks could be carried over. The delays and expense of the system would thus be alleviated by a reduction in the number of uniforms and with them the

expensive regimental tailors.[47] By Army Order 10 of 1902 a khaki woolen serge became the material of universal service dress and remained thus until 1937. The scarlet coat and striped leg were abolished for all but full dress in peacetime.

Bowing to the pressures for a more secure way of carrying ever greater quantities of ammunition, brown leather bandoliers were introduced. The obsolete pouches had proven cumbersome, difficult to lie on, limited in capacity and prone to spillage. The new system allowed the infantryman to carry up to 220 rounds with some degree of comfort.[48] Just as weight was increasing in one respect, every effort was made to reduce the soldier's overall load. The Slade Wallace equipment and pack weighing 23.6 kilos was the lightest pack arrangement of any major power.[49] The introduction of standardized web gear in 1903 further reduced weight while increasing comfort. The large valise was now discarded with extra clothing consigned to the unit's baggage. Even the traditional Bell tent was called into question because of weight, bulk, conspicuousness and difficulty of erection.[50] Surveying the 1903 maneuvers, a correspondent of The Times of London commented on the workmanlike appearance of the troops,

> the khaki uniform, the slouch hat, the putties worn by cavalry and infantry alike, the haversack now often

> carried between the shoulders instead of banging upon the flanks as of yore all showed the practical experience has borne fruit. Above all, the rifle, the weapon par excellence, was far more in evidence than formerly. The cavalry are all armed with it, many of the gunners even carry it slung across their shoulders.[51]

A few changes remained to be made prior to World War I including the replacement of the leather bandolier with the 1908 pattern web gear to reduce constriction of the chest and lower the backpack weight to the more comfortable midback. The kit was now specifically split between a field and combat pack, the latter consisting of weapons, ammunition, rations, canteen, and entrenching tool. Officers were now issued the Sam Browne belts still in use and the overall kit reduced to forty-seven pounds per officer and fifty-one per enlisted man.[52]

Perhaps the single most important item to evolve out of the war was the new service rifle. The Lee-Metford in service at the beginning of the war had proven deficient on several counts including excessive weight, cumbrousness, and a slow rate of fire. Experiments with a shorter (61 1/2") model weighing only 7lbs. 12oz., as compared to 9 pounds, had been undertaken prior to the war but none had been placed on order until Roberts' specific request on

October 10,1900.[53] This in any case proved only a stopgap measure until the advent of the Short Lee Enfield Mark I in December 1902. While a minority voiced an unfounded concern that the shorter barrels would suffer in accuracy, the majority agreed with Sir Henry Brackenbury, the Director General of Ordnance that,

> the South African War brought out the great importance of rapid accurate snap-shooting at short ranges (500-600 yards and under). The short rifle is much handier than the long one, and is therefore, more efficient for such work; it is also one pound lighter, it ranges as far, and is slightly more accurate than the long rifle at extreme ranges. These advantages were considered to altogether outweigh any objections to the reduced length of the weapon, including the shorter reach of the fixed bayonet.[54]

Based on battlefield experience the Lee Enfield Mark I Short was to become a classic piece of military hardware. It incorporated a light barrel without brazed sights which in the past had warped the steel, a bayonet fixed to the nose cap relieving strain on the barrel, a more durable single stamped charger, a simplified ten round magazine, an improved rear sight which made for ease of changing ranges, an easier to clean and use double pull bolt and a large wooden stock which was easier to grip and absorbed sufficient heat so as to reduce heat mirage.[55] It was

quite simply an extremely sturdy and handy weapon with both long range and rapid fire capability.

In spite of its advantages, it was only natural that criticisms of the Short rifle should have arisen. Some claimed the weapon top heavy and unbalanced with ease of long range fire sacrificed to snap shooting. Others complained of its small caliber (.303) as compared to continental standards which would lead to a weakness against cavalry. A further criticism was that it made little sense to have a ten round magazine when the clips only housed five rounds.[56] Perhaps the most pressing issue however was answered by General Brackenbury in stating, "but what I want you particularly to note is that the shorter rifle was demanded, and the question taken up for infantry long before its use for cavalry was thought of."[57] Thus did he refute those that believed a mounted infantry rifle had been pawned off on the infantry.

Although the Lee Enfield Short was officially adopted, a number of modifications were to take place in the following years including improved sights, adoption of ten round chargers, and the conversion to a higher velocity elongated shell along the lines of the famous German "S" round.[58] The infantry range finders accurate to 3,000

yards requested in 1903 were not however forthcoming.[59] As for bayonets they progressively increased in size until 1909 when they reached 17.5" and weighed 16.5 ounces with a single cutting edge very much along Japanese lines. The trench fighting of Manchuria apparently had some impact.

One relatively simple piece of equipment that was definitely affected by the South African War and yet took years to replace was the cavalry sword. The prewar sabers, (patterns 1890 and 1899) reflected the French school of cut and parry. Constructed to military standards they had a chisel rather than a razor edge with a tendency towards dullness. Their problems were exacerbated by inordinate weight, poor balance, and a steel scabbard that not only dulled the blade but also tended to be noisy and conspicuous.[60]

Dissatisfaction was near universal. The colonel of the 19th Hussars, after finding himself amidst twenty Boers at Talana Hill with half a squadron, lamented inflicting only one dead and eight slightly wounded. He was moved to report, "I believe more damage would have been done had the men been armed with heavy sticks."[61] General French was to say, "I think the present cavalry sword is the very

worst that could possibly be used by mounted troops."[62] The situation was so bad that some lancers discarded them as ineffectively redundant.[63]

It took eight years of discussion before Haig, French and the Italian thrusting school that they represented were able to triumph over Baden-Powell and the adherents of a light slashing sword within the confines of the Scobell Committee on the Cavalry Sword.[64] The views of the last hurdle were then presented by Ponsonby, Edward VII's secretary,

> the King feels that fashion in swords may alter like fashion in clothes and that unless a change is advocated by an overwhelming majority of officers, you may run the risk of a still newer pattern of sword being brought forward when your military advisers are changed.[65]

Interestingly his concern proved groundless. In the words of the noted authority Brian Robson, the Mark I was the "finest sword ever produced for the British Army."[66]

The Mark I had a staight narrow tapered blade with a molded plastic pistol grip that brought the blade to an automatic thrusting position. It had exceptional balance to compensate for its great length of 35 inches (1 1/2"longer than previously) and yet at 2 pounds 7 3/4 ounces it was 4

1/2 ounces lighter. Unfortunately the Indian model wood and leather composite scabbard was found insufficiently durable so as to necessitate the continuance of one made of steel.[67]

Unlike the sword, an ineffective artillery was replaced relatively quickly. Critics like Sir Alfred Turner complained that, "the guns were issued in 1883, their inferiority proved in the Boer War, they were condemned in 1901, but still not a new gun was ordered till October, 1904."[68] Impatience aside there were several reasons for the delay. The most important of these was expense, and the need for a thorough analysis of a rather complicated question involving the best way to incorporate the often contradictory lessons of the war with a rapidly evolving technology.[69]

The first question was one of mobility versus weight. In South Africa the British had eventually opted for mobility in order to keep up with the columns. Even then, the necessity of the horses' safety had occasionally limited the guns utility. Roberts, reflecting on the earlier battles, tended to dote on the heavier guns of the Lady Meux and Naval brigade batteries feeling they were the easiest to use and most adaptable to modern shells.[70]

M. L. Wilkinson stated, "the South African War may be said to have re-introduced heavy batteries or guns of position. After the disturbing experience of that campaign a modern long-recoil 60 pounder. B.L. equipment was produced and allotted to the field army."[71] The German Lt.-General von Muller perhaps best summed up the quandary:

> Whereas in peace the Field Artillery is constantly striving for the utmost mobility, during and immediately after war, a distinct desire for increased fire effect prevails; every artillery then endeavors to surpass its opponent in calibre and weight of projectile.[72]

The war showed how the practical limits of weight and range had been increased.

Arnold-Forster, the Secretary of State for War under whose administration the new artillery was developed was cost-conscious as were many of his peacetime predecessors. He hoped to convince the army of the need for but a single new field piece, the thirteen pounder. He claimed that the eighteen pounder which the army also wanted would be insufficiently mobile, offered no increased velocity or angle of dispersion for shrapnel, was too expensive and needed excessively large crews to manhandle in the field. Further, it marked a distinct break with the current trend

among most of the major powers towards a single piece held in common by both horse and foot artillery. General Murray's response which ultimately carried the day accepted what was deemed to be limitations on mobility, stressed the disparity in height of the shrapnel burst, claimed the manhandling differences were minimal and noted the various drawbacks of other powers adopting the single gun system, for example the poor quality of Japanese horses or the conservatism and geographic limitations of the Swiss. The key was the difference in hits per effective shell. At all ranges the 12 1/2pdr (13pdr.) scored 1.61 while the 18 1/2pdr. (18pdr.) scored 2.78. At ranges over 3,950 yards, the difference was 1.2 hits to 2.54.[73]

The decision to build the 18pdr. "Bobs" was a sound one verified by the Russo-Japanese War and was the last major technological change adopted by the Britsh army prior to 1914. Both the 13 and 18 pounder sacrificed visibility and weight for shields, provided a full cradle recoil without affecting stability by means of reciprocator springs and an anchored spade, had an interrupted screw breech block operated by a single lever and featured automatic cartridge extraction. Unlike continental quick-firers the British opted for large (4'8") wheels

which placed a premium on mobility over steadiness. By way of compensation the British felt their reliance on longer heavier buffers, a "T" trail and long service drivers would prove more advantageous.[74]

The larger guns to a certain extent redirected army thinking. By 1907 both the Army and Navy were for the first time cooperating in explosives research.[75] Greater centralization manifested itself in command, tool allocation and even in range finder distribution. Wagons (which had proven useful in the South African plains) carried a greater proportion of supply even for machine guns, unlike the Japanese reliance on mobile and easy to protect pack animals. Sectional fire gave way to that of the battery, and first echelon ammunition supply was stripped of high explosives. Britain was clearly preparing for a different type of war, one in which mass would figure far more importantly than in South Africa.[76] The heights of centralization were most evident in the brigading of all new 4.5" howitzers at the divisional level. It was only in 1909 with the advent of increased motorized transport that this monopoly would begin to break up.

Bigger guns meant longer ranges and after the war,

efforts were made by the Plumer and Belfield Committees on Range Finders to solve the various sighting problems were caused by weather, temperature, sun position, humidity, geography and wind.[77] It was not until the invention of the Goerz Panorama Telescope in 1911 that a truly adequate replacement for the old Dial sight had been found. The Goerz sight, using a periscopic principle, was not only more accurate but it could also be used from behind the shield.[78]

Between 1894 and 1906 the R.H.A. had expanded from twenty to twenty-eight batteries and the R.F.A. from eighty to one hundred and fifty batteries. Much of the credit for this accomplishment belonged to Lansdowne and Brodrick who had the perseverance to weather the financial constraints. The rearming of the infantry and artillery was completed by 1908. The near doubling of the supply columns as well as the minumum requisite 30,000 horses and vast expansion of required artillerymen put a tremendous strain on a system that was not yet fully brought up to strength for several years.[79] Yet in the end the change was worthwhile for by 1911 Great Britain was second only to Germany in number and weight of guns per thousand troops.

Further indications of the war as a transitional

period were the various pieces of military exotica associated with it. Bicylists had been utilized by the British during the war as messengers and scouts in order to release more horses for the cavalry units. The Australians had even experimented with an eight man tandum that rode the rail lines.[80] In August of 1901 an entire brigade was marshalled at Aldershot via bicycles to ascertain the effects on them of wind, weather and terrain. With questions of rate, spacing, loading and communication left unresolved the experiment was inconclusively disbanded.[81]

Far greater persistence was in evidence with regard to the trials and testing of tractors based upon their record in South Africa. A Times of London correspondent wrote after witnessing a year of experiments that, "the tractors were considered to have proved that self-propelled lorries could be used with great success under very trying conditions."[82] In 1902 a first attempt was made to interest the army in automobiles and by 1909 Hornsby's caterpillar (endless tracks) capable of pulling five tons at 7 m.p.h. had found staunch advocates within the army. By 1910, several mechanical transport companies incorporating these new inventions had been

permanently constituted.[83]

A final item that was embraced by the military in the postwar period was the balloon. Many were convinced that while balloons had been only marginally successful during the war, the experience gained could be put to good use in future conflicts where massive concentrations would be easier to spot.[84] The 1904 maneuvers featured balloons on both sides. The Buston Committee of the same year achieved its objective of creating a permanent two company establishment capable of expanding to three in time of war. It also was responsible for opening a specialized school, acquiring a gas reserve of three hundred thousand cubic feet and providing for the replacement of all balloons then in service with dirigibles which had the advantage of independent steering control.[85]

[1] "Item," ANJ 52 (11 March 1905):750.

[2]Roberts to Kitchener, 17 June 1902, Kitchener Papers. P.R.O. 30/57 no. 20 p. 201.

[3]Ibid., 4 Oct. 1901, pp.1 & 2.

[4]Roberts to King, 10 Feb. 1903, Roberts Papers, 7101-23-122-5, p. 51. NAM.
Lyttelton, Eighty Years, p. 274.

[5]Lt. Col. F. W. Young ed., The Story of the Staff College 1858-1958, Camberley, (Aldershot: Gale and Polden, 1958), p. 3.
Godwin, p.238.
Esher, Reports Made Daily to King Edward, 14 Oct. 1902, p. 2. IWM.

[6]Ibid., 17 March 1903, p. 82.

[7]Maurice, The Life of General Lord Rawlinson, pp. 84-85.

[8]Gooch, pp. 103 & 122.

[9]Lonsdale Hale, "The Staff Work In The War," The Nineteenth Century: A Monthly Review 48 (Sept. 1900):361, 365.
While neither Roberts, Kitchener, Baden-Powell, White, French nor Macdonald had attended Camberly, Gatacre had.

[10] Précis For The Army Council No. 248, 30 May 1905, Arnold-Forster Papers, vol. 21, No. 50320 p. 10. BL.
R. H. Morrison, p. 830.

[11]Smyth, pp. 127, 135, 139.

[12]Aldebaran, p. XVII.
During the war additional officers had been raised in the following manners:
1) early promotion of cadets
2) regular commissions for Militia and Volunteer

officers
3) regular commissions for Colonials
4) the introduction of a reserve officer training corps in March, 1900
5) calling up reserve officers
6) battlefield promotions (least often).

[13]Great Britain, Chief of the General Staff, Report of A Conference of General Staff Officers At the Staff College 7-10, January 1908. Held Under the Direction of the Chief of the General Staff, Lyttelton, Haig Papers Box 80 p. 14. NLS.

[14]Correspondent, "New Cavalry Training," Times (London), 2 June 1904, p. 4.

[15]Great Britain War Office, General Staff, Mounted Infantry Training 1906, (London: Harrison and Sons 1906), p. 1.

[16]Ibid., pp. 56-7.

[17] "Strategical Employment of Cavalry," Times (London), 18 May 1905, p. 4
J. W. Dunne, "A Plea for the Formation of A Special Corps Out of the Present Mounted Infantry," USM 27 (June 1903), pp. 386-91.
Goldman, With General French, p. 406.
"Future of Our Cavalry," Blackwoods Magazine 169 (May 1901), 715.

[18]Franz Geuzinger, Precis of (German) Modern Warfare, Trans. Maj. Fasson, Roberts Papers 7101-23-192. NAM.
Henderson, Science of War, p. 55

[19]Atkinson, A.B.C. of the Army, pp. 48-49.
Col. F. N. Maude, War and the World's Life, (London: Smith, Elder and Co. 1907), p. 240.
Sir Charles Dilke, Hansard 4th series, 90 (14 Mar. 1901), p. 1664.

[20]Roberts testimony 13 November 1901, Minutes on the Composition of a Brigade of Cavalry,, WO 32/6260 p. 3. PRO.

[21]The literature on this question is extensive. See for instance:
Great Britain, Chief of the Imperial General Staff, Report of a Conference at the Staff College 17 to 20 January 1910 Haig Papers Box 81 pp. 7-8. NLS.
Goldman, With General French, p. 409.
Younghusband, p. 209.
"L'Infanterie Montee en Angleterre," Revue Militaire Des Armées Etrangères 64 (July 1904):26.
Ibid., 64 (Aug. 1904):98.
Ibid., 63 (June 1904):500-01

[22]Quoting Earl Haig in
Balck, "Lessons on the Boer War," p. 1405.

[23]Arthur Conan Doyle, "Letter," Pall Mall Gazette 6 April 1910, p. 5.

[24]Edwards, Notes on the Training, p. 52.

[25]Erskine Childers, The German Influence on British Cavalry, (London: Edward Arnold, 1911), p. 19.

[26]Great Britain War Office, Extracts From Reports By Officers Commanding Units in South Africa 1899-1901 Vol. 2. Sword, Cavalry and Lance, Pistols and Pistol Ammunition WO 108/273 pp. 4-6. PRO.

[27]Roberts to Childers, 4 Nov. 1908, Roberts Papers 7101-23-22 p. 162. NAM.
Childers, Times History, pp. 51-2, 172, 281-84, 293, 339-46, 305-76, 383-4, 456-7, 497-8, 504-9, 520-2, 529-36 and 561-62.

[28]Great Britain War Office, Report On the Organization and Equipment of Cavalry by General Officer Commanding the Cavalry Division, 16 November 1900 Part I Dickson Committee On Personnel and Organization, WO 108/250 p. 4. PRO.

[29]Lord Roberts, Methods of Carrying the Rifle by Cavalry, Memorandum, Cab. 38/8 1905 no. 3 p. 1. PRO.
One Northumberland Yeomanry regiment so resisted

change that in 1914 it was still to appear in France armed with both lance and sword.
McElwee, p. 224.

[30]Great Britain War Office, Army Order No. 39 March 1903, p. 1.
Roberts, Memo by Commander in Chief on the Cavalry Arm, 1 February 1903, Roberts Papers 7101-23-210 p. 1. NAM.

[31]Great Britain War Office, Extracts By Officers Commanding Units in South Africa, 1899-1901, 2:152-53.

[32]Only the U.S. Army issued pistols to all its cavalrymen.

[33]Lt. General Henry Wilkinson, "Letter: Lance in War," Times (London), 28 April 1903, p. 10.

[34]Goldman, With General French, p. 411.
Count Gustav Wrangel, The Cavalry in the Russo-Japanese War, trans. J. Montgomery (London: H. Rees Ltd., 1907), p. 56.

[35]Lt. General Henry Wilkinson, "The Lance in War," p. 10.
C. E. Swaine, "The Lance for Cavalry," Times (London), 12 Sept. 1904, p. 8.

[36]Banning, Administration, (1910), p. 13.

[37]Field Marshal Arthur, Annual Report of the Inspector General of the Forces, 1 October 1905, Arnold-Forster Papers 50316 vol. 17 pp. 5-10. BL.
Ian Hamilton was to further note that, "during the two to three years which immediately followed the South African War a very remarkable improvement took place in scouting and in out post work generally."
Ian Hamilton, Remarks by Sir Ian Hamilton, K.C.B., D.S.O., Commanding-in-Chief, Southern Command During 1908, signed Brig. Gen. Haking, 27 October 1908, Ian Hamilton Papers 7/1/10 p. 4. Liddell-Hart Center.

[38]Correspondent, "The Army Council and The New Sabre," Times (London), 9 June 1908. p. 11.

[39] "Angleterre," Revue Militaire Des Armées Etrangères 72 (Oct. 1908):372.

[40]Leonard Cooper, British Regular Cavalry 1644-1914, (London: Chapman and Hall, 1965), p. 203.

[41]Atkinson, p. 9.
England had nine battalions per twenty-two battalions in 1910 whereas France had a proportion of three to five and Germany five to six.
Great Britain Chief of Imperial General Staff, Report of a Conference, p. 8.

[42]Robert Money Barnes, A History of the Regiments and Uniforms of the British Army, (London: Sphere Books Ltd., 1972), p. 149.

[43]Military Correspondent, "The Cavalry Division," Times (London), 2 Sept. 1909, p. 8.
Ibid., 9 Sept. 1910, p. 4.
"Les Grandes Manoeuvres De L'Armee Anglaise en 1909," Revue Militaire Des Armées Etrangères 74 (Dec. 1909):483.

[44]Ian Hamilton to War Office 1 Sept. 1909, Ian Hamilton Papers 7/3/11/3 p. 6. Liddell-Hart Center

[45]Unfootnoted quotations from Haig's Cavalry Studies in,
Basil Liddell Hart, Through the Fog of War, (N.Y.: Random House, 1938), p. 39.

[46]Haig, Cavalry Studies, pp.8-9, 17-18.
Wagner, Organization and Tactics, pp. 256-64.

[47]R. H. Morrison, "Lessons to be Derived From the Expedition to South Africa, p. 821.

[48]Great Britain War Office, Extracts From Reports By Officers Commanding Units in South Africa During 1899-1901, Subjects: Valise Equipment, Ammunition Pouches, Bandoliers, Whether Bandoliers or

Ammunition Pouches are Preferred, Whether Web or Leather Bandoliers are Best, Water Bottles,Rifle or Carbine Slings, Methods of Carrying Clothing and Equipment, Amount of Ammunition Carried on Man or Elsewhere, Regimental Transport vol. 3 WO 108/274 pp. 39-73. PRO.

Forbes, 2:107-109

[49]Examples of comparable weights are,

Germany	26.7K	France	24.7K
Russia	26.4K	Austria	28.1K
U.S.	28.5K		

E. Laviss, Sac au dos: etudes comparees de la tenue de campagne, des fantassins des armees francais et etrangere avec une preface du general Dumont, (Paris: Libraire Hachette, 1902), pp.296-308.

[50]Morrison, "Lessons to be Derived from the Expedition to South Africa," p. 827.

[51]Special Correspondent with Sir John French, "The Military Maneuvers," Times (London), 19 Sept. 1903, p. 10.

[52]Charles à Court Repington, The Foundations of Reform by the Military Correspondent of the Times, With Maps, (London: Simpkin, Marshall and Co., 1908), p. 273.

[53]Roberts' speech on a debate in the House of Lords on the Long and Short rifle, 14 January 1905, Roberts Papers 7101-23-126-6, pp.140-41. NAM.

[54]Sir Henry Brackenbury, The New Rifle, Replies to Secretary of States' Questions on the New Rifle, 26 October 1903, Arnold Forster Papers 50315 vol. 16 p. 5. BL.

The Lee Enfield Short was sighted at 2,800 yards making it the only standard weapon of a major power sighted for over 2,400 yards. It may also be noted that after the Spanish-American War the U.S. adopted the shorter Kraig Jorgenson rifle in appreciation of the declining importance of bayonet reach.

[55]Reynolds, pp. 72 & 80.

[56]Lord Tweedmouth, Hansard 4th series, 141 (23 February 1905), p. 1021.
Correspondent, "The New Short Rifle," Times (London), 3 Feb. 1905, p. 10.
G. F. Hutton, "The New Short Rifle," Times (London), 5 Jan. 1905, p. 8.

[57]J. Wolf Murray quoting Brackenbury in, The New Rifle, M.G.O.'s Minutes of Secretary of State 10 and 14 February 1905, Arnold-Forster Papers 50315, vol. 16 p. 2. BL.

[58]Forbes, 2:119.
"The New German Rifle Bullet," JRA 33 (Feb. 1906):528.

[59] Proceedings of the Committee on One-Man Infantry Range Finders Aldershot 1902-03, Arnold-Forster Papers 50325 vol. 26 p. 4. BL.

[60] "Future of Our Cavalry," p. 721.

[61]Brian Robson, Swords of The British Army: The Regulation Patterns 1788-1914, (London: Arms and Armour Press, 1975), p. 46.

[62]General French Testimony, Elgin Report vol. 40 Cd. 1789, p. 306.
Ibid., Baden Powell Testimony, vol. 41 Cd. 1791, p. 436.

[63]Great Britain War Office, Extracts From Reports by Officers Commanding Units in South Africa, vol. 2, p. 5.

[64]Robson, p. 46.

[65]Ponsby to Haldane, 22 June 1908, Haldane of Cloan Papers 5908, n.p. NLS.

[66]Robson, p. 56.

[67]Ibid., p. 56.
Roberts, "The Army," p. 5

Correspondent, "The Army Council and the New Cavalry Sabre," Times (London), 9 June 1908, p. 11

[68]Quoting Sir Alfred Turner's speech at the National Liberal Club in
Sir Alfred Turner, "Army Reform," Times (London), 9 Feb. 1905, p. 8.

[69]In a short period of time the steel used in artillery production had been dramatically improved beginning in 1894 with the discovery of nickel steel having the toughness of bronze and followed by Vandiam steel with increased homogeneity, hardness and closer grain, extra hard Tungsten steel, Molybdenum steel, and the extremely elastic Krupp spring steel.

[70]Roberts, The New Field Gun, Remarks of Lord Roberts, 11 June 1904, Arnold-Forster Papers 50306 vol. 7, p. 2. BL.

[71]M. L. Wilkinson, "A Hundred Years of the British Army, II: Weapons and Equipment," JRUSI 76 (May 1931):306.

[72]J. Wolf Murray M.G.O. quoting Lieut.-Gen. von Muller in, The New Field Gun, Replies by the Secretary of State's Memorandum 13 May - 10 November 1904, Arnold-Forster Papers 50314 vol. 15, p. 8. BL.

[73] Precis for Army Council No. 77, The New Field Gun 19 September 1903, Arnold-Forster Papers 50306 vol. 7 pp. 10-14. BL.
For a comparison of contemporary artillery see Appendix 4.

[74]Bethell, Modern Artillery, pp. 29-30.

[75]N. Skentelbery, A History of the Ordnance Board, (London: Ordnance Board, 1965), p. 504.

[76]Budworth, "Tactical Employment of Artillery," p. 12.
Jackson, pp. 5 & 11.
Fournier, Nouveaux Reglements, p. 17.

[77]Great Britain War Office, Abstracts, 1905 series 592. PRO.

[78]Bethell, Modern Artillery, p. 21.

[79]Atkinson, pp. 22-23.
Lord Lucas, Hansard 4th series, (18 May 1908), p. 1556.

[80]Maree, p. 19.

[81]Military Correspondent, "The Cyclists," Times (London), 15 Aug. 1901, p. 13.

[82]Our Correspondent, "Military Mechanical Traction," Times (London), 18 Dec. 1901, p. 6.
Also see Times (London), 31 Oct. 1901 p. 11., 23 Nov. 1901 p. 12, 29 Nov. 1901 p. 9, 5 Dec. 1901 p. 6, 6 Dec. 1901 p. 6, and 8 Dec. 1901 p. 6.

[83]Barnes, A History of the Regiments, p. 151.
Bethell, Modern Artillery, p. 103.
Atkinson, p. 53.

[84]Blake, p. 455.

[85]Great Britain War Office, Abstract of the Recommendations of Commissions, Committees and Conferences Relating to Army Affairs 1900-1920, Series 548, 1904. PRO.

Chapter XII

Postwar Tactical Reforms

"A sound, comprehensive, all pervading doctrine of war is as important to an army as its organization, that it is the soul without which an army is but so much inert matter."[1] So wrote an anonymous author in the pages of the Edinburgh Review. Equipment developments and organization thus represent two legs of the triad that is a military system. Tactical doctrine is effectively the third leg. Lindenau claimed that "tactical formations are governed by fire effect, modern weapons govern modern formations."[2] Thus it is only through the study of the most recent battlefield and technical data that a proper doctrine may be developed.

Recent experience showed convincingly that modern rifles and artillery provided greater accuracy, range and rates of fire than had hitherfore been the case. Together these factors led to a fire zone of increased depth and danger. The need for more open formations was immediatly recognized as was the greatly expanded use of ammunition.

Battlefield resupply of the individual soldier would have to be improved along with individual fire discipline. Tactically speaking, the folly of a purely defensive posture, the necessity of cover for the attackers and the enormous problem of command control amidst looser formations were the greatest lessons of the War. Any postwar system would have to come to terms with these various problems as well as the realization that prewar use of ground technique had been dramatically overturned. Whereas previously clear terrain had been sought in the attack and rough terrain in the defensive (to hinder deployment), the new emphasis on fields of fire dictated a reversal in policy. Volley fire, at the heart of the British system for hundreds of years, was restricted. Skirmishers who took up an increasingly large proportion of a total infantry force were limited to the use of volley fire only as a range finding technique in the regulations of 1902.[3]

The same manual placed increased emphasis on reconnaissance observation, dispersion and above all marksmanship. As General Rawlinson was to say in a later period of economic stringency, "it is very difficult to train troops to take a really keen interest in establishing

superiority of fire, unless they have sufficient blank ammunition to keep up the fire."[4] In the immediate postwar period this was less a problem as the findings of the Pennington Commission on Allowance of Ball and Pistol Ammunition to Regular and Auxiliary Forces of 1903 were sustained despite the objections of the Exchequer.[5] Whereas the prewar allocation of ammunition for training had been 189 rounds per man this was now raised to three hundred. Roberts, ever the proponent of marksmanship, had gotten rid of the old bulls eye and replaced it with modern moving and disappearing head and shoulder targets. The replacement of the six by six targets by smaller ones appearing at unknown ranges forced the men to judge distances for themselves.[6] Rifle qualification by 1907 involved 180 shots of which over half were at ranges of between three hundred and six hundred yards.[7]

The core of the British system thus remained the rifleman. In order to sustain him he was equipped with a modern rifle and access to the largest quantities of small arms ammunition at the lowest echelons of any major power.[8] Properly supplied five thousand men were now considered as adequate to hold a mile's frontage and that included a reserve for counterattack without which three

thousand were regarded as sufficient.[9] Higher rates of fire seemed assured of stopping cavalry and it was assumed that a purely defensive posture might be achieved with some economy of artillery, so great was the faith in modern riflery.[10]

Defense represents but one dimension in warfare. On the offensive, Horace Evans made clear that the first wave carried the burden in the assault:

> The duty of this line is, by means of an effective and heavy fire to break down the resistance of the defence, and to destroy its morale to such an extent that it will not wait for the final assault, or, if it does, this assault will be successful.[11]

Under the revised British system the first line supplied the firepower only to be superseded at the time of attack by the second wave. The first line was then to regroup and buttress the first in assault. The third line was to be kept as a final reserve. As all three lines were in skirmish order this represented a one hundred and eighty degree difference with the Germans who had in the pre-Boer War period stretched out and were recently increasing their troop densities.[12] While British spacing varied between eight and fifteen paces the continental norm was three paces per man.

No attack under modern conditions was actually to be carried out by three lines. These merely represented the breakdown of forces within subordinate commands. A full scale attack would involve numerous battalions drawn up in depth with several hundred yards separating them to preserve individual command integrity. Brigade reserves were actually to be stationed three to four thousand yards from the enemy as the war had led to a drastic re-evaluation of critical distances.[13] Lord Roberts felt that, "battles will be won in the future by accurate shooting at short range."[14] Fire was to be held for the last 650 yards according to the manual to alleviate the problems of ammunition resupply, intensify fire at decisive ranges and improve accuracy.

Once upon the enemy the bayonet remained the recourse but with far more reservations as to its effectiveness than the official 1896 Drill Regulations and Field Exercises would allow. It had spoken of antiquated well-dressed lines in the bayonet charge. Cold steel was still valued for its psychological effect and a 1902 manual described an assault where men cheered, drums were beaten, bugles sounded, and pipes played after bayonets had been fixed at 350 yards.[15] The enormous advantages as well

as difficulties of night and dawn attacks were realized and while they continued to be recommended little training along those lines was indicated. Reality had to a degree tempered the British. John Wisser wrote,

> the possession of a bayonet gave the British a decided advantage over th Boers (who were without one), not because hand-to-hand conflicts are liable to be very common in modern war, but because the morale effect of its possession confers tenacity on the defense and confidence and esprit on the attack.[16]

The limitations of the bayonet had in fact been recognized. Lt.-Col. N. R. McMahon, speaking before the Aldershot Military Society stated, "bayonet fighting is however very local in its effect, it depends on numbers and close formations, and no longer is a great decisive agent like converging fire, surprise or overwhelming volume of fire."[17]

From a broader perspective there may have been a question the answer to which predetermined the direction of British postwar tactical development. Had the British responded for instance to increasing firepower by a recourse to harsher discipline and a ready acceptance of higher losses as did some of their continental brethren, they would no doubt have evolved a different set of

principles. Roberts had forseen the British solution as early as November 1900 in writing,

> one thing the South African Campaign has taught us is that under the existing conditions of war, individual intelligence is of infinitely greater importance than the mechanic like soldier who did so well when it was only necessary for him to obey orders and not to think for himself.[18]

The British solution was a reasoned response to a number of factors.

> In the Boer war, at least, a captain of a company in the firing line could not make himself audible, and dared not under a heavy fire make himself visible, to above a dozen men on each side of him. Thus the paramount necessity of unswerving obedience decreases, and the value of individual resources raises.[19]

At least so wrote R. A. Johnson in the Fortnightly Review. Every aspect of modern warfare placed more emphasis on the individual, dispersion, independent fire, use of cover, intermittent rushes and the sheer volume of the battle. The greater psychological isolation in the battlefield had to be overcome so that the loss of five men in twenty-five over two hundred and fifty yards would hardly stop an advance while it was known that fifty out of two hundred and fifty would.[20] The effect of those twenty men was problematic but first a method had to be

evolved to get the men to their objective.

Perhaps the clearest indication of the new British attitude was the substitution of Infantry Training for Infantry Drill in the 1902 manual. Greater emphasis was now to be placed on individual skills rather than machine-like cohesion. The Combined Training Manual addressed this issue forthrightly,

> success in war cannot be expected unless all ranks have been trained in peace to use their wits. Generals and commanding officers are, therefore, 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 paralyzing habit of an unreasoning and mechanical adherence to the letter of orders and to routine, when acting under service conditions.[21]

This mandate was to have effect on every level. Even so basic a concept as sending individual scouts ahead of the firing line was not adopted into British service untill after the war when the greater reliance upon initiative had been accepted.[22] Captains were not only granted more independence but were also forced to take a hand in the education of subalterns, a role traditionally managed by the colonel. With the anticipated isolation of the battlefield and constantly intermingled lines it seemed a

necessity to develop informed and assured officers to prevent rearward drift. The small British companies with 120 men as compared to continental units twice their size seemed especialy well suited to the increased individual training now required. Greater concern with small unit tactics also forced a greater reliance upon sergeants who never commanded more than thirty men. The need for an N.C.O. school was recognized and to a degree acted upon. Efforts were undertaken to convert color sergeants to a more responsible role akin to an American First Sergeant so as to reduce the number of N.C.O.s graduating into the more administrative warrant ranks.[23]

Key elements of the new training for infantrymen included practice at various intervals and pacing, accuracy of maintained direction, use of cover, independent fire, familiarization with intermixed units and the development of an acceptance of interchangeable command necessitated by casualties sustained by leaders. Already in February of 1901 it had been noted in The Times of London how the troops were spending less effort on parade and more on developing initiative and physical fitness.[24] The entire thrust of postwar development was towards a simplification of techniques that would allow for mastery

by the lowest ranking soldier.[25] The Provisional Infantry Manual 1902 went so far as to eliminate several traditional drill positions and all field bugle calls excepting the charge. Physical and bayonet drills were brought down to the squad level and the company replaced the battalion as the training and tactical unit since it was regarded as the largest force commandable by an individual under battle conditions.

The new manual stressed many of the lessons of the war and was recognized as doing so even at the time.[26] Perhaps nowhere is this more evident than in the passages defining the allotted tasks of infantry upon the occupation of a position. First consideration is given to the forward placement of skirmishers with an eye to maximizing firepower. Additional concerns involved invisibility, utilization of rests, determination of ranges and the stripping of the terrain of any cover of possible use to the enemy.[27] So many tasks on so low a level necessitated a soldier who could think for himself.

A better educated soldier would have helped the army considerably but such a project was not carried through to completion as the findings of The Dasent Interdepartmental Committee on Conditions of Service

for Army Schoolmasters were rejected on budgetary grounds.[28] Certain premises regarding individual responsibility had however been established on the basis of the tactical changes alone and by 1909 other ranks when placed on their honor, were permitted to visit public houses and even carry out some details such as walking to the train for leave without an accompanying N.C.O..[29]

The impetus towards greater initiative by all ranks in the tactical sphere was one of relatively short duration. As the political and military emphasis began to shift from colonial to contintental concerns many of the lessons of the South African War came into question as being inappropriate to an entirely different type of foe and theater of operations. The Russo-Japanese War in particular provided a mixed field of data which at varying points contradicted the South African experience. The Field Service Regulations 1908-09 (F.S.R.), authored by Generals Haig and Kiggell, represented a clear break with the immediate postwar thinking. At the heart of the change was Brigadier General Kiggell's contention best voiced at a Staff College Conference that firepower was the decisive factor in battle in South Africa. That this was no longer the case was proven "in the late war in Manchuria

[1904-06]. Everyone admits that victory is now won actually by the bayonet, or by their fear of it."[30] Whereas the 1902 manual read, "the decision is obtained by superiority of fire," the F.S.R. stated that "a superiority of fire makes the decision possible."[31] The F.S.R. was in reality an elaborate attack upon the perceived overextension that had crept into British tactics as a result of various African campaigns.

The new tactics were based on the belief according to the regulations that "success in war depends more on morale than on physical qualities. Skill cannot compensate for want of courage, energy and determination."[32] Since Manchurian battles had not infrequently resolved themselves in hand to hand encounters a new emphasis was placed not only on those skills but on the concomitant massing of infantry. New criteria had to be drawn as to what qualities were desired in the infantry. Ian Hamilton in 1906 wrote that,

> South African and Manchurian experiences equally tend to show that men who are smart on parade are more alert, more readily controlled, more obedient, and move more rapidly and with less confusion or panic than troops which depend entirely on their individual qualities.[33]

As the perceived lessons of the Russo-Japanese war were disseminated a wave of change swept through the various great powers' armyies. In a short period of time (1905-07) England, France and the United States totally revised their tactical doctrine while other nations substantially modified theirs. Haig's belief that, "the war of masses necessitates mass tactics," led to a tightening up of British formations to a mean density of one yard per man in an advancing line by 1911.[34] Some officers such as Ian Hamilton felt that the Army Command was now overreacting to the South African extensions. They believed that it was far easier to concentrate the men on the battlefield than to spread them out.[35]

Perhaps the real grey eminence of the revised British doctrine was General Sir Henry Wilson, head of the Staff College and a convinced Francophile. His views were omnipresent in the F.S.R. with its concern for the decisive point. The British Army was above all to remain an army of quality, capable of envelopment against any foe weaker in numbers, morale or equipment. Without Germany's masses, the British army had to remain an army of professionals; thus the F.S.R. was more reflective of French than German thinking.[36] Most in keeping with the French was a keen

interest in the attack. The F.S.R. stated, "local reserves should not be employed to reinforce the firing line; every man in the firing line should be made to understand that assistance will be given if required in the form of a local counter-attack."[37]

Similar to the French of the immediate post Boer War period the British came to place enormous importance on advance guards as up to a quarter of any given force was now allocated this role.[38] There was little doubt that pushing back the enemy's advance guard, establishing contact with their main force and determining the parameters for future envelopment were crucial. All of this meant that the preliminary stages of a battle would now take longer but it was believed that with decisive contact established, the actual decision would come about more quickly. In a certain way this appears to fit the South African experience. The problem that remained however was that of density. The War Office might have been better off examining an old Henderson essay which reflected on that war's lessons including, "the fallacy that a thick firing line in open country can protect itself outside decisive range, by its own fire, had not yet been exposed."[39]

In analyzing both wars, doubts emerged regarding the

feasibiliy of consistently finding the open flank. The French and then the British began to harbor the illusion that frontal attacks might be the most decisive of all. This retrograde theory was given official sanction in the 1912 F.S.R. and marked the most decisive split with the Boer War experience.[40] Whereas the Boer War led primarily to a modern approach to warfare, downgrading battlefield cavalry and fostering initiative and firepower, Manchuria proved regressive as the specter of close assault once again reared forth.

On the positive side however there was one area where the two conflicts were to have mutually supportive roles and that was in the field of entrenchments. The British had already absorbed this lesson while the other powers waited for additional data. While the use of cover preceded these conflicts, a new meaning was now given to the value of concealment as a supplementary factor. Manchuria also effectively forced other nations to adopt the British model of a multipurpose soldier, namely an infantryman who could dig and create minor engineering structures, and a cavalryman proficient in the use of rifles. The only real innovations to come out of Manchuria were the trench systems perfected by the Japanese and smoke

screens. The increasing importance of the machine gun was generally overlooked in Hamilton's report.

Regarding artillery use the Russo-Japanese War buttressed the findings of South Africa and hastened the reforms already in the making. Inspector General Field Marshal Arthur wrote in October of 1905, "the opinion expressed in my last annual report as to the increased importance of high-angle fire as the inevitable consequence of the more general use of cover, has been fully borne out by the experience of both belligerents in Manchuria."[41] Large howitzers were thus already recognized as the only recourse to the increasing use of field fortifications, shields, longer ranges, concealment and all other items that had made counterbattery fire fruitless.

British artillerymen had made a commitment to larger caliber guns and better trained personnel than their French counterparts prior to Manchuria. Arnold-Forster, in a speech before Commons, summed up the government's position, "if there is one lesson pre-eminent above all other, it is that quality, far more than quantity, is the factor which produces success in modern warfare."[42] With a six year term of enlistment as compared to two and a larger proportion of heavier guns, the British could afford to

stand off further in any engagement. The French with their reliance on flat trajectory weapons were forced to deploy in the open at three thousand yards in order to be effective. They thus stressed speed and simplicity of fire while the British chose to rely on slow deliberate fire with excellent marksmanship at longer (4-6,000 yard) ranges. Such a method was believed to be more cost efficient and easier to supply. The continued influence of geography, tradition, demographics and national wealth should not however be overlooked in these choices.

The French adopted a totally different approach to the artillery problem from that of the British especially. On the issue of economy and rafalés Colonel Du Crane claimed that while there was little evidence of the use of rafales in Manchuria the French army still had complete faith in their utility. The French, "look on the quick fire properties, not as a means of throwing away ammunition but as a reserve of power to be used on such occasions as make it essential."[43] Large mobile reserves capable of high rates of fire were at the core of the French system. The English lacked the automatic fuse-setters, small four gun batteries and most importantly the famed "75's" that made the French system so promising. The differences

between reliance on a lower velocity but larger shelled 18pdr. and the "75" were symptomatic of the contrasting philosophies. Col. Du Crane explained,

> the French methods of ranging are to our minds wasteful of ammunition. We try to make every shot tell. The French battery commander is always near his battery. They appear to favor the half-covered or crest position. They make everything as simple as possible. We go in for more complete concealment and distant control, and consequently have been obliged to introduce complications which the French dispense with-telephones, signallers, plotters, etc.[44]

The British sought long range and continuous fire support to be halted only at the last moment. Based on South African experience physical proximity was not regarded as essential to providing concentrated fire if the guns were long ranged enough. Dispersal seemed to assure greater survival at the cost of some command control problems as each battery was no longer under the commander's thumb. Grand batteries seemed less efficacious to the British due to the heightened effectiveness of individual guns. It was believed that an early and aggressive use of artillery could make any position untenable so that the more massive reserves would not be needed. In 1870 the French had overly decentralized their artillery and were still compensating for that error. The French inclination was

now to be overly impressed by the maxim "one gun is no gun" despite British experience to the contrary. The number and size of each battery under these contrasting styles became an extremely important question. The French suffered from trained manpower limitations which necessitated a small four gun battery. Boer practices were entirely disregarded. Having proportionately fewer guns than the British and a fundamentally different approach, the French preferred to mass their guns for effect.

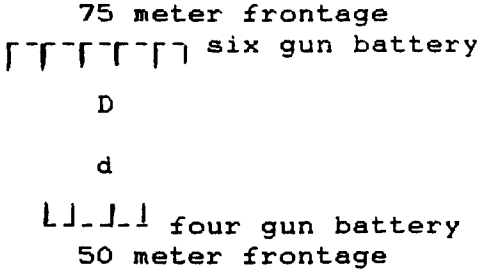
The British traditionally had decentralized their batteries. Individual batteries had to be stronger and thus were composed of six guns. Manpower in the British case was not a vital consideration since so little of this national resource was being called upon to begin with. It was these large batteries that were now called into question by people such as Colonel Du Crane.

Considerable controversy revolved about the introduction of quick-firers. With more rapid rates of fire came greater strength, even with smaller batteries. Large batteries, when dispersed on the field, created control problems. The British response was to emphasize the two gun section that in the pre-Boer War era had been neglected due to slower rates of fire.[45] The use of

sections rather than a long gunnery line in battle would provide greater opportunity for enfilade shots versus a shielded opponent while minimizing the target presented. The coordinated fire of several sections or batteries at normal rates seemed more efficient than a smaller number of guns firing at an accelerated rate, as was the French custom. Greater defensive depth, less exhaustion and superior angles of fire were the hallmarks of the British system. Finally, as the following example proves, the relative efficiency of a six versus four gun battery is more than 150%.[46]

D/d= 6/50 x 75/4 = 450/200 = 225%

D=number of guns firing. d= width of target.



While the British were defensive about some of their more idiosyncratic military ways one anonymous but perceptive officer wrote,

there is always a tendency with us to think we are

> being outstripped but a careful exa mination shows rather that other nations are following our lead particularly in the use of guns in pairs (instead of batteries which many of them started) in the introduction of the tripod and the introduction of the limbered wagon in Germany as a means of transport.[47]

Therefore it might be said that the British at this time were in some ways in the forefront of both materiel and theoretical artillery development.

Higher command control was an area in which, according to some critics, the British had cause for concern. Unlike most contemporaries the British adhered to a four battalion brigade rather than three. This organization was particularly awkward as it was too large for front line command and too small to warrant a complex telephone net. The tactical negative implications of such a policy were obvious as it was reported in The Times of London that, "it appears that our commanders either must discover some more scientific system of locating themselves during a battle or must recognize the fact that the operations of their troops will suffer."[48] The author went on to chastise both General Sir Arthur Paget for motoring about the maneuver field with only mixed results, and General Smith Dorrien, who stayed

further behind his lines, and was thus only capable of launching a series of uncoordinated attacks. In the view of the same correspondent, a British brigade should have been commanded by a colonel. A social problem inherent in such a scheme was the brigade's ad hoc composition from various regiments. Since the individual regiments were commanded by colonels this solution was thus infeasible.[49]

Further complications for command control arose from the unique structure and roles of even the most basic components of the system. As Captain Cecil Battine observed, "in the British Army the battalion of eight companies corresponds organically to the Continental regiment, and as a tactical unit to the Continental company."[50] A ninety-nine man company (one hundred-twenty on a war footing) was simply too small to act alone whereas the eight company battalion proved to be increasingly awkward. The single battalion regiment was in itself an anomaly.

The cumbersome nature of the system had been long recognized as was the over diffusion of tactical command. During the 1901 maneuvers a correspondent of The Times of London noted how, "the war has brought home to all

ranks of the Army the necessity for the strategical training of the superior officer and the tactical instruction of the regimental units."[51] It was further understood according to General H. M. Bengough, that, "no lesson of the war has been more obvious than the necessity for a change in our drill in favor of elasticity of movements and simplicity in words of command."[52] At Aldershot, company maneuvers to gain a small embarkment included the following orders, "left-half company, rise!-about turn! half right-form double-march!" instead of Pollack's suggested "behind that bank, rally!"[53] Formalism was apparently on the way out but clearly defined responsibility was still quite a way off.

Given that night attacks remained the preferred form of maneuver for actions up to the brigade level, the complexity of the then current arrangements was a detriment to effectiveness.[54] The entire litany of requirements for a successful night action, including accurate reconnaissance, maintenance of direction, deliberate pacing, surety of communication and security or march discipline of the highest order, had to be practiced untold times and emphasized in every British military text of the day. It was only towards the end of our period, when the

army had begun to shift emphasis towards ever larger units of attack with accompanying bugles and drums, that British proficiency in small unit tactics began to wane.[55]

As Britain's military preoccupations became increasingly continental in scope, a major shift had taken place best evidenced in the changing nature of the annual maneuvers. The army was forever caught between the varied benefits of larger and smaller scale operations. The former tested the upper echelons and special services in terms of logistics and grand tactics while the latter placed more emphasis on individual instruction; the army increasingly turned towards the former.

Perhaps the best way to evaluate the tactical concerns of the British army is to examine the maneuvers held in the years under discussion. The prewar years were restricted by a doctrine overly decentralized and far too prone to a type of small unit training which in turn neglected the soldier's individual initiative. Limited budgets and training facilities only served to worsen matters.[56] By 1902 many of the aforementioned defects were on their way to being corrected and the new manuals had begun to reflect Roberts' appreciation of the lessons of the war. Rather than being intimidated by the

conditions of warfare the author's Combined Training

> concluded that the defensive has gained in power of resistance, but has lost in the power of inflicting a decisive defeat; that the offensive has gained in facility of manoeuvering, but has lost in the facility of acquiring information and it is conceivable under these conditions, that the defender may be content with repulsing the attack, the assailant with manoeuvering the defender out of his position. But such tactics, although at the moment they may spare life, are likely in the long run to be more costly and less effective than more vigorous methods.[57]

Roberts demonstrated his belief in inter-branch cooperation by actually placing the artillery in the field with the infantry. The manual prescribed, "in this (battle) preparation the attacking infantry will always be called to take part; for the defenders, if there is no fear of their position being rushed, will be careful not to expose themselves, and the attacking artillery will produce no effect."[58] In this way one may note the increased attention to both the fortified and concealed nature of troops in the immediate postwar maneuvers.[59] Old patterns were difficult to discard. Umpires in one exercise ordered the release of a regular army colonel captured by cadet cyclists as improper to their role as scouts.[60] Proper reconnaissance remained one of the most glaring weaknesses of the army for some time as noted

by General Buller.[61] The split between doctrine and practice led to the establishment of a Director General of Military Training in 1902 in order to create a uniform system for incorporating the lessons of the war in the face of the opposition of certain senior officers.

By 1904 both the scale and complexity of military exercises had increased, since for the first time the army and navy cooperated in a trial invasion and reembarkation under fire. A German officer observed,

> in their manoeuvres, the British Infantry showed great skill in the use of ground. Their thin khaki-clad skirmishers were scarcely visible. No detachment was ever seen in close order within 3,000 yards. Frontal attacks were entirely avoided. No attack on entrenched positions was adjudged successful unless with a superiority of six to one. The excessive extension allowed, mitigated against really powerful attack. The machine guns were too exposed. Volley fire is abolished; slow and rapid fire, the latter not exceeding fifteen rounds a minute, being alone used.[62]

Foreign observers felt that the British system still fell below continental standards. Based on their own experience as of 1904 however and their limited continental objectives, the British saw little need to conform. Of far more concern was the difficulty of mounting proper pinning attacks in the rough terrain of Essex and the maintenance

of a continuous front while on the move.[63]

Random observations on the exercises of the next few years indicated several tendencies including a declining precision of maneuver and decided improvement in individual training. According to Field Marshal Arthur in 1905, "complete battalion and brigade training are now on good decentralized lines."[64] He expressed a continued need however for increased responsibility and authority for the lower ranking officers. Doubts were raised in 1906 regarding the effectiveness of machine guns although Ian Hamilton explained, "the want of blank ammunition and failure on the part of umpires to attribute full weight to scattered machine guns must be held partly responsible, but it is believed that the system itself is susceptible of improvement."[65] He further criticized those same maneuvers for governmental parsimony as it was responsible for the non-participation of the Army Service Corps, a vital component to any realistic exercise.[66] The 1907 experience continued to emphasize economic constraint. An advocate of the Territorials complained that while it was organized and expected to perform on a divisional level, as of yet, no such maneuvers had been held.[67]

It was not untill 1908 that the impact of Sir Richard

Haliburton Haldane at the War Office began to manifest itself at maneuvers by a general expansion. The 1908 problem consisted of the mobilization and concentration of an entire army of four divisions, attached cavalry and ancillary services in a friendly area. The roles of senior personnel, large formations and logistics were coming to the fore.

Vital to the understanding of the now fast unfolding changes was an appreciation of Haldane's close association with a more professional circle of officers including Generals Gerald Ellison (the Secretary of the Escher Committee) and Douglas Haig. It was Haig who introduced the Staff rides and conferences that did much to streamline command techniques and assure the survival of cavalry.[68] The special problem for a May field-day exercise before the Prince of Wales was the pursuit of a beaten enemy. Interestingly there were few problems involving unbroken enemy forces and friendly cavalry that year. Reconnaissance and command control remained a problem. The unreliability of rambunctious contact squadrons was both recognized and dealt with.[69] Heliographs in poor weather bedeviled operations and the Boer War solution of using signal lamps was

resurrected.[70] Reconnaissance was of great concern since many armies now trained to fortify and conceal themselves at every opportunity. In deference to private property tapes were laid down to demarcate positions.[71] Far more would have been achieved with actual digging but that would have to await the acquisition of larger government-owned training areas.

In general, the 1909 maneuvers showed a marked contrast to those of 1904-06. A correspondent from The Times of London noted,

> it is very comforting to observe that our infantry have almost completely discarded their old practice of attacking in thin lines widely extended. There is much more weight in an attack now than formerly, and as the firing line draws near the enemy it is well built up and there are usually as many rifles brought to bear as the space allows.[72]

Even some foreign observers now wrote approvingly of British defense in depth, facility of maneuver, density of firepower, appreciation of reserves, and decisiveness of counter-attack.[73]

By 1910 there could be little doubt that British tactical practices had largely drifted from those of the Boer War to those of the German camp, and then finally to those of the more conservative French. Colonel Charles à

Court Repington quoted extensively from a Memorandum on Army Training 1910 on the nature of an offensive battle:

> a hard-fought preparatory action along the whole front, undertaken with the object of ascertaining the enemys dispositions, wearing out his resistance, and drawing in his reserves, followed by the decisive attack at some point designated to the commander by the events of the preparatory action. This method involves the use of strong advance guards, whose mission it is to drive in the enemy's protective troops, the development of the preparatory action by the main bodies of the various columns on a definite plan formed by the commanders of the force; and the retention of strong reserves in the hands of the commander for the decisive attack. It also involves concentration before the action is entered upon as opposed to concentration on the battlefield.<This Memorandum goes on to speak of what it calls> another conception of the development of an action which is opposed to the above in principle- namely, a wide deployment, a simultaneous and converging advance, the envelopment of the area in which the enemy is likely to be found, and a vigorous offensive against the enemy wherever met. <This method we are told,> presupposes no general advanced guard, and no general reserve, as we usually understand those phrases.[74]

The Memorandum further warned against the use of the latter method although it was clearly that of the German army in 1870 and is in many ways far more in keeping with Lord Roberts' postwar beliefs. Repington also believed that umpires were unnecessarily prejudiced against machine guns since they had rarely seen them in action against live

targets and underestimated the difficulty in suppressing them for prolonged periods of time.[75] What remained to be seen was how the artillery and cavalry weathered the decade on the maneuver field.

The Boer War had an enormous decentralizing effect upon artillery leading to wider more dispersed formations. While such a system was quite suitable to the extended nature of the South African battlefield and terrain, critics were quick to point out that in continental terms this could only be the tactic of the inferior force, seeking to survive rather than to pave the way for victory. A Times of London correspondent had criticized the deployment of artillery in the 1901 maneuvers for its successive rather than simultaneous presentation for he believed the latter to provide a far more effective display of firepower.[76]

By 1906 a mature system of artillery tactics integrating some of the lessons of South Africa had been developed. Complete batteries were once again the primary tactical unit although the section continued to play a strong part. Target acquisition was achieved through the bracketing of a single section to within one hundred yards using percussion shrapnel. The alternate method of firing

battery salvos of timed shrapnel to within two-hundred yards, then followed up with progressive salvos, was regarded as quicker but far more wasteful and inaccurate. Emphasis thus continued to remain on well-trained, cost efficient units. "Artillery" it was claimed by a Times of London correspondent, "in these days - or our artillery at all events - does its own reconnoitering; digs its own trenches and to a large extent provides its own system of communications."[77] The author then comments on the strength of the entrenchments and admirable qualities of concealment. All this was given official support as even the Boer practice of providing alternate fire positions was encouraged.[78]

The key phrase from the field artillery manual of 1906 that continued to guide the arm for some time was the following:

> Concealment has, since the introduction of smokeless powder, become of paramount importance to artillery; it prevents detection by the enemy and generally secures immunity from fire. It should therefore be sought for both in attack and defence.[79]

The principle of concealment had even been carried forth into the construction of coastal fortification. R.F. Johnson argued,

it may be added that the closer to the creat of the fort is the level of the ground round it the better able will it be to withstand attack. Artificial height cannot add much to the effective range for automatic sights, and it certainly adds considerably to the size of the target offered.[80]

The contest between ships and forts was indeed an old one. The ships could mass more guns, but the forts could conceal their outline, be built stronger, mount bigger guns and provide a more stable platform. The Boer War suggested yet another supplement to coastal defense in the guise of railway guns which could conceivably provide a mobile yet powerful reserve.[81]

While coastal defense played no role in South Africa, it still felt its repercussions. It was therefore even more likely that the cavalry, probably the single most important arm of the late war, should have been altered by its lessons. Henderson wrote,

but when it is remembered that the cavalry is par excellence the strategical arm, that it depends on the cavalry, and on the cavalry alone, whether the commander of an army marches blindfold through the fog of war; or whether it is the opposing general who is reduced to that disastrous plight, it will be admitted that to spare trouble or expense in the training and organization of the mounted branch is as unpardonable a mistake as to adhere to obsolete traditions.[82]

Cavalry priorities in those initial postwar years were reconnaissance, the denial of enemy reconnaissance, and only lastly, the defeat of opposing forces. Those tasks given the highest priority proved in fact to be the hardest to learn for they involved the greatest amount of initiative and could not be taught by greater drill or the provision of a better weapon.

Buller's critique of the July 1901 maneuvers regarding lack of scouts around rendezvous points and the uncoordinated handling of cavalry squadrons indicated the slow pace at which the new doctrine circulated through the army, and also higher command deficiencies.[83] Even when proper piquets etc. had been posted old line officers continued to ignore the new priorities. A correspondent of The Times of London claimed,

> what really happened...was that the cavalry patrols on both sides allowed themselves to be engaged in local fights all along the line instead of carrying out their assigned duties of reconnaissance. These fights are a sheer waste of both time and strength, and tend to degrade the role of cavalry, depreciating its worth and giving color to the critical remarks which at one time filled the newspapers regarding the conduct of the cavalry arm during the war in South Africa.[84]

The most important changes in cavalry thought and

action were thus not immediately enacted. It may however be said that by 1904-5 substantial improvement had been accomplished. The limited training areas of Aldershot and Salisbury Plain were expanded to allow for greater subtlety and variety in large scale maneuvers. The heightened concern for reconnaissance and security was evident in a plethora of new names and functions that flooded the military textbooks including outposts, vedettes, cossack posts, patrols (visiting, reconnoitering, standing), detached and examining posts, lines of resistance, piquets, supports and reserves.[85] This same period marked a considerable upgrading in overall strength, remounts, and rearmament of the cavalry along with a new emphasis on winter maneuvers.[86]

In 1908 with the ascendancy of General Douglas Haig as the head of the cavalry arm training and objectives headed in a new direction. He believed that, "in order to achieve really decisive results either in strategical reconnaissance or on the battlefield, we ought, indeed, to be prepared to group our cavalry even still further and to be ready to form one or more cavalry corps."[87]

For an army that organized its cavalry in brigades and had only just begun staff rides at the divisional level

under Haig's promptings, this represented a radical departure yet by 1910 Haig was sufficiently persuasive to gain divisional maneuvers. Previously the only divisional mounted troops were the M.I. which had never trained together. Starting with the accepted importance of reconnaissance, Haig built his argument, "Touch, once gained, should be kept and the squadron must act vigorously against any hostile parties trying to push forward to reconnoitre or injure railways or telegraphs"[88] It did not appear to him that sufficient resources were on hand at various exercises to effectively carry out this role and thus the need for a larger scale. Once that had been achieved it seemed a natural step to press forward with a more independent form of cavalry tactics divorced from the close ties with infantry that Roberts had propounded.

The army had in the interim come to treat the 1910 cavalry maneuvers as a side show. Allenby, among others, had serious reservations about the viability of independent cavalry divisions on raiding expeditions in the face of combined arms.[89] Haig had, however, for a long time sought to, "impress in leaders the value to be derived from combining <u>mobility</u> conferred by the horse with an efficient use of the rifle; so as to suppress the enemy

with a sudden outburst of fire from an unexpected position."[90] The development of the machine gun, its close association with cavalry and its prescribed use as a surprise weapon offered Haig the increment in firepower he required. Allenby continued to harbor doubts on this weapon, claiming it was neither, "properly understood nor sufficiently scientifically studied".[91]

With Allenby's promotion to Inspector of Cavalry in 1910 the way was opened for change. The twenty-five hour, ninety mile march by motorcyclists he sponsored in that year was far from welcomed by the traditionalists.[92] Unlike the previous year and despite the unusual number of horsemen available, cavalrymen were forced to advance by bounds and provide zone coverage to forward movement at the same time as communications were improved by means of ordinary bicycles.[93] This was in marked contrast to the absurdity of some of the previous year's exercises such as Problem Fourteen entitled, "a Cavalry Division Ordered to Attack The Enemy's Artillery In Order to Enable The Infantry Attack to Punch Home."[94] The combination of dispositions necessary for the success of such an operation was so unlikely as to stretch credibility. A battery had to be placed in the air (neither supported nor hidden) with

sufficient dead or covered ground to its front and flank that two separate attacks could be launched on it in short order. Haig himself came to the,

> realization that surprise by large bodies of cavalry was unlikely because: a) a large body must be some distance away to avoid sighting b) to approach will thus take time c) the opportunity for action, which is usually of short duration will have passed.[95]

Despite the upscaling of cavalry maneuvers, reality had begun to intrude upon the excercises. While the 1910 maneuvers still featured a fifteen hundred man cavalry charge discussion was no longer mired in examples of Napoleonic lore.[96] The most important reason then for the continued concern with larger organization appears to have been a preoccupation with possible continental foes who outmanned the British at virtually every level from squadron to division.[97]

Recourse to organizational problems had to be dealt with at a still higher level of command, namely the War Office. The analysis of field exercises served to illustrate the practical responses to a number of stimuli, the most important of which was South Africa, although this is not always immediately evident. Interestingly it was in the areas where the British most strayed from that

experience, be it for the desire to create a greater role for cavalry or to integrate the "more modern" lessons of Manchuria, that they ran into the greatest problems.

[1] "The British Army and Modern Conceptions of War," The Edinburgh Review 213 (April 1911):324.

[2]Lindenau, "What Has the Boer War To Teach Us" JRUSI 67 (January 1903):52.

[3]Great Britain, War Office, Combined Training (Provisional), (London: Harrison and Sons, 1902), p. 53.

[4]Quoting Rawlinson in, Report of a Conference of General Staff Officers, Haig Papers Box 81 p. 10. NLS.

[5]Great Britain, War Office Abstracts, series 523, 1903.

[6]Holt, p. 153.
Roberts,"The Army...", p. 4.
"Shooting at Salisbury Field," Times (London), 9 Sept. 1902, p. 8.

[7]Martin, pp. 128-30.

[8]
Ammunition Distribution Among Various Major Powers

	Rds. on Man	Rds. on Wagons	Rds. in Div. Res.	Total Avail.
Germany	150	77	-	227
Austria	120	47	57	224
Italy	162	24	40	226
England	115	250	125	490
France	120	82	202	404

Balck, 1:475

[9]Edwards, The Defence, p. 370.

[10]Wynter, "Has the Experience of the War in South Africa Shown That any Change is Necessary in the System of Field Artillery Fire Tactics (in the Attack As Well As in the Defence) in European Warfare? 'Duncan' essay 1902," MPRAI 29 (1902-03), p. 277.

[11]Evans, p. 17.

[12]General H. Bonnal, "The Late South African War and Its Lessons," in U.S. General Staff 2nd (Military Information) division, Selected Translations, p. 32.

The Germans had come to appreciate new strategic limitations as Lt.-General von Caemmerer pointed out, "armies of more than 100,000 men, on the other hand, occupy more than four and a half miles of space. To turn their front would mean a day's march."

Lt.-General von Caemmerer, The Development of Strategical Science During the 19th Century, trans. by Karl von Donat (London: Hugh Rees Ltd., 1905), p. 217.

[13]

Terms Applied to Ranges as of 1902

	Rifle	Field Artillery	Heavy Artillery
Distant	2-3,000	4.5-6,000	6-10,000
Long	1.4-2,000	3.5-4,500	4-6,000
Effective	600-1,000	2-3,500	2.5-4,000
Decisive	Under 600	Under 2,000	Under 2,500

*All figures are in yards.

Great Britain, War Office, Combined Training, p. 14.

[14]Quoting Lord Roberts in Martin, p. 53.

[15]Lascelles Davidson, Catechism on Field Fire Training, With Illustrations and Explanatory Notes in Accordance With the Latest Infantry Training and Practical Excercises and Examples, 2nd ed., rev. by St. Banning (London: Gale and Polden, Ltd., 1902), pp. 13-15.

[16]Wisser, Second Boer War, p. 215.

[17]Lt.-Col. N. R. McMahon, "Fire Fighting," Aldershot Military Society, no. 95 (London: Hugh Rees Ltd., 1907), p. 17.

[18]Roberts to Brodrick, 9 Nov. 1900, St. John-Brodrick Viscount Midleton Papers, P.R.O. 30/67, no 5 p. 1.

For a further appreciation on this point also see

Great Britain, War Office, Infantry Training Provisional), pp. 3, 4, and 191.

Sir George Crompton Archibald Arthur, From Wellington to Wavell (London, N.Y. etc.: Hutchinson and Co. Ltd., 1942), p. 74.

Henderson, The Science of War, p. 411.

L. S. Amery, The Problem of the Army (London: Edward Arnold, 1903), p. 232.

[19]R. A. Johnson, "The New Army Training and the Auxiliary Forces," Fortnightly Review 78 (Dec. 1902):990.

[20]Henderson, "The British Army," in The Science of War, p. 374.

[21]Great Britain, War Office, Combined Training, p. 4.

[22]Callwell, Small Wars, p. 232.

[23]Aldebaran, p. X.

[24] "Army Drill Reform," Times (London), 7 Feb. 1901, p. 11.

[25]The stultifying formalism at the turn of the century is no more in evidence than in the requirement that officers and N.C.O.s learn by heart virtually all of Part VIII of Infantry Drill (26 pages) in addition to various other long sections. For the enlisted man memorization was almost as onerous, for a sign at the Curragh training grounds listed the following instructions for videttes and sentries:

> 1) The enemy is over "there" (pointing), he is most likely to advance by "that" road (pointing).
> 2) If I see anything of the enemy I am to signal to my picket.
> 3) The extent of the front I have to watch is from "that" point to "that" point (pointing).
> 4) The next sentry on my right is "there" and the next on my left is "there" (pointing).

This goes on for fourteen points just because the

command wanted a snappy all inclusive answer.
CIVIS, "Laputan Methods of Army Training," Times (London), 27 Sept. 1900, p. 8.

26 "Le reglements de manoeuvre de l'armee Anglaise," Revue Militaire Des Armées Etrangères 66 (Oct. 1905):350.

27Great Britain, War Office, Combined Training (Provisional), p. 59.

28Great Britain, War Office Abstracts, series 478, 1901.

29Herman Gaston De Wateville, The British Soldier: His Daily Life From Tudor to Modern Times, Forward by Sir John Harding (London: J. M. Dent, 1954), p. 208.

30Brig. Gen. Kiggell, discussing a paper by Major McMahon, "The Object of Fire in Attack and Defence" in Report of a Conference of General Staff Officers at the Staff College, 17-20 Jan. 1910 Held Under the Direction of the Chief of the Imperial General Staff (Staff College Library Camberly), pp. 27, 32. As quoted in T. H. E. Travers, "The Offfensive and the Problem of Innovation in British Military Thought 1870-1915," Journal of Contemporary History 13 (July 1978): 531.

31General Nicholson commentary, Great Britain, Chief of the Imperial General Staff, Report of a Conference 17-20 June 1910, p. 32.

32Great Britain, General Staff, Field Service Regulations, 1:11.

33Ian Hamilton, Circular, The Following Remarks by the Lt.-General Commanding-in-Chief, Southern Command, are Circulated to Volunteer Brigades For Their Perusal and Guidance dated 1 Aq. 1906 G.S. no 723/1/4 Ian Hamilton Papers 7/1/10 p. 2. Liddell Hart Center.

34Balck, 1:461.

Haig, Cavalry Studies p. 19.

[35]Ian Hamilton, Remarks by General Sir Ian Hamilton K.C.B., D.S.O., Commanding-in-Chief Southern Command, on the Training of the Troops During 1907. Signed, Major Lynden-Berell, 1 Nov. 1907, G.S. no 2581/1/6 Ian Hamilton Papers 7/1/10 p. 4. Liddell Hart Center.

[36] "The British Army and Modern Conceptions of War," p. 344.
Nicholas D'Ombrain, War Machinery and High Policy: Defence Administration in Peacetime Britain 1902-1914 (Glasgow, N.Y. etc.,: Oxford University Press 1973), p. 150.

[37]Great Britain, General Staff, Field Staff Regulation, p. 217.

[38]Martin, p. 21.

[39]Henderson, "The British Army," p. 411.

[40]T. H. E. Travers "Technology, Tactics and Morale: Jean de Bloch, The Boer War and British Military Theory, 1900-1914" Journal of Modern History 51 (June 1979) p. 286.

[41] Annual Report of the Inspector General of the Forces Field Marshal Arthur, 1 Oct. 1905 Arnold Forster Papers vol. 17 no. 50316, p. 26. BL.

[42]Arnold-Forster, Hansard 4th Series, (28 March 1905), p. 696.

[43]Col. Du Crane as quoted in,
Great Britain, Chief of the Imperial Staff, Report of a Conference of General Staff Officers At the Staff College 9-12 January 1911. p. 61.

[44]Ibid., p. 55.

[45]Major K. K. Knapp, "Proposals For Making Eight - Gun Batteries and Reorganizing the Horse and Field

Artillery Regiments," PRAI 32 (May 105):81.

[46]Marie-Emile Fayolle, Concentration des feux et concentration des moyens, (Paris: Charles-Lavauzelle, 1913), p. 41.

[47] Rifle and Ammunition Compared With Other States, WO 108/106 p. 95. PRO.

[48]Military Correspondent, "Army Manoeuvers," Times (London), 28 September 1907, p. 12.

[49]Military Correspondent, "The Army Corps Manoeuver," Times (London), 29 September 1906, p. 29.

[50]Captain Cecil Battine, "The Offensive Versus the Defensive in The Tactics of Today," JRUSI 47 (June 1903):659.

[51]Special Correspondent, "Military Manoeuvers in Ireland," Times (London), 9 August 1901, p. 10.

[52]General H. M. Bengough as quoted in A. W. A. Pollack, Simple Lectures for Company Field Training With An Epitome of Tactics and Lessons From the Boer War, 3rd ed. (London: William Clowes and Sons, Ltd. 1902), p. 118.

[53]Ibid., p. 121.

[54]Great Britain, General Staff, Field Service Regulations 1909, p. 156.
The four forms of attack demonstrated in South Africa included;
1) Bombardment (Magersfontein)
2) Sap (Paardeburg)
3) Night Attack (Magersfontein)
4) Day time Petit paquets [advance by small groups preparatory to general advance] (Second Colenso)

[55]Great Britain, Chief of the Imperial General Staff, Report of a Conference...9-12 January 1911, p. 11.

[56]Bengough, p. 39.

G. F. R. Henderson, "The Training of Infantry For Attack," USM 19 (August 1899):504.

[57]Great Britain, War Office, Combined Training, p. 18.

[58]Ibid., p. 34.

[59]Special Correspondent, "Military Manoeuvers in Ireland," Times (London), 2 September 1901, p. 5.

[60]T. N. E. "Aldershot Training," Times (London), 26 April 1901, p. 10.

[61]Sir Redvers Buller, "Sir Redvers Buller On Field Firing," Times (London), 2 September 1901, p. 5. "Second Army Training," Times (London), 20 August 1904, p. 4.

[62]Von Lobell, "The von Lobell Annual Reports on the Changes and Progress In Military Matters in 1904," trans. Col. E. Gunter, JRUSI 49 (November 1905):1281.

[63]Special Correspondent, "The Army Manoeuvres; The Re-embarcation at Claxton," Times (London), 14 September 1904, p. 8.

[64] Annual Report of the Inspector General of the Forces Field Marshal Arthur, 1 October 1908, Arnold Forster Papers, vol. 17 no. 50316 p. 50. BL.

[65]Ian Hamilton, Remarks by Lieut.-General Sir Ian Hamilton, K.C.B., D.S.O., Commanding-in-Chief Southern Command, on the Training of Troops During 1906, GS no. 920/1/4, Ian Hamilton Papers 7/1/10, p. 2. Liddel-Hart Center

[66]Ibid., p. 3.

[67]Harold Trevor Baker, The Territorial Force, (London: John Murray, 1907), p. 95.

[68]Gooch, p. 117.

[69]Special Correspondent, "Aldershot Command; Inter-Divisional Training," Times (London), 14 September 1909, p. 8.

[70]H. Dundas, "Cavalry Reconnaissance and Visual Signaling," Times (London), 31 August 1909, p. 10.

[71] "Army Manoeuvers," Times (London), 1 September 1909, p. 12.

[72]Military Correspondent, "Army Manoeuvres," Times (London), 4 October 1909, p. 3.

[73]Hippolyte Langlois, Lessons From Two Recent Wars (The Russo-Turkish and South African Wars), (London: Mackie and Co. Ltd., 1909), pp. 111-18.

[74] Memorandum on Army Training as quoted in Repington, "Tendencies in the German Army" in Essays and Criticisms, pp. 227-228.

[75]Military Correspondent, "Military Note," Times (London), 4 April 1910, p. 4.

[76]Special Correspondent, "Military Manoeuvers in Ireland," Times (London), 12 April 1901, p. 5.

[77]Special Correspondent, "The Artillery Inspection at Aldershot," Times (London), 21 August 1906, p. 6.

[78]Great Britain, War Office General Staff, Field Artillery Training, (London: Harrison and Sons, 1906), p. 245.

[79]Ibid., p. 241.

[80]L. E. B. Dykes, "Thoughts on Coast Defence Suggested by the Boer War," PRAI 28 (1901):393-96.

[81]R. F. Johnson, "Thoughts on Coast Defence Suggested by the Boer War," PRAI 28 (1901):387.

[82]Henderson, The Science of War, p. 68.

[83]Sir Redvers Buller, "Sir Redvers Buller On Tactics," Times (London), 31 July 1901, p. 11.

[84]Special Correspondent, "Irish Military Manoeuvers," Times (London), 20 August 1901, p. 5.

[85]Crole Wyndham, Questions and Answers For Cavalry Non-Commissioned Officers; Vol. 14 of Military Handbooks for Officers and Non-Commissioned Officers, (London: Kegan, Paul, Trench, Trubner and Co. Ltd., 1904), pp. 149-52.

[86] Cavalry Winter Training Results 1905, Arnold-Forster Papers vol. 21 no. 50320 p. 1. BL.

[87]Haig, Cavalry Studies, p. 3.

[88] Report on a Cavalry Staff Ride Held by the Director of Staff Duties 1st to 6th March 1909, Haig Papers Box 78 p. 5. NLS.

[89]Military Correspondent, "Cavalry Division Training," Times (London), 7 September 1910, p. 4.

[90]Haig, Various Manoeuvers, November 1903-1906, Note dated 22 October 1904, Haig Papers Box 80 n.p. NLS

[91]Major General Allenby commenting on Captain Battine's "The Proposed Changes in Cavalry Tactics," JRUSI 54 (November 1910):1444.

[92]Military Correspondent, "Cavalry Reconnaissance," Times (London), 12 August 1910, p. 5.

[93]Military Correspondent, "Cavalry Reconnaissance," Times (London), 18 August 1910, p. 5.

[94] Report on The Second Cavalry Staff Ride Held by the Director of Staff Duties 21st to 26th June 1909, Haig Papers Box 80 p. 34. NLS.

[95]Ibid., p. 24.

[96] Report on A Cavalry Staff Ride, p. 15.

[97] Although the following chart dates from 1901 the essential principles of relative manpower strengths remained stable throughout the period under discussion.

	Squadron	Regiment	Division
Russian Line	143	859	3432
Russian Guard	143	572	4004
German	135	540	3240
Austrian	146	876	3504
French	133	665	3393
British	106	424	2544

F. J. Graves, "Lessons From The Boer War Chiefly From a Cavalry Point of View," USM, 24 December 1901, p. 252.

Chapter XIII

The Search for a Policy

St. John Brodrick, the Secretary of State for War in the Conservative government from 1900 to 1903 was the first high political official of the period who had to confront the issue of army reform. Complicating his task was the knowledge that the South African War was significantly at variance with recognized military norms. Many measures taken to win the war were so specialized that they needed to be dropped in the postwar period. At the same time, numerous other changes had to be postponed because of their dubious utility in winning the war at hand. Caught between military necessity and a paradox, Brodrick was forced to act without appearing wasteful of resources. As he wrote Kitchener, "the occasion is almost unique - the chance of reorganizing the Army is not likely to recur in your lifetime or mine under similar conditions."[1] His gravest concern was that, "the public does not separate clearly the normal from the War Estimates and does not realize how heavy a burden they still will be bearing when

the War is over."[2] Already the regular army estimates had jumped from eighteen million pounds in 1895 to thirty million in 1901.

As a primary agenda for change he sought to rectify the acknowledged insufficiencies of mounted troops, artillery, transport, reserve officers and well-trained officers of higher rank, along with ending the dangerous shortage of forces at home.[3] At the heart of Brodrick's scheme was a drastic restructuring of the army. This would decrease the regulars from their inflated wartime numbers yet still secure Britain a much increased military establishment by placing a new emphasis on various improved reserve components. (See Appendix 5)

The Military Requirements of 1901 as prepared by Brodrick's office were to be, he hoped, the last which would depend on the precarious Cardwell system of balanced forces. The new system was to include six army corps. The first was to be composed of regulars, the second, third and forth corps part regular and part militia and volunteers, while the fifth and sixth corps would consist totally of irregulars. The new corps were to be continuously operating commands of almost continental proportions. They constituted three divisions of two brigades, or twenty-four

battalions, and not the small twelve battalion divisions which Paget and Douglas had commanded in South Africa when they had doubled as brigade commanders.

The advantages of the Corps system were to set standards and operate at war levels of command in peace, establish combat relationships prior to conflict and to decentralize the War Office at Pall Mall. While each of the corps would be responsible for its own stores to assure rapid mobilization, the first three would be situated on the coast for embarcation. The government hoped to rectify the failure of the prewar paper corps organization. It was believed in some quarters that had such a realistic force been available in 1899 the War might never have begun since the chances of a quick Boer victory would have been far more unlikely.

The opposition to the corps system was led by Campbell Bannerman of the Liberal party. It was his belief that such structures were unnecessarily large for the Empire's true requirements which most often called for small packets of men "anywhere between Patagonia and Kamschatka".[4] The continued need for drafts and replacements would play havoc with such an elaborate organization. Composing six such corps would skim the best

officers into the first three, and leave the remaining three bereft of trained officers and combat experience. He believed it far better to tailor organization to the specific campaign requirements while spreading experience uniformly throughout the entire army. Small wars required small units yet South Africa had cast doubt upon this thesis, especially with the possibility of a larger war which might require greater numbers with less time to raise customized armies.

Much of the success or failure of Brodrick's plan would depend on the availability and training of the various reserve components which would now be liable for overseas duty. The Militia itself would be brought up to full strength of one hundred and fifty thousand. A reserve for the Militia, liable only for home service and composed of retired soldiers and ex-militia men, would be formed to a strength of fifty thousand. The Volunteers to the extent of twenty five battalions and sixty batteries would be given special training. The Yeomanry would be stripped of swords, raised to forty thousand men from their prewar ten thousand and retrained as mounted infantry.[5] As a means to economize or at least shift lines of the budget to other departments, Brodrick hoped to withdraw men from

certain overseas stations, garrison some with older soldiers (the newly created Royal Garrison Regiment), delegate to the marines the chore of guarding naval bases, and institute a modified system of linked battalions. The new linked battalion system was to be dependent upon major staging areas outside of Britain in so called "healthy areas", such as South Africa, Canada and Australia.

Almost from its inception the Brodrick scheme came under attack due to issues of expense, quality, and quantity. Winston Churchill, in a speech before Commons, castigated a system that would cost thirty million pounds to support three regular corps and three of irregulars to say nothing of the twenty million a year allocated for the defense of India. France paid twenty-eight million for twenty corps, Germany twenty-six million for twenty-two corps, and Russia paid thirty-three million for twenty-three corps, with an additional million men in reserve.[6] Concern was also voiced on what was deemed gross underestimation of the cost of new facilities, future pensions and possibly increased fiscal inducements to provide requisite numbers of recruits. By 1903 postwar financial pressures had risen. Brodrick was reduced to the regressive step of using civilian drivers for camp

equipment and rations during maneuvers, a method hardly in keeping with his independent corps arrangement. By the same token in that year he barely foiled the Exchequer's attempt to reduce to two guns all home batteries in excess of the initial sixty-three.[7]

The second point of conflict was summarized by Mr. Dillon before Commons in stating, "the main lesson of the War is that quality is what we ought to seek for, and not quantity."[8] Brodrick had hoped to override this criticism by his preemptive statement that,

> with the full concurrence, I might say on the initiative, of the Commander-in-Chief, admitting for the first time that picked Militia and Volunteer battalions can be ranged with Regular troops in the first line, we propose to employ in the last three army corps sixty battalions of Volunteers and Militia.[9]

On the quality issue Brodrick was undoubtedly attempting to mislead the opposition while intimidating the army hierarchy. Much would depend on his optimistic plans for improved training based on battle reports from South Africa. This would also satisfy the generals. By 1903 for obvious reasons the generals were in open revolt against the supposition that reservists were in any way the equal of an equivalent number of European regulars. This, upon

which so much of the Brodrick scheme depended, was dismissed as an aberration of the South African experience.[10]

The Akers-Douglas Committee Report, submitted in 1902 with its marked criticism of the militia education program, did little to help matters. It showed the average soldier to be in poor mental and physical shape as well as the reservists who lacked proper training, especiallly when compared to the average European soldier. It became the common belief that Brodrick's reforms would achieve little for the first line by adding Militia and Reserve troops of doubtful quality or redeploying "soft" battalions from the Mediterranean.[11]

In his effort to produce results, Brodrick had systematically attempted to upgrade the reserves. Specialized committees were constituted to look into every aspect of the problem including the Ebington Committee on Revision of Yeomanry Regulation, the Collingwood Committee on the Employment of Militia or Volunteers on Ordnance Duties, the Turner Committee on a Motor Volunteer Corps, the Marzard Committee on Yeomanry Reserves and the Norfolk Committee on Militia and Volunteers. Nearly uniform in their opinions, these committees found the various reserves

to be potentially useful, provided proper organization and schooling were made available. Amid this atmosphere support was found for a Militia Field Artillery created by Army Order 81 of 1901, a mechanized transport section by Army Order 230 in 1902 and a Special Reserve of Officers by Royal Warrant on April 3, 1903. As time passed training requirements were increased along with requisite schooling for N.C.O.s and officers. Stricter standards resulted in declining enlistments and the need for greater inducements. Special appropriations for the reserves rose dramatically from seventy-five thousand pounds in 1900 to three hundred thousand in 1901 to six hundred thousand in 1902. With the request for an additional £197,000 in 1903 rejection was forthcoming.[12]

The quantity of enlistments was the third problem confronting Brodrick. Whereas the old system required thirty-five thousand recruits a year fifty thousand would now be necessary.[13] The introduction in 1902 of short service (three years active and nine years reserve to replace the seven and five combination) by Army Order 73, was not a success, despite the many improvements that had been fostered under Brodrick's regime. Some of these improvements included increased privacy in the barracks,

better bathrooms, an increase in the number of married quarters, permission for the wearing of civilian clothes on leave, an increase in the number of twenty-four hour passes, a decrease in sentry duty and, starting with Army Order 493 dated 6 February 1902, the establishment of thirteen Jewish holidays over the course of the year. The only omission was an increase in pay. This was a serious drawback for enlisting officers in peacetime since a subalterns mess bill amounted to £9-10 per month while his pay was only £7-10 and he still had additional expenses such as a servant, servant's livery, washing bills etc.[14] In the cavalry matters were even worse as peer pressure prevented the use of government issue equipment and insisted on tailored materials twice as expensive. Furthermore each officer needed to supply his own horse.

The fear was voiced by Sir Charles Dilke that if recruits were not found, then the way would be opened for conscription.[15] While such a program was anathema to the majority of the populace, Brodrick had to walk a very narrow line as many of his officers were its proponents. "Lord Roberts did not forget that in fighting about seventy thousand Dutch farmers, we had to employ practically the whole of the Regular Army, the whole of the reserves, the

large part of the Militia, and an important part of the Volunteers."[16] If Britain only just managed to get by in South Africa with volunteers, then what would happen in the event of a major European war where far greater stresses would be placed on the manpower pool? As early as the Franco-German War, the fighting value of a short service army had been demonstrated. Yet the British could never accept the need for a mass army while the fleet remained supreme. The thought that the fleet might be unequal to its task seemed so absurd as to lead to the dubbing of conscription adherents as the "Bluefunk" school in contradistinction to the "Bluewater" school.

Brodrick opposed the draft because of its unpopularity, doubts as to its effectiveness, the belief that insufficient offficers were available to man a true mass army and the fear that such a policy would undermine the regulars.[17]

The Army was unexpectedly enmeshed for almost two further years of fighting and therefore it proved impossible to get any plan off the ground as troops could not be withdrawn from South Africa. For a variety of reasons it was clear by 1903 that Brodrick's scheme had failed. Wartime levels of recruitment were not maintained

in a resurgent civil economy. India simply could not be manned by less than seventy-thousand men and the Navy procrastinated about relieving Army garrisons with marines. The first three corps were understrength, the fourth was a skeleton, and the fifth and sixth were largely myths as eight infantry brigades and two cavalry brigades remained nonexistent.

Another problem confronting Brodrick, aside from the size of the army, was its command structure. Lord Roberts had only accepted the position of Commander-in-Chief on the promise of major changes. On departing Africa on October 29, 1900 Roberts claimed, "I have learned much during the war, and the experience I have gained will greatly help me in the work that lies before me."[18]

On November 4, 1901 while Roberts was still at sea Brodrick issued the Order in Council which brought some degree of discipline to the War Office. Duties were to be clearly defined and the Commander in Chief given sole responsibility for discipline. No longer would department heads be able to circumvent their nominal superiors. The Commander-in-Chief now directly controlled the Adjutant General who in turn was responsible for discipline, education and general efficiency, the Director General of

Mobilization and Military Intelligence, and the Military Secretary Department which was charged with appointments and promotions. The Commander-in-Chief also supervised the Quartermaster General who took care of the nonwarlike supplies of the army, and the Inspector General of Fortifications who dealt with the engineers, selected fortification sites and inspected ordnance factories. The Commander-in-Chief also oversaw the Director General of the Army Medical Department and the Director General of Ordnance who managed the supply of warlike stores. Finally, the Commander-in-Chief was to review all estimates and expenditures of the independent Financial Department.

While these changes did much to focus responsibility and thus avoid the pitfalls of the prewar system, it should be noted that not only did those four areas for which Roberts had supervisory powers still have direct access to the Secretary of State, but in no way did this system resemble the Great German General Staff. The sheer number of responsibilities involving the Commander-in-Chief detracted from his ability to focus on any single set of problems.

Roberts was never comfortable with his new role and prior to the formation of the Esher Committee, he requested

Colonel Ellison to draw up plans for a modern general staff. Lord Esher was later to claim that, "no one realizes more clearly than Lord Roberts the drawbacks to the existing system under which the Commander-in-Chief is an administrative rather than an executive officer; a clerk in an office rather than a soldier in the saddle."[19] In the interim Roberts busied himself with influencing the Hardwicke Committee on the establishment of a Director General of Military Intelligence. The full measure of his success in this area may be seen in the granting of a thirty-eight man staff when the best he had hoped for was twenty-nine.[20] Records of the various deficiencies of British military intelligence during the War undoubtedly bolstered his case.

Prior to the Esher Committee perhaps the single most important influence upon the War Office was the Clinton Dawkins Interdepartmental Committee on War Office Organization appointed by Brodrick.[21] The report focused upon the many entrenched civilian bureaucrats who were compared to a 6" gun that did not work and could not be fired. Excessive red tape, too many technical matters in civilian hands, lack of a clear division of work and duties, policy settlement and execution and reliance upon

elaborate regulation rather than meaningful inspection, were all blamed for the chaos of administration.[22] The result of this devastating critique was the militarization of the War Office clerical staff in April of 1901 with a far more precise assignment of duties and responsibilities. J. G. Ashley was perhaps not far off the mark in his belief that, "the days when the War Office was fit for a gentleman came to an end with the Boer War."[23]

Undaunted by his diverse forays into Army reform and their rather mixed results Brodrick, with the enthusiastic support of Lord Balfour in March of 1903, helped to create the Committee of Imperial Defense (C.I.D). According to Correlli Barnett "it was the beginning of a development that, despite times of doldrums and frustrations, was to give Britain in the Second World War the most effective defense planning machinery in the world."[24] In essence, this new structure replaced the Colonial Defense Committee, which had functioned on an ad hoc basis as part of the Cabinet, lacked a permanent organization and served primarily to mediate interdepartmental rivalries. Arnold Forster felt that system to be "a joke and a very bad one."[25] The early C.I.D. consisted of the Prime Minister, the Lord President, the First Lord, the War

Minister, the Commander-in-Chief, the First Sea lord, and the heads of naval and military intelligence. The Exchequer was conspicuous by his absence, the reason being that this Committee was to have a decided military bent. In times of crisis, finance was to assume a lesser value in policy formulation. The C.I.D.'s role was purely advisory. It attained relative eminence in defense matters only after the Esher Committee's recommendation for a permanent full Secretariat had been acted upon. The interaction between the shortcomings in South Africa, increased global responsibilities and the creation of the C.I.D. is clearly evidenced.

Aside from the major issues, Brodrick's administration attempted to deal with a host of lesser matters. The acquisition of Salisbury with its seventy square miles of terrain marked the beginning of the formation of a second large training area in the Home Islands. While Aldershot was also enlarged, it remained too small and cramped for the long range weapons introduced in 1900. South Africa had clearly shown that the new weapons not only could but had to function close to the limits of their specifications.

In 1902 following the advice of the Clinton Dawkins

Committee several large Service Regiments including Artillery were decentralized. The Service Corps was granted complete control of repairs and requisition for all wagons and vehicles. The entire field of remounts and ordnance supply now came under its jurisdiction, and new regulations on the amount of organic transport per unit were promulgated.[26] Kitchener's experiments were disavowed and the prewar system reinforced.

From rifles to tractors and on almost every level of command Brodrick's regime attempted to react to the wellspring of advice forthcoming during and in the aftermath of the War. Signs of national unease were evident in the numerous special committees constituted and the proposed Association For the Study of the Lessons of the War, as advertised in an issue of The Nineteenth Century.[27]

One problem that eluded consensus resolution was that of overseas garrisons. In a transitional period between the primacy of colonial and continental priorities it was only natural that any policy would have its critics. Brodrick was attacked for attempting to draw too many troops back to England yet it must be recognized that with faster transportation and the inordinate expense of paired

battalions some change was necessary. The Boer War itself certainly clouded the issue as one unnamed author claimed, "for at least two years of that time (1899-1902) we were occupied in criticizing a system which could not provide us at six thousand miles distance with a force quadruple that which we had ever contemplated sending abroad."[28] Brodrick had in a sense attempted to deal with both the pre and postwar realities without sufficient appreciation of the changes they entailed. Great Britain seemed ready for modernization but not yet for mass armies.

By October of 1903 the palatable failure of Brodrick's efforts in terms of both manpower and expense led to his replacement by Arnold-Forster as Secretary of State for War. The six corps army was a myth and the Volunteers one hundred thousand men understrength.[29] In place of mass, Arnold-Forster stressed flexible quality. His twin preoccupations became to cut expenses and to create a strategic strike force that would never again leave Britain short the single battalion presumed necessary to turn the tide in prewar Natal.[30]

The two objectives proved an unlikely pair for as Russia had increased pressure in Afghanistan in 1903 Lord Balfour had promised Lord Curzon (the Indian Viceroy) and

Kitchener (Commander in Chief India) one-hundred thousand men yet as of March 23, 1904 only forty-eight thousand were available for immediate dispatch.[31] The Army disliked any role in the defense of India due to logistic, terrain and manpower problems and thus sought a more amiable relationship with Russia.[32] Ever since the November 1903 Draft Report on the Possibility of Serious Invasion had replaced the Stanhope Memorandum the Army had pressed for a greater home defense role. Brodrick had failed to complete the process of dismantling a system that stationed seventy-five thousand British soldiers in one hundred stations in garrisons of from five thousand to less than one hundred that was both unhealthy and uneconomical.[33] Not only was the army dispersed but in many ways the 1904 deployment compared unfavorably with that of even 1870 when seventy battalions had been stationed abroad and seventy-eight at home. Now, there were only sixty-five at home and ninety-six abroad.

Arnold-Forster felt the key to reform was to reorganize with the materials at hand. He claimed that, "in 1900 there were 92,000 men of the Regular Army and nearly 400,000 of the Auxiliary Forces in this country, but there was no organized military force of any kind, and the

country was protected solely by the Navy."[34] At heart a navalist, (he had been the Parliamentary Secretary of the First Lord of the Admiralty, the Earl of Selborne) Arnold-Forster believed 125,000 properly organized regulars were sufficient for the defense of the realm. His basic premise was,

> an enemy who could land 50,000 men could probably land 100,000 or any larger number....Until we have obtained command of the sea, we should certainly not risk large expeditionary forces away from the United Kingdom, and the command of the sea having been obtained, it would scarcely seem necessary to employ 125,000 effective soldiers in guarding our fortresses in the United Kingdom.[35]

Arnold-Forster's plan superseded Brodrick's more pro-army massive approach. Haldane referred to the Arnold-Forster project as "having found a drowned baby and given it a decent internment."[36]

The Army naturally resented so passive a role that not only made it completely dependent on naval supremacy for strategic objectives but also robbed it of any initiative on the continent. As one contemporary in 1902 claimed, "It is now quite evident from the late war that the 150,000 men at most who are available at any time from the Regular Army, would be a mere negligible quantity in a

serious struggle on land with a first-class power."[37]

While Arnold-Forster sought to establish a small elite force and the Army hierarchy pressed for an expanded regular army, Lord Balfour placed most of his faith in a glorified militia. He believed as did Arnold-Forster that all depended on proper organization.

> It must always be remembered, (he claimed) that the things which neither patriotism nor money can improvise are staff and regimental officers, skilled artillerymen and guns. All require time to produce; all, therefore must be manufactured while we are still at peace.[38]

Primary reliance upon the various Auxiliary forces was abhorrent to the Regulars. Roberts felt poorly trained Militia troops were a source of concern to the Army in South Africa and that the later contingents of Imperial Yeomanry were properly dubbed "Gentle Annies".[39] The pressing arguments of the moment had apparently swept aside memories of the skills and ease in training exhibited by the various auxiliaries during the War. The Yeomanry had performed admirably during the War and Brodrick's achievement further improved their skills while nearly doubling their numbers to twenty-eight thousand. For the cavalry at least a fine reserve component had been established no matter what plan was ultimately accepted.

The Volunteers, however, were a more difficult problem. The Army Council in 1905 had sought to diminish their numbers so as to increase the average outlay for training. The politically well-connected Volunteers not only defeated this measure but also continued to harbor approximately thirty-thousand physically unfit who were under no compulsion to submit to any annual training.[40]

The program for reducing the militia also encountered popular resistance as forty battalions were now to be converted to line infantry instead of the initial sixty. Only twenty-four battalions were to be demobilized instead of sixty-four and sixty battalions were to be retained as traditional militia instead of being abolished.[41]

Caught between the many tides of opinion on entering office Arnold-Forster stubbornly stuck with his own rather simplistic plan. His scheme called for the creation of a General Service Army (112 battalions) for duty both at home and abroad and a Home Service Army (30 line battalions) for use abroad only in the case of a major war. Fourteen line battalions were to be disbanded in order to cut expenses and provide additional cadre for the upgraded Militia which were to be incorporated into the Home Service Army. The hard kernel of the General Service Army was to

be expanded by raising the number of Guard battalions from seven to ten. A permanent strike force was to be established at Aldershot consisting of eight fully-manned line battalions and four Guard Battalions. The Garrison Regiments were to be dissolved. The myth of linked battalions was to be ended and stability assured through the less frequent transfer of personnel and units. The construction of several large depots was to be undertaken so as to replace the numerous regimental depots and to serve as bases for the larger (brigade and divisional) formations of the Home Service Army.[42]

Austin Chamberlain, the Chancellor of the Exchequer, anticipated a savings to the crown of between five-hundred and seven-hundred and fifty thousand pounds despite the heavy turnover expenses of the short service army, increased pay and building expenses. Arnold Forster claimed four million pounds could ultimately be saved through the withdrawal of twelve battalions from overseas (based on a reappraisal of Imperial needs), elimination of submarine mining operations as that program was now to be undertaken by the navy, and the reduction of Reservists' pay by one third.[43] The last step arose from his need for more regular troops and thus created a financial

inducement while relying upon the recently demonstrated patriotism to maintain the auxiliary forces.

By October 1905 the various pieces of the Arnold-Forster Plan were either in place or apparently secure on paper at least in his own mind. One hundred and eighty-six thousand men of the two hundred thousand Long Service Army were enlisted, the Guards had been expanded, and concurrent long and short service was instituted. Furthermore, the cavalry was remounted, horse farms were established, and the rearming and reorganization of the artillery into 179 batteries was undertaken. Money for the doubling of Sandhurst enrollment had been appropriated, a new medical establishment had been created at Millbank and a weeding out process had begun in the Volunteers.[44] Each of these reforms had their roots in the South African experience.

The essence of the Arnold-Forster Scheme resided in a dual service army first suggested by Sir Charles Dilke. A Long Service Army of 104 battalions constituted under a nine year active and three-year reserve obligation by Army Order 189 of 1904 was to provide for overseas eventualities. The remaining battalions (as many as seventy-one in one of Arnold-Forster's writings) were to

have a short service obligation of two years active duty and ten years reserve.[45] These troops were to constitute the Home as opposed to General Service Army and could be armed with cheaper, short range weaponry as befitted the English countryside. Backed by the large number of reserves available under the system the Home Islands would be well defended. After extensive debate, short service of the two and ten year variety was instituted by Army Order Number 204 of 1905.[46]

The 1902 experiment with three-year enlistments had in many ways forced the government's hand since a disproportionate number of these veterans had reenlisted for nine years and thus depleted the Reserves.[47] In order to rationalize the entire system Arnold-Forster proposed to deactivate various Militia and regular battalions which had only recently enhanced their reputation and local constituency by wartime service.

Confronted by stiff political opposition Arnold-Forster opted for reducing the strength of all battalions concerned while maintaining cadres. The short service battalions were to be assigned twenty officers and five hundred and twenty-five men which would be raised to thirty-five officers and a thousand men in case of

war.[48] The General Service Army was to have its battalion strength reduced from one thousand to eight hundred and sixty-three of all ranks, a number so low as to set off immediate opposition in military circles.[49] The entire project came to be looked on as a giant shell game as smaller forces were incessantly reorganized. Everything depended upon the Militia voluntarily switching over to the Home Service Army.

Whereas Brodrick had attempted to increase the size of the army, Arnold-Forster tried to rationalize what was available and in the process had to fight to contain his budget. The unwieldy fifteen military districts of 1899 which combined command and administration gave way to corps commands having many more layers but only five parts plus two special districts.[50] The new barracks proved unexpectedly expensive. The new 18 pounder batteries cost £16,000 each and forty to fifty were required and pressed for by an informed public.[51] At every turn modernization ate up the budget. The single balloon section of 1899 gave way to five by 1905, the number of telegraph sections doubled and the eight specialized and expensive field engineer companies gave way to seventeen.[52] Military materials of all types had to be

stockpiled for, as Sir Henry Brackenbury stated, "the War undoubtedly brought to light a very serious deficiency in our reserves of stores."[53]

Baron Haliburton claimed the Arnold Forster plan,

> proposes to abolish the Militia; to largely reduce the Volunteers; to split the British infantry - once the terror of its enemies - into two distinct and separate armies, recruited and serving under totally different conditions; to revolutionize the regimental system, always the glory of the army; to largely diminish its fighting strength and to reduce the efficiency of two thirds of the infantry below any standard heretofore known to the British Army.[54]

The small battalions were deemed particularly vulnerable as troops stationed in India for instance suffered inordinate wastage and would require consistent and expensive reinforcements at such low strength levels.[55] In the end, enlistment problems destroyed the Arnold-Forster Scheme. Not only did the numbers of short and long termers prove disproportionate but the total numbers fell short by one third as wartime enthusiasm waned among the working classes.[56]

Even if Arnold-Forster's own plans failed to reach fruition, his term in office must still be recognized as a crucial one in British military history. Not only were two of the most important official reactions to the South

African War published, (the Elgin and Esher reports) but their findings were acted upon. Containing as they did the distillate of the War's lessons, the premises for future War Department reform were formulated.

The Elgin Committee's report was submitted in 1903 and dealt specifically with the military conduct of the war. Based on fifty-five days of hearings involving 114 witnesses and 22,200 questions, its three large volumes provided a broad indictment of the system.[57] One of the first questions dealt with was that of intelligence, and its handling is indicative of the entire report. The army was castigated for intelligence reports that were never recirculated to the local level.[58] The allocation of reinforcements with a total disregard of local need was also criticized. Noting that the Boers had been building forces for three years, the authors berated the army's lack of adequate reinforcement.[59] Yet it was earlier admitted that "it was not the function of the Intelligence Division of the War Office to formulate from the information it had collected an estimate of the forces required to guard against the dangers which that information disclosed."[60]

One could not hold the Army culpable for poor

atructure and a mishandling of information when one flowed logically from the other. The reorganization of the War Office was a governmental function and thus the government had to bear part of the blame. The prewar ministry's neglect in keeping Lord Wolseley informed on the state of negotiations with the Boers and of any policy he himself might have to fulfill, is helpful in explaining Wolseley's failure to submit formal intelligence reports or plans. The crucial aspect here is the admission of the government's inadequacy in formulating a cohesive military policy.

If the foregoing provides some example of the objectivity of the report, the only restraint on its breadth was its closed view towards matters occurring after the fall of Pretoria which were deemed less important to the future. Not only was intelligence scrutinized, but also planning, mobilization, tactics, staff principles and manning, the quality of reserves, ordnance, personal equipment, medical arrangements and naval transport. While many of those findings have bee alluded to elsewhere in this work the most important one should be recognized, namely, the need for a decentralized War Department. The conclusion stated that,

> in 1899 there were some branches of the service which were barely strong enough for the equipment of two army corps. That was the case with the Army Service Corps and the Army Medical Corps; and it was the case in regard to officers throughout the service. It is impossible not to condemn the system which could allow militia regiments to be sent to the front under officers who in many cases were wholly untrained. But the true lesson of the war in our opinion is that no military system will be satisfactory which does not contain powers of expansion outside the limit of the regular forces of the Crown, whatever that limit may be.[61]

Indeed, it was found that, "The whole military system as it stood at that date was tested by the war in South Africa,"[62] and found wanting.

If the Elgin Committee pointed out many of the army's failings, then the Esher Committee on War Office Reconstitution offered some solutions. Composed of navalists (Sir George Clarke and Admiral John Fisher) and reformers such as its chairman (Reginald Balliol Brett second Viscont Esher) and secretary (General Gerald Ellison), this Committee took an entirely different outlook on the mass of material presented by its various precursors in examining the war. Narrowly circumscribed with regard to questions of policy, strategy, training, and esprit de corps the Committee focused on the highest levels of command. Consisting as it was of men of similar mind, it

could afford to take its evidence informally to secure greater information and assure anonymity.[63] After finding that modern wars had outgrown the capacities of the old British command structure, the Committee suggested the formation of an Army Council modeled on the Board of Admiralty, the creation of a General Staff and the reorganization of the War Office on clear and logical principles.

The Army establishment had good reason to fear these triumvirs. Lord Wolseley, the prewar Commander-in-Chief, was exonerated of any personal failings in the conduct of the war but, with the resignation of his successor in 1904, the position was abolished. The departure of Roberts opened the way for a purge of higher army personnel including the Adjutant General, Kelly-Kenny, the Quartermaster General and several other key personnel, clearing the way for the new Chief of General Staff. The Committee claimed to have found that "the centralization of a vast number of incongruous functions in the Commander in Chief results in the neglect of work of primary importance."[64] It soon became well known however that Fisher had written up the main points of the report before the Committee's first meeting. Many generals further believed that Fisher was

envious of the fact that the entire country was familiar with the Commander-in-Chief. As he soon expected to be First Sea Lord and had failed in an attempt to make it a similarly powerful office he was now venting his jealousy. Arnold-Forster was glad of the change since Wolseley and Roberts had opposed his project and in the future their positions would be eliminated. His support of Clarke the former marine on the Committee who would approve a plan that no General would, indicated his prejudice.[65] The entire working of the Committee appeared to the Army as a conspiracy including the earlier promotion of Kelly Kenny to Adjutant General in order to pave the way for the more radical Ellison's appointment as secretary.

Roberts had himself unwittingly provided much of the evidence for his own eventual undoing. As early as November of 1900 he had written, "the experience of this war has convinced Kitchener as well as me that some very drastic changes are essential in the duties supervised by the Q.M.G. before we can hope to have efficient numbers of officers properly trained for staff duties in the field."[66] He complained that the Commander-in-Chief's position was an impossible one for,

> he is supposed to possess power and responsibility, but he has neither the one nor the other. He is in fact a Chief of Staff to the Secretary of State, and it is better that this should be recognized or that he should be done away with altogether and some other form of administraion established.[67]

Sir George Sydenham Clark claimed that Roberts "cordially acquiesced in the abolition of an office which he said he found to be impossible."[68] In his own papers Roberts admitted to feeling the whole issue was "mainly the outcome of his majesty's idea that he himself was head of the Army, and that a Commander-in-Chief was no longer necessary, now that a King instead of a Queen sat on the throne."[69] This appears to be a rather narrow view of the situation given the breadth of discussion that went into the final reform arrangements. Astute commentators noted immediately that far more power had now passed into the hands of the civilian Secretary of State whose only real training and constituency was political and whose only job requirements were private wealth and party loyalty. The vital command of a modern staff which had been denied Wolsely, Roberts and various Quartermaster Generals was now clearly subordinated to the civilians.[70]

The majority report of the Elgin Committee did not attempt to lay blame on individuals but on "the system".

The Esher Committee built upon the minority report which called for a reorganized War Office along the lines of the Admiralty Board with greater group responsibility. Esher found nothing sacrosanct and mocked, "the gist of his (Sir Evelyn Wood's) evidence, like that of every other officer hitherto examined, was that for all shortcomings at the War office it is Your Majesty's Civilian servants, and not the military Officers who are to blame."[71] Esher's Committee took its cue from the influential Colonel Repington who wrote.

> The three main lessons of the South African war are - first, that it is necessary to have an adequate organization which will combine the collection of information with the control of military policy - that is to say a proper "Brain of the Army". Secondly, that our troops must be placed where they can be strategically effective at the outbreak of any probable war; and lastly, that the important factor in modern war will not be so much numbers as mobility and a high state of individual and combined efficiency.[72]

Esher recognized the need for greater professionalization and specialization complaining that in England eight men attempted to do the same staff work of a hundred and forty in Germany. To the King he wrote, "the Topographical Branch of the French Army is superior in numbers and workmanship, to that of Germany; but even Italy

is far ahead of your Majesty's dominions. The total sum spent on the Topographical Branch of the War office is about £6,000 p.a. while in France £57,000 is spent".[73]

Breaking with past precedent and the Hartington Commission which said nothing of a Chief of Staff, Esher's Committee set about organizing a new institution. To mollify the opposition which feared the strength of a Chief of Staff on the newly created Army Council this role was carefully delineated.[74] The key to the reform was the split between war planning including theory and organization from the day to day running of the army. In this way Great Britain became the last major power to adopt modern General Staff principles. The Military Secretary to the Commander-in-Chief became a Military Secretary to the Secretary of State. The Director General of Military Intelligence and Mobilization was subordinated to the General Staff and the Quartermaster General effectively reduced to the heading of the Service Corps.

Since the objective in creating the General Staff was to gather together the brightest officers in order to formulate a school of military thought that could constantly be put to the test, both the rewards and requirements for admission would have to be of the highest

order. Selection was to be made on the basis of individual qualities and not on account of previously held positions although a Staff College certificate was regarded as desirable. Appointment was to be for four years with the possibility of further retention. While the General Staff was not to provide a separate corps nor be accorded special privileges, its members were to be rewarded with accelerated promotion.[75]

Consistently before the reformers was the belief that the British General Staff would have to differ in several ways from its German counterpart. The Hutchinson Committee on General Staff Appointments had attempted to deal with this difficult problem. The prejudice against Staff College graduates had to be overcome while at the same time the creation of a narrow and elitist separate institution had to be avoided. It was for these reasons that the officers remained part of their regiment and were not offered immediate promotion.[76] The Hardwick Report of 1902 had proven particularly illuminating in demonstrating mistrust of any separate General Staff on the part of such notable soldiers as Ian Hamilton and John French.[77] General Capper, a Staff officer in South Africa, was fond of quoting Shakespeare's line from Troilus and Cressida

"Count wisdom as no member of war" in summarizing traditional attitudes.[78] Haig would later recount how there was a "Fear among the old school that organization would ruin the army"[79]

For Esher, the difference between the English and German systems was that while a volunteer army required lists of those qualified to hold General Staff positions the Germans simply required lists of the positions.[80] Inherent to Esher's vision was a recognition of the disparity of the talent pool available to both nations. Sir George Clark took a more optimistic view as he pressed the opportunity to heighten educational standards among all officers by encouraging their training at the universities.[81] Regardless of size he saw the Staff as a means of preventing "swashbuckling officers with luck and no brains"[82] from reaching the highest positions.

The second major result of the Esher Committee's findings was the creation of an Army Council by a Letter of Patent dated 6 February 1904. For the first time the civil and military sides of the War Office were amalgamated. Much as the old army had feared civilian meddling, the Secretary of State was now placed clearly at the head of the army and on a par with the First Lord of the Admiralty.

No longer would the Commander-in-Chief, Adjutant-General and Quartermaster-General be able to make themselves independently heard. The Army Council was to consist of the Secretary of State directly responsible for all submissions to Crown and Parliament, the First Military Member, (the Chief of Staff) who dealt with operations, education and military policy, the Second Military Member, (the Adjutant General), who presided over personnel matters, the Third Military Member (the Quartermaster General), responsible for supply and transport, and the Fourth Military Member, (the Master General of Ordnance), specializing in technical matters, armaments and fortifications. The final two members were civilians, the Financial Secretary and the Parliamentary Under-Secretary who was charged with nonfinancial liaison with the rest of the government and acted as the Council's secretary. All matters concerning more than one department were to be brought before the Council which explained its frequent meetings. Decisions were arrived at collectively with dissenters expected to resign.

The Army Council could not have come into existence as long as a theoretically independent Commander-in-Chief was dependent solely on royal prerogative. The creation of

a Selection Board demolished the previous center of patronage associated with the Commander-in-Chief. In many ways the new institution was simply a replacement for the older War Office Council which lacked sufficient discipline. The previous organism composed of much the same offices was purely advisory and thus not compelled to provide unanimous decisions nor could its members as advisers be forced to carry out policy. An appraisal of the change in terms of responsibility indicates that the Chief of General Staff was equivalent to the old Director General of Military Intelligence and Mobilization with the additional responsibilities of training and education. The Adjutant General lost the latter but gained medical responsibilities. The Quartermaster-General acquired clothing and equipment duties while losing the pay department. The Master General of Ordnance replaced the Director General of Ordnance and shared part of the Inspector General of Fortification's job with the Under Secretary who gained title to the land and barracks. The Inspector General was the only position that remained relatively independent and was charged with reporting to the Council the results of its policy and the general condition of the army.

A third facet of the Esher Committee's concern was global military policy. Esher wrote that,

> private and public records show that from the close of the Peninsular War to the end of the South African Campaign, no systematic consideration of what can best be described as national strategy existed, either within the Cabinet or the Department of State.[83]

The new factors of wireless, extensive occupation duties in South Africa, a revolution in ship design, the rise of strong German, Japanese and American navies along with the lessons of the war, had to be integrated and digested at the highest government levels. In these concerns Esher was in agreement with Arnold Forster who in his 1902 memorandum on the Committee of Imperial Defense had spoken of the increasing complexity of scientific matters as they affected national defense, the lack of Army - Navy cooperation and the dearth of trained specialized staff personnel in a country whose defensive needs were possibly the most complex in the world.[84]

The suggested solution to these problems was a drastic reorganization of the only recently (1901) established Committee of Imperial Defense which in turn had replaced the Defense Committee of the Cabinet in existence since 1895. The changes included the appointment of a

permanent secretariat with initiative powers, the delegation of control of the Committee to the Prime Minister, an increased interrelation between the Army and foreign affairs, (especially with regard to India and the colonies) and finally, the appointment of service experts as full members to the Committee.

From its inception, through to the first days of the World War the Committee of Imperial Defense was to undergo enormous expansion buttressed by the philosophical approach outlined in the Esher report. In 1902 the Committee consisted of the Prime Minister, the First Lord, the First Sea Lord, the Secretary of State for War, the Commander-in-Chief, the Director of Naval Intelligence and the Director General of Military Intelligence(later the Chief of the General Staff). In the next few years the Secretary of State for India, the Director of Military Operations and the Chancellor of the Exchequer were added. Between 1906 and 1910 the Secretaries of State for the Foreign Office and the Colonial Office, General French, Lords Tweedmouth and Esher, Arthur Wilson, Winston Churchill, a Permanent Secretary and an additional Treasury representative, joined the Committee. During the war years (1914-18) virtually every branch of the government from the

Board of Trade to the Board of Agriculture was included.[85] In order to function amidst the increasing membership and complex issues the Committee took recourse to specialized subcommittees with further expanded membership.

In those first years prior to 1906 two themes in particular with regard to the C.I.D. are worthy of study, Army - Navy relations and the importance of Lord Balfour. The Esher Committee had a navalist bias and as such was able to influence the early meetings. Pressure was applied to reduce army manpower below what it considered safe levels in the face of perceived threats of invasion at home and in India. Arnold-Forster was not of a mind initially to challenge the navalists as he needed support against those officers whose positions were threatened by his cutbacks from the heights envisioned by Brodrick. It was only after the Committee began to attack his own scheme that Arnold-Forster was moved to object to its actions. Clarke viewed Arnold-Forster's scheme as impractical since he feared it would be "ruinous to maintain in peacetime a regular force adequate to meet a national emergency which is not likely to arise more than twice in a century."[86] The Committee remained resolutely anti-army throughout

this period as it opposed the creation of a large strike force and felt no major overseas action could be envisioned so long as command of the sea was not assured. Those Generals associated with South Africa, such as French, Haig and Hamilton, were for the most part moderates toward the navy while the upcoming William Robertson, Henry Wilson and Grierson, the King and Repington were increasingly Continentalists.[87] It was the latter faction that allowed the talks with the French to be undertaken without the knowledge of the Committee or the Cabinet.[88] In time Esher was to sense the growing rivalry between the Committee and the General Staff. He came to feel that, "the defense committee should have been the General Staff for our Empire, with merely an 'Intelligence Branch' for the War Office, developed through the commands."[89]

The second theme of importance was Balfour's influence arising out of his enthusiasm and contined presence which in turn helped to convert an instrument of the cabinet into one of the Prime Minister. By insisting on regular meetings and increasingly significant topics, important precedents were established. Of the one hundred and twenty-eight meetings held between December 1902 and July 1914, eighty-four were convoked in the three years of

the Balfour regime. The major achievements were thus attained when the Boer War was still fresh to the memory and European concerns not yet preeminent.[90] With Balfour's fall, the Committee began to lose influence which it was not to regain until the rise of a new Gray Eminence, Sir Maurice Hankey in the interwar years. The concrete legacy of the Committee from the post Boer War years included the establishment of the Combined Operations Sub-committee in July of 1905 with General French increasingly the most pro-amphibious of army leaders, a continued emphasis on naval supremacy and the development of War Books and the Official Secrets Act. The Committee's efficiency was such that in 1914 all but one of the German agents were arrested.[91]

Arnold-Forster's tenure of office of three years was a remarkable one. Considering it was a time of financial stringency, substantial improvements on every level especially on organization, had been made. The Army estimates of 1903 had been £34,500,000 with a supplementary budget of £2,700,000. In 1904 it had been reduced to £28,900,000 and only rose to £29,813,000 in 1905 because of the inclusion of £1,213,000 for the rearmament of the artillery.[92] Thanks to the Esher and Norfolk

Committees' recommendations support had been attained for the rationalization and increased training of the auxiliary forces.[93] Militia strength rose from twenty-one thousand in 1902 to thirty-two thousand in 1904.[94] The entire standing army grew by almost thirty thousand between 1899 and 1906 with most of the additions in the technical fields.[95]

The following achievements were instituted under the Arnold Forster regime: reorganization of the Committee of Imperial Defense, decentralization of the War Office, constitution of seven army commands in lieu of mythical army-corps districts, creation of the Army Council, establishment of a General Staff, introduction of a uniform system of requisition, elimination of the linked battalion system, redeployment and concentration of forces, formation of general and home service battalions, increases in pay and army strength, reform of the Volunteers, introduction of dual service, the ending of short service, rearmament of the artillery and the start of a major building plan encompassing barracks and a new War Office. The breadth of these reforms was the result of far more than one man's vision, but as Secretary of State for War, Arnold-Forster earned much of the credit. Nonetheless it is hard to

imagine much of this without the work of the Committee's of Elgin, Esher, Norfolk, etc. Study piled on study, scheme upon scheme, the nation engrossed itself with the reform of the army. Sir John Colomb and Arnold-Forster, prior to attaining office, had stressed the need for a large self contained force stationed in England. Sir Charles Dilke and Spenser Wilkerson, author of Brain of the Army, had forcefully presented the case for a General Staff and better military education. Repington, one of the great military journalists of the day, stressed the need for clear unbiased military history and was in many ways responsible for the new historical section of the Committee of Imperial Defence.[96] The very character of the era was one of self-examination and reform directly engendered by the embarrassment of South Africa.

Despite Arnold-Forster's many accomplishments his basic scheme of army reform never gained a secure foothold in the British military establishment. The General Service battalions were not brought up to full strength. The dual service army and small battalions were profoundly mistrusted by the regulars. Both local and army interests combined their efforts to eradicate regimental depots.[97] Officially the plan was defeated due to the

House of Commons' refusal to give up the old style militia and Kitchener's demands for reinforcements in India. The need for an additional ten battalions in the colonies would have left, under Arnold-Forster's scheme, only seventeen in England.[98]

The Army Council was actually dissatisfied with the tenor of the Arnold-Forster reforms. The Annual Report dated 11 November 1904 had included the phrase, "though progress has been made, the British Army at home is far from being ready and efficient for war." When pressed, Field Marshall Arthur gave the following explanation:

1) The effects of South Africa
2) The effects of three years service.
3) The Horse Artillery and Field Artillery lacked quick firers. The howitzers lacked shrapnel and range finders while all the artillery failed to make sufficient use of interchangeable parts.
4) The army was in the midst of rearming with a new rifle.
5) There was concern as to the efficiency of the cavalry arm which lacked a proper method for carrying a rifle.
6) Doubts persisted on the organizational requirements of the army.
7) Training grounds were still regarded as insufficient.
8) There was a recognized shortage of horses.
9) Telephone equipment was available in inadequate numbers.
10) Searchlights were lacking and fieldwork training insufficient.
11) Veterans were having difficulty finding work which in turn discouraged enlistments.
12) The Empire was draining the seasoned soldiers

leaving the home battalions with those too young to fight.
13) A shortage of junior officers, especially among transport, signals and machine gun sections, remained evident.[99]

While many of these problems were in the process of being rectified, there was no mistaking the underlying animosity for Arnold-Forster, as presented in Roberts' speech before the House of Lords wherein he claimed, "the lessons of South Africa have been forgotten and I have no hesitation in stating that our armed forces as a body, are as absolutely unfitted and unprepared for war as they were in 1899-1900."[100] No doubt this was a vast exaggeration but even if partly true then the entering Liberal government of Campbell-Bannerman certainly had a large task before it.

[1]Brodrick to Kitchener, 9 November 1900, Kitchener Papers, PRO 30/57 no. 22, p. 3.

In many ways the prewar English Reservist (unlike the Militia) was not a reservist at all but an essential component of regular formations. The 2nd Devonshires for instance required 576 Reservists be added to the 461 Regulars, the 2nd South Wales Borders required 608 to the 455 Regulars and 4,205 men of the 7,920 man Seventh Division were Reservists. Callups in such numbers denuded Great Britain of experienced cadre.

Henry Cust, "Six Army Corps," National Review 41 (April 1903):200.

[2]Brodrick to Roberts, 10 May 1901, Roberts Papers, 7101-23-13, no. 55, p. 1. NAM.

[3] "Organization of the Army (Brodrick scheme)," Roberts Papers, 7101-23-13, no. 136, p. 1. NAM.

[4]Campbell Bannerman, Hansard 4th series, 93 (13 May 1901), pp. 1492-93.

[5] "Organization of the Army (Brodrick scheme)." p. 6.

The entire plan called for:

Strike Force (3 Corps)	110,000
Home Army	165,000
Army Reserve	90,000
Fortress battalions	8,000
Militia	100,000
Militia Reserve	50,000
Imperial Yeomanry	40,000
Volunteers	*250,000

* 40,000 of which were to be specially trained.

Ibid., p. 8.

It is interesting to note the similarity of Brodrick's views with those of the military correspondent of The Times of London who advocated:

1) The scrapping of mythical corps formations and the creation of such authentic institutions

2) Increases in pay to encourage reenlistment of regulars

3) Recognition of the Militia as a true second line

4) Conversion of Yeomanry to Mounted Infantry

5) Reduction in numbers for various reserve components not liable for overseas duty.
Military Correspondent, "Lessons of the War II," Times (London), 7 December 1900, p. 7.

[6]Winston Churchill Hansard 4th series, 93 (13 May 1901), pp. 1577-78.

[7]Brodrick to Roberts, 5 January 1907, Roberts Papers, 7101-23-13, no. 375. NAM.

[8]S. Mayo Dillon Hansard 4th series, 94 (14 May 1901), p. 83.

[9]St. John Brodrick Hansard 4th series, 90 (8 March 1901), p. 1066.

[10]For the opinion of several serving Generals of the period as of 1903 see,
H. O. Arnold-Forster, Military Needs and Military Policy, With an Introduction by F.M. Earl Roberts, (London: Smith Elder and Co. 1909), pp. 90-95.

[11]Griffiths, "Mr. Brodricks Scheme," p. 861.

[12]Sir Michael Hicks-Beach to Brodrick, 9 April 1901, St. John Brodrick Papers, PRO 30/67, No. 7.

[13]Cust, p. 202.

[14]A Sceptic, "Reflections on Mr. Brodrick's scheme of Army Reform," USM 144 (May 1901):176.

[15]Sir Charles Dilke Hansard 4th series, 93 (13 May 1901), p. 1551

[16]Moyse-Bartlett, p. 343.

[17] "Problems with the Draft," Roberts Papers, 7101-23-13, no. 395. NAM.

[18]Moyse-Bartlett, p. 323.

[19]Esher to A. J. Balfour, 16 January 1904, in Reginald Baliol (2nd Viscount Esher), Brett,

Journals and Letters of Reginald, Viscount Esher, ed. M. V. Brett, (London: Ivor Nicholson and Oliver Watson, 1934-38), 2:36.

[20]Great Britain, War Office Abstracts, Hardwicke Committee On the Establishment of a Department of Director General of Military Intelligence, 1903, Series 503.

That the existing Intelligence Division had a supposed Imperial strategical Department responsible for offensive and defensive plans outside of the United Kingdom along with force distribution, manned by a single officer, lent a note of urgency to the matter.

Correspondent, "The Problem of the Army," Times (London), 17 February 1903, p. 10.

[21]D'Amade to Ministre de la Guerre, 1 June 1901, Service de Renseignements 1901-03, 7N1230, no. 113. Chateau Vincennes

[22]Great Britain Parliament, Parliamentary Papers (House of Commons and Command) 1901, vol. 40, Cmnd. 580, "Interdepartmental Committee on the War Office", pp. 2-3.

[23]J. G. Ashley, "The Old War Office and Other Humours," unpublished manuscript, A.O. 11.1 p. 41. War Office Library as paraphrased in,
Gooch, p. 21.

[24]Correlli Barnett, Britain and Her Army, 1509-1970: A Military Political and Social Survey, (N.Y.: William Morrow and Co., 1970), p. 357.

[25]H. O. Arnold-Forster, The War Office, Army and The Empire, (London and New York: Cassell and Co., 1906), p. 75.

[26]Beadon, 2:XIX.

[27] The Nineteenth Century, "The Lessons of the War, A Proposed Association," The Nineteenth Century 48 (July 1900), cover page.

[28] "The Truth About the Army: Critical

Review of the Report of the Royal Commission on the War in South Africa, 1903," Edinburgh Review 198 (October 1903):438.

[29]Arnold-Forster, The Army in 1906, p. 516.

[30]Arnold-Forster, "Memorandum No. 3, 8 December 1903," Arnold-Forster Papers, vol. 1, no. 50300, p. 3. BL.
Arnold-Forster, "Memo No. 3 and Army estimate 1904-05, 12 December 1903," Arnold-Forster Papers, vol. 1, no. 50300. BL.
Arnold-Forster, "Minutes of the Army Reorganization Conference, 20 December 1904," Arnold-Forster Papers, vol. 10, no. 50309, p. 1. BL.

[31]Balfour to Curzon and Kitchener, 2 July 1903, PRO Cab. 6/1/28D and Minutes of 33rd meeting of C.I.D. 4 March 1904; Memo by Roberts, 23 March 1904 PRO Cab 6/1/41D as referenced in,
J. McDermott, "The Revolution in British Military Thinking From The Boer War To the Moroccan Crisis," Canadian Journal of History. 9 (August 1974):168.

[32]Major General Sir George Aston, "The Entente Cordiale and Military Conversations," The Quarterly Review 258 (April 1932):367.

[33]Oppenheim, p. 3.

[34]Arnold-Forster to Lord Kitchener, 22 December 1903, Arnold-Forster Papers, vol. 3, no. 50302, p. 7. BL.

[35]Arnold-Forster, "Memorandum No. 1, 4 December 1903," Arnold-Forster Papers, vol. 1, no. 50300, pp. 5-7. BL.

[36]Repington, Vestigia, p. 258.

[37]R. A. Johnson, p. 988.

[38]A. J. Balfour, A Note on Army Reform and the Military Needs of the Empire, 25 November 1905, Cab. 38/5 no. 65. PRO.

[39]Roberts, Universal Training I, Memorandum for

the Consideration of Commons II, Notes on the Necessity For Adopting a System of Universal Training, Cab 38/10 1905 no. 78. PRO.

[40]Arnold-Forster, The Army in 1906, pp. 222 and 240.

41 "Reorganization of the Army Part III Infantry-Revised Proposal No. 3, 26 March 1904," Arnold-Forster Papers, vol. 1, no. 50300, p. 4. BL.

42 "Memorandum Relating to Some Defects in the Existing System of Infantry Organization and Recruiting, 1 February 1904," Arnold-Forster Papers, vol. 1, no. 50300, pp. 1-28. BL.

"Revised Proposals For the Reorganization of the Infantry, 26 March 1904," Arnold-Forster Papers, vol. 1, no. 50300. BL.

"New Army Scheme, Directions for Carrying Into Effect the Proposals Already Sanctioned, 18 August 1904," Arnold-Forster Papers, vol. 3, no. 50302, pp. 1-8. BL.

43 "New Scheme of Army Reform, Memorandum From Chancellor of Exchequer and Secretary of State's Reply Thereto, 10 July 1904," Arnold-Forster Papers, vol. 3, no. 50302, pp. 1-7. BL.

[44]Arnold-Forster, The Army in 1906, p. 512.
Arnold-Forster, Military Needs, p. 110.

[45]Arnold-Forster, The Army in 1906, pp. 53-54.

[46]A study of various alternate enlistment programs came to the following conclusions:

I. Long Service ie. Twelve years with the colors
1) Requires higher pay
2) Must assure opportunity to reenlist since so much of life would be committed to a military career. This would mean an increased pension expense.
3) Insufficient trained reserves
4) No cadre for reserves

5) A large married establishment

II. Short Service: three years active and nine years reserve
1) Good training and reserves
2) Less expensive
3) Insufficient numbers for reserves

III. Short Service: two years active and ten years reserve
1) Fair training
2) More expensive than three and nine
3) As with other short service proposals this would lead to a split between long and short service army.

IV. Short Service: one year active, seven first reserve and four years second
1) Large reserve
2) Reduced efficiency
3) Inexpensive

On the continent enlistment policy was,

	Color	Reserve	Landwehr	Landstrum
Germany, Cavalry and Artillery	3	4	11	7
Germany other	2	5	11	7
France	3	10	6	6
Italy	3	5	4	7

"Report of a Committee Appointed by the Secretary of State for War to Consider Alternative Conditions of Service in the British Army, 7 January 1904," Guy Fleetwood Wilson Committee, Arnold-Forster Papers, vol. 1, no. 50300, pp. 21-24. BL.

[47]Arnold-Forster to Lord Balfour, 21 December 1904, Arnold-Forster Papers, vol. 10, no. 50307, pp. 2-3. BL.

[48]Arnold-Forster, The Army in 1906, p. 78.

[49]Major General P. J. Maitland, Modern Military Organization and the British Army: A Contribution to the Discussion of the Question of

Imperial Defence Part 1, (London: National Service League, 1905), p. 18.

[50]Stephen Thomas Banning, Administration, Organization and Equipment Made Easy: With Examination Papers Fully Answered, with Reference to the Official Books, (London: Gale and Polden, 1879), p. 13.
Banning, Administration..., (1904), p. 7

[51] "New Gun for the Army," Times (London), 28 December 1904, p. 7.
"Re-Armament of the Artillery," Times (London), 30 December 1904, p. 4.

[52]Regular Establishment 1898-99, pp. 22-26 as cited in,
Banning, Administration..., (1899), p. 28. and
Monthly Army List, July 1904 p. 441 as cited in
Banning, Administration..., (1904), p. 22.

[53]Sir Henry Brackenbury testimony, Esher Report, vol. 41, p. 518.

[54]Haliburton, p. 1.

[55]Death and Invalid Rate per thousand in India

Years Service	Death	Invalid
Under 1 year	27.41	26.29
1-2	12.26	27.29
2-3	6.10	25.56
3-4	11.05	28.13
4-5	12.36	28.79
5-10	18.04	64.02

Army Medical Report of 1902 as quoted in,
Haliburton, p. 14.

[56]Ibid., p. 11.

[57]Elgin Report, vol. 40, p. 3.

[58]Ibid., p. 22.

[59]Ibid., p. 30.

[60]Ibid., p. 14.

[61]Ibid., p. 83.

[62]Ibid., p. 4.

[63]Gooch, p. 45.

[64]Great Britain, Parliamentary Papers (House of Commons and Command), 1904, vol. 8, Cmnd. 1932, "Report of The War Office Reconstitution Committee", p. 8.

[65]E. & O. E., "How the Army Lost Its Commander in Chief," Army Quarterly 36 (July 1938):311.

[66]Roberts to Brodrick, 26 November 1900, Brodrick Papers, PRO 30/67, no. 5.

[67]Roberts to Brodrick, 13 September 1903, Brodrick Papers, PRO 30/67, no. 11, p. 3. PRO.

[68]Clark, Sir George Sydenham, My Working Life, (London: John Murray, 1927), p. 178.

[69]Roberts, "How the Abolition of the Commandership-in-Chief and the Formation of the Army Council Were Brought About, 20 February 1904," Roberts Papers, 7101-23-208-1, p. 1. NAM.

[70]Brabant, p. 324.

[71]Esher, "Reports made daily," p. 14.

[72]Correspondent, "The Problem of The Army," Times (London), 12 January 1903, p. 10.

[73]Esher, "Reports made daily," pp. 4-5.

[74] "Administrative Reform," p. 500.
The new War Office duties were divided as follows:

General Staff
Director of Operations (DMO)

Director of Staff Duties (DSD)
Director of Military Training (DMT)
Adjutant-General's Department
Director of Recruiting and Organization
Director of Personal Services
Director-General of Medical Services
Director of Auxiliary Services
Quartermaster-General's Department
Director of Transport and Remounts
Director of Movements and Quartering
Director of Supplies and Clothing
Director of Equipment and Ordnance Stores
Master-General of Ordnance
Director of Artillery
Director of Fortification and Works
Naval adviser
Director of Finance's Department

For further details see,
Sir J. French to Arnold-Forster, 24 September 1904, Arnold-Forster Papers, vol. 3, no. 50302. BL

[75]Arnold-Forster to Chief of General Staff, 11 November 1905, in
Arnold-Forster, The Army in 1906, p. 402.

[76]Great Britain, War Office, War Office Abstracts, 1904, Series 580, "Hutchinson Committee on General Staff Appointments".

[77]Prussia, Grosser Generalstab, 2:25.

[78]Brigadier General T. Capper, "Lecture at the Royal Military Society of Ireland, 29 February 1912," Capper Papers. 2/4/14, p. 8. Liddell-Hart Center.

[79]"Notes on certain letters written at various times by the late Field-Marshal Earl Haig to Lieutenant-General Sir Gerald Ellison, 11 September 1928," Haig Papers, Box 40, p. 1. NLS.

[80]Gooch, p. 98.

[81]Clarke to Roberts, 25 May 1905, Roberts Papers, 7101-23-18, p. 1. NAM.

[82]Clarke to Esher, 27 January 1905, Esher, Journals, np. As quoted in, Gooch, p. 75.

[83]Viscount Esher, National Strategy, (London: Arthur C. Humphreys, 1904), p. 12. Esher Report, vol. 8, Cmnd. 1932, p. 1.

[84]Arnold-Forster, The Army in 1906, p. 312.

[85]D'Ombrain, appendix.

[86]Clarke to Haldane, 6 February 1905, Haldane Papers, MS 5906. NLS.

[87]D'Ombrain, pp. 145-47.

[88]John Ehrman, Cabinet Government and War: 1890-1940, (Cambridge: Cambridge University Press, 1958), p. 39.

[89]Esher to Clark, 18 February 1906, Esher, Journals, 2:pp. 144-45.

[90]D'Ombrain, p. 135.

[91]Robert Money Barnes, The British Army of 1914: Its History, Uniforms and Contemporary Continental Armies, Imperial Service Library No. 9 (London: Seeley Service, 1968), p. 32.

[92]Arnold-Forster, The Army in 1906, p. 491.

[93]Eric William Sheppard, A Short History of the British Army, 4th ed. rev. and enlarged, (London: Constable and Co. Ltd., 1959), p. 292.

[94]Arnold-Forster, The Army in 1906, p. 502.

[95]Permanent manpower increases between January 1, 1899 and January 1, 1906. Note the text contains a misprint indicating the former date as January 1, 1889.

Household Cavalry	93
Cavalry of the Line	2,115
Horse and Field Artillery	12,201
Infantry of the Line	2,939
Royal Army Medical Corps	1,721
Garrison Artillery	1,093
Royal Engineers	2,922
Foot Guards	771
Army Service Corps	3,376
Army Ordnance Corps	1,115
TOTAL	28,346

In addition thanks largely to Brodrick's efforts, the Reserves had also been increased by 30,000 men.
Arnold-Forester, Military Needs and Military Policy, p. 210.

[96]Jay Luvass, The Education of An Army: British Military Thought, 1815-1940, (Chicago: University of Chicago Press, 1964), p. 302.

[97]Clarke to Roberts, 3 March 1905, Roberts Papers, 7101-23-18. NAM.

[98] "Memorandum by the Prime Minister on Army Reorganization, Appendix C of Army Proposals by the Prime Minister and Three Military Members," Arnold-Forster Papers, vol. 10, no. 50309, p. 49. BL.

[99] "Memorandum for Members of Council, 23 May 1905, signed Field Marshal Arthur, Arnold-Forster Papers, vol. 17, no. 50316, pp. 1-2. BL.

[100]Lord Roberts Hansard 4th series, 149 (10 July 1905), p. 14.

Chapter XIV

A Synthesis Achieved

The formation of the Campbell-Bannerman government in 1906 did not bode well for the military. As Sir George Clarke noted,

> a Liberal government must evidently address itself to domestic affairs; but imperial questions of first class importance and of great complexity will be forced upon it. Among such are questions relating to the Indian frontier, to the Far East, to South Africa and to the organization of the army.[1]

Fortunately the choice of Richard Burdon Viscount Haldane of Cloan as Secretary of War proved to be one exceptionally well-suited to a period of transition. Unlike his predecessors, Haldane came to office free of any preconceived notions or plans having had no previous military experience. Possessed of both a penetrating intellect and the friendship of many of the most powerful people of the kingdom, he was able to formulate and institute policies where others had failed. It was during his administration (1906-12) that the army was converted

from a colonial to continental outlook and the full measure of the Esher recommendations were acted upon.

From the first, Haldane held several advantages among which the international scene was by no means the least important since it lent a tone of urgency to all his requests. In this respect primacy must be given to the Moroccan Crisis which threatened to spill over into a general conflict and the increasing commitments evolving out of the secret British-French staff talks which came to necessitate an ever expanding expeditionary force. Of secondary importance was the growing sense of vulnerability to invasion in the face of the increasing size and speed of ships in addition to the specific challenge from German naval power. Not only the newspapers but the highest levels of government began to take invasion threats more seriously as even the C.I.D. felt compelled to study the issue.[2] In 1908, the revelation of a Roberts staff study entertaining the possibility of a 150,000 man German invasion had led Repington to advocate the formation of a six-hundred thousand man reserve. This garrison for the home islands was to be mobilized in the event of the dispatch of an expeditionary force. It complied with Napoleon's maxim of one regular being equal to four

irregulars.[3] This unease did not pass quickly, for Churchill, when Home Secretary in March of 1910, still felt it necessary to deal with this preoccupation in a speech before Commons.[4]

Upon taking office Haldane had,

> found an unwieldy and ill-balanced army. The regular forces amounted to well over a quarter of a million, but with a wholly inadequate reserve. The Yeomanry and Volunteers amounted to 280,000 but was simply a mass of cavalry and infantry, with no higher organization, no field artillery or engineers, no transport, no medical service. The Militia, numbering 100,000 was not available for foreign service. From a total of nearly 650,000 the country could mobilize immediately three divisions and a cavalry division of three brigades.[5]

When questioned as to what type of army he would endeavor to create to meet the needs of Home and Empire, the Gottingen-trained philosopher responded, "A Hegelian Army".[6] Such a synthesis was of course easier to describe in speech than in reality. The next few years were to witness the strongest peacetime efforts to introduce conscription ever to have swept the British Isles. Whereas in 1904 d'Amade had written in frustration of the British inability to recognize a sufficient threat as to necessitate conscription, by 1910 a Parliamentarian would bemoan the fact that, "if, during a comparatively

small war like the Boer War, we were denuded of troops how would this country stand in the event of a great war?"[7].

Influenced by Repington, who counseled, "the plans of an Army reform are in theory determined, first by the strategic requirements of the state; secondly, by the financial resources available; and, lastly by the quality of the patriotism of the people to whom they appeal,"[8] Haldane moved cautiously in formulating a policy. A way had to be found to surmount what Repington deemed the basic quandary of British Army policy, namely,

> whereas most Great Powers can place in the field at least five men for every one maintained and paid in peace, we reverse the process, and pay two men for every one nominally available for the general service of the Empire, and five for every one who can be immediately dispatched for service.[9]

The most obvious solution to this problem was the adoption of compulsory service as advocated by the adherents of the National Service League, headed by people such as Lords Roberts and Milner. The opposing view of continued reliance on voluntary service found followers under the banner of The National Defence Association led by Repington and Sir George Goldie among others.

Arnold-Forster oversimplified one point of view with his maxim, "the man who believes in invasion believes in conscription"[10]. The naval response to this was, should the navy be beaten then Britain could be starved into surrender. This would once again relegate the army to a superfluous role.

A second major point was the question of the unreliability of the various reserve forces. Despite Arnold-Forster's efforts, the Volunteers were still under no compunction to serve overseas. During the South African War only 19,500 of the 300,000 men enrolled had seen such action.[11] The war had further shown the nation incapable of sustaining the Militia either in terms of equipment or manpower. The Militia had departed for South Africa bereft of modern equipment and short six hundred officers and twenty-four thousand enlisted men.[12] To remedy such problems it was argued that it was merely necessary to change a few statutes, a far from drastic measure in comparison to compulsory service.

Hans Delbruck the noted German historian, claimed that had Britain a strong National Militia, her foreign policy would be calmer since she would not have to worry every time a new foreign keel was laid.[13] Reformers

could pick up on such material while lamenting Bismarck's reputed statement as to how he would ask the police to arrest a British expedition to the continent. If the British army lacked the power to intimidate, then it was already failing at part of its its job.

Lord Roberts touched another sensitive nerve in a speech before the House of Lords when he claimed, "the voluntary system, under a high sounding name, is simply a method by which men who can afford to do so pay others to perform a necessary task for them."[14] Conscription, it was argued, was the most democratic system but opponents claimed it was not a matter of the law being democratic but rather whether the effect of the law was such. Compulsion was not by definition undemocratic as taxes and various forms of insurance were mandatory in all civilized societies. Ideological liberals maintained however that the object of modern society was to reduce, not increase compulsion as a factor in society. Furthermore, patriotism was seen as a personal virtue and a question in which the nation should not intrude. It seemed unfair to some to send patriots off to fight for the slackards. A fear was even voiced as to the wisdom of effectively isolating the "best" part of the nation both physically and mentally from

the army.[15]

Roberts, who was to a certain extent preoccupied with the development of manly virtues, saw the army as a means towards that end.[16] Critics however claimed that this objective should be a personal one. The belief that the army would foster a stronger race was countered by the more humanitarian approach of providing better food, medicine, education and housing for civilians. The supposition that army-instilled discipline was a virtue, was debated in terms of the threat to individuality and as a benefit solely to the propertied classes. Rather than improve virtue, it was feared by Lord Lansdowne that compulsory service might lead not only to a tidal wave of emigration but at the same time, decrease immigration into the colonies. The line of reasoning that national defense should be equally shared, was countered by the argument that nutrition was also a national problem yet not all were expected to become farmers.[17] Some conservatives feared that the introduction of compulsory service would drastically alter the army since the officers in the past were largely chosen on the basis of class and wealth and now would be subjected to what they perceived as acceptable business principles.[18]

Initially the primary concern of the Liberal Ministry was not military, but fiscal reform. The government had hoped to reduce the army estimate to twenty-eight million and as part of the process had deactivated one battalion of the guards and eight of the line. Repington then launched a campaign in The Times of London to educate the government to the following argument,

> the cost of the Army had risen from 15 millions in 1861 to 29 1/2 millions in 1906. But the gross amount of the annual value of property and profits assessed to income-tax was 371 millions in 1865 and nearly 903 millions in 1904. We, therefore, had to compare a rise of 15 millions in the cost of the army in forty-three years with the rise, in ascertained and taxed income alone of 474 millions in eighteen years. I then pointed out that the annual charge on the National Debt in the year 1815 stood at 32 1/2 millions for a population of 17 millions at the time, and that it was now 30 3/4 millions for a population of over 42 millions with infinitely greater resources. I showed that the gross liabilities of the State had been 789 millions in 1854 and were now 756 millions; and that whereas our debt one hundred years before had been three times the annual income of the people and one-half of our total capital, it was now 174 millions less than one year's income of the Income-tax-paying classes and not one twentieth of our total income...These figures could not be disputed. They were widely quoted, and taken up as evidence of the success of Free Trade. We heard no more, after their publication, of the excessive cost of the Army, which was the immediate result that I aimed at.[19]

While Repington and his allies were able to stem the

tide of budget cuts, the argument for an increase was hardly substantiated. Conscriptionists who hoped to base at least part of their case on cost effectiveness found the going particularly difficult. On the surface it would appear that with mandatory service pay could be cut and savings achieved. Problems began to arise when the increased equipment and processing figures for the larger army were figured in. With compulsory service one would have not only more people to screen but a shorter term of enlistment entailing a massive and continuous training program. Perhaps most awkward of all under such a system would be the problem of maintaining overseas garrisons and senior N.C.O.s. Dual service was regarded a disaster and higher pay for overseas duty could only add to the expense. The great benefit of national service was believed to be the establishment of a large reserve of trained manpower, but as Lord Crewe pointed out, a million men trained to the level of the Special Reserve would add about twenty million a year to the Army Estimates. Repington, who favored a massive reserve while avoiding a conscript army, claimed Crewe's figure exorbitant as Bulgaria's 380,000 man reserve cost one and a half million pounds sterling, Roumania's 555,000 cost £1,807,447, Switzerland's 274,000 cost

£1,642,489 and Japan paid only £5,322,310 for a reserve force of one million men.[20] All of this was not very convincing however on the basis of differing economic structures and acceptable minimum levels of training and equipment. The critics of any form of compulsory service including reserve duty questioned whether employers would stand for such a system in an industrial democracy.[21] Time and again conscription advocates felt compelled to admit that the politics of the matter prevented the enactment of their programs.[22]

Haldane believed, after weighing various factors, that while a substantial improvement of both the reserves and strike force was necessary, both short service (three years) and conscription were uneconomical. His was to be an elite army of 170,000 organized into one cavalry and six infantry divisions capable of functioning for six months with intrinsic reserves on a line of supplies stretching one hundred and thirty miles as per the Special Army Order Number Twenty-Eight of January 1, 1907.[23] Consolidation and reduction of several battalions, including one of the Guards as part of the program, would economize and provide better utilization of available equipment. A smaller more efficient army would also make

it easier to raise the estimated seventeen thousand men per year necessary to maintain the seventy-two thousand white troops in India.[24]

In order to assure that the overseas utilization of manpower did not leave Britain bereft of troops nor the Army short of reserves, Haldane revamped the entire reserve structure. The South African War had proven the utility of citizen soldiers. While an average Briton's life might fail to provide him with the native military skills of the Boers, he was at least motivated, trainable, and preconditioned to discipline.

The earlier Unionist government had been more cautious in this regard, ignoring the recommendations of the Norfolk Commission on Militia and Volunteers of 1904 whose estimate of £28 million for the constitution of a first class reserve was considered excessive. That figure was in reality grossly overstated since the actual number of men available was considerably less in light of various deferments. The real objection resided in the lack of faith placed upon reserves versus trained troops.[25]

Haldane took a more aggressive approach with the passage of the Territorial and Reserve Forces Act of 1907. After trying unsuccessfully to make the Militia a source of

army drafts or to merge it with the Volunteers as a true second line, Haldane felt constrained to abolish it altogether. The Militia, dating back to Napoleonic times, had acted primarily as a manpower pool in the form of a third battalion since the days of Cardwell. Haldane lent permanence to the situation by offering militiamen the choice of a six year enlistment in the Special Reserves with an overseas obligation or in the lesser-paying Territorials, which lacked the overseas requirement. It was the Special Reserves which were to provide the bulk of the first year drafts necessary to maintain an expeditionary force. This was estimated to be eighty percent for infantry, seventy percent for cavalry and mounted infantry, and sixty percent for artillery.[26]

The Territorial Army was to be primarily composed of the superseded Volunteers and Yeomanry. It was to act as the primary force for home defense rather than as an auxiliary force, especially in light of the Admiralty's dismantling of coastal fortifications as well as the landward defenses at Portsmith, Plymouth and Chatham. The Territorials were to be organized into fourteen divisions of infantry and fourteen brigades of cavalry. Haldane appreciated that the South African War had taught a major

lesson to military officers in that, "they realized then what had also been made evident at the beginning of the century, that no unit can in war be used as a draft-producing machine and still retain its efficiency for fighting purposes."[27] The Territorials were to be enlisted for four years and were required to attend an eight day camp plus various drills per year (six months training would occur only during crises or by voluntary request). They were liable for foreign service only by their own consent. Civil and financial administration was to be left in the hands of local County Associations, in order to maintain unit identity. The organization was to function under the identical rules and regulations as the regular army bereft of differing class consciousness, pay, terms of obligation or training when on active duty.

Prior to the founding of the Territorials, the Volunteers had numbered some 245,000 but lacked cohesion, mobile artillery, Army Service Corps support and proper medical arrangements.[28] Under the new divisional organization the ancillary services of the regular army were to be provided. Additional support was to be available through the creation of a Territorial Reserve responsible for additional manpower, a Technical Reserve

which included doctors, veterinarians, telegraph workers etc., and a Veterans Reserve of those recently released.

The provision of modern artillery proved to be one of the most troubling problems. The older weapons made it impossible to practice for war under modern conditions, and were deleterious to morale. Not only had the entire stock of antiquated muzzle loaders with which the Volunteers were previously armed need to be replaced but the men had to be retrained and the militarization of ammunition columns instituted. In the face of the huge expense and the lack of manpower, Haldane found it necessary to cut back on artillery to the extent of creating sixty-three four gun batteries rather than six guns as was the norm in the regular army. An additional thirty-six batteries were to be used specifically for training.[29] The net effect of this compromise was to maintain a smaller yet efficient force. The success of the project was testified to by the high praise of General Langlois who claimed that Territorial field batteries functioned on a level comparable to horse artillery due to their large proportion of trained and mounted signalers, scouts and artillerymen.[30] Not only was this a compliment but also recognition of the integration of one of the primary

artillery lessons of the South African War. The new schools, equipment and table of organization established under the 1907 budget should be judged a success.

Various aspects of the Territorial plan were almost immediately criticized. Repington, Arnold-Forster and Roberts agreed that elimination of several battalions of the army, the reduction in battery size and the over-reliance on a renamed Militia were grave mistakes.[31] For the minor savings of £2.5 million achieved by elimination of tens of thousands of Militia and seconding regulars to the Special Reserve the price seemed too high.[32] The program appeared to be insufficiently thought out with inadequate numbers and training and no provision for housing of even these small numbers in times of crisis. The army held a negative attitude towards the reforms especially in light of the reduction of cadre and the dubious value of Territorials. General French claimed,

> it is impossible to estimate the value of Red Territorial Troops (three divisions) as compared with Blue Regulars but it is not too much to assume that the military value of the whole of such troops employed in the Northern Theatre of war does not equal that of one Regular Division.[33]

The soldiers had little faith in Haldane's army but saw it

as a hopeful first step toward conscription.[34] It came as quite a shock that Haldane's reforms, unlike his predecessor's, took root. By 1909 the Territorials and their public image were sufficiently improved as to lead to a swelling of their ranks to 275,000 men, nearly ninety percent of their establishment.

Reorganization with an emphasis on uniformity and easy expansion, lay at the heart of Haldane's reforms but any such effort consistently ran the risk of overcentralization. The Ward Commission on decentralization of 1904, whose work closely paralleled Esher's, had recommended the establishment of five relatively independent command districts with a carefully delineated description of the duties of the various district Commanders-in-Chief including training efficiency and education. The issuance of the Special Army Order of January 6, 1905 had gone a step further in mandating seven districts.[35] The sundering of the Directorate of Contracts with the apportionment of its work between the Master General of Ordnance and the Quartermaster General was meant to integrate purchase with production. A further bureaucratic reshuffling in 1907 aimed at making the departments still more specific and paved the way for the

future Ministry of Munitions in World War One.[36] The Murray Commission of 1907's findings led to the stationing of the absolute minimum number of men plus five percent in the various Government-run arsenals. All remaining goods were to be obtained from outside contractors in order to preserve the maximum ability for expansion in the civilian sector while simultaneously cutting down overhead.[37]

Pressed as the budget was on many fronts the Army simply could not maintain adequate supplies of horses on hand. The Boer War had reminded the Britons of just how vulnerable they were in this respect. In order to have access to the 21,000 horses required for the Haldane program every effort had to be made to maintain an up to date horse census. Haldane realized that the increasing popularity of the automobile only exacerbated the problem. On one hand the 1909 maneuvers confronted the issue by incorporating cars into the exercise scheme. Planning was suggested for an automobile census of the realm. On the other hand, to secure some flexibility, six special cavalry depots were established in 1909 for the purpose of providing additional space for instruction, supply and a reserve of fifty animals per regiment. This system was almost a copy of the one current in Germany.[38]

The idea of future expansion and the need for greater initiative were similarly applied with regard to the General Staff. The increasing responsibilities of the Army resulting from the formation of the Entente helped lead in the aftermath of the London Imperial Conference of 1907 to the creation of an Imperial General Staff which was to include all the General Staffs of the Empire.. While the Imperial General Staff was to remain purely advisory for a further two years due to the various Dominion's jealousy of their prerogatives, important steps were taken towards assuring common strategic objectives, nomenclature, equipment and ordering through the War Office in cases of emergency. Under Sir William Nicholson (the then Chief of Staff) the uniform doctrine that was to culminate in the 1912 Staff Manual was formulated.[39]

Haldane had already provided much of the groundwork for this expanded institution by his appointment of seventy-two officers to the General Staff in September of 1906 and the imposition of a prerequisite of Staff College attendance for all future candidates. As in the German system the senior staff officer was to take charge in the absence of the commander. On almost every level the objective was to maintain the same personnel and

organization in war as in peace, unlike the sorry experience in South Africa. The major exception to the German pattern and to the idea of continuity was that in Britain there was to be no Commander-in-Chief in peacetime. A new sense of precision was instilled by the publication of Field Service Regulations Part I-Operations: Part II-Organization and Administration - 1909 under the auspices of General Haig, first as Director of Military Training, and Director of Staff Duties. No longer would different commands have differing systems of staff duties.[40] The regulations clearly spelled out responsibilities,

> an officer of the staff, as such, is vested with no military command but he has a two-fold responsibility; first, he assists a commander in the supervision and control of the operations and requirements of the troops and transmits his orders and instructions; secondly, it is his duty to give to the troops every assistance in his power in carrying out the instructions issued to them.[41]

As of 1909 each senior commander had a chief of general staff who dealt almost exclusively with the training for war and a chief of administrative staff who supervised the adjutant general's branch (A staff) and the quartermaster general's branch (Q staff). The chief of general staff

held the senior position but the administrative chief retained the right of direct access to the commander.

Regarding unit organization, the Ward Committee on Decentralization had recommended a limited brigade structure. The army was however nearly unanimous in its rejection of such an outmoded arrangement and favored a Corps organization which would provide permanent large commands familiar with the requisite duties and be available for consistent training in all arms. It was argued that with fewer, larger units their commanders could be more carefully selected. The real thrust of the issue was summed up by Hubert Foster who recalled that, "there were periods in the South African War when the temporary employment of several Divisions for a special purpose would have been more effective had they formed a permanent organization like an Army Corps."[42]

Haldane appreciated the drawbacks of a brigade structure and was himself an advocate of the divisional organization ultimately instituted. He felt however that a European scale corps was too expensive and unwieldy for British purposes and suspected they were nothing more than an army ploy to create more slots. The initial two brigade structures of the divisions very quickly proved inadequate,

resulting in further reorganization for the 1908-09 War Establishment. With three brigades instead of two, a doubling of the engineer component and an additional six batteries the divisions were vastly improved.[43] The great advantage of the triangular division was that in detaching a brigade the commander was still left with a substantial command, each third being sufficiently weaker than the next higher command. A two brigade division would entail a basic duplication of personnel in case of detachment. By 1910 Haldane was sufficiently content with his larger divisions as to pronounce them "perfect in every respect."[44]

Such enthusiasm was by no means universal. The annual maneuvers, which prior to 1909 had theoretically mobilized a different division each year, were dependent upon reservists who had volunteered to be called up. The divisions were thus composed of borrowed men, horses and equipment of other commands.[45] In 1908 Haig had complained that the troops were so widely scattered in Scotland, Northern and Western England that it had been difficult to form a brigade.[46] By the 1909 maneuvers, organization had improved but General French felt the cavalry sadly understrength with a disproportionate number

of troopers subpar in training due to their long absence from the ranks.[47] Both the 1909 and 1910 maneuvers witnessed the cavalry mobilizing only about seventy percent of strength.[48] The 1909 maneuvers from another perspective were important as fully four divisions of infantry and one of cavalry were called to arms including forty-four thousand men, the largest peacetime exercise thus far held in Great Britain.

The special branches appeared to be slightly better off during these exercises as they were kept closer to full strength throughout the rest of the year. Haldane's thirty-six batteries of reserve artillery proved particularly useful in this regard. By 1911 each artillery brigade consisted of three regular batteries and an attached telephone section. The ammunition columns had been expanded so as to provide more shells for the new quick-firers at a lower echelon of command. The changing technology of the twentieth century had further manifested itself in unit organization. The Army Service Corps was now composed of seventy-one transport companies, seven mechanized transport companies, five supply companies and four remount companies. The Royal Engineers were organized into field, fortress, bridging, cable, survey, depot, air

line wireless, searchlight, railway balloon and divisional telegraph companies.[49] The Royal Army Medical Corps had stabilized in 1908 around a new structure of field ambulance companies with a one hundred and fifty man capacity at the regimental level, stationary hospitals along the lines of communication with a two hundred bed capacity, general hospital housing five hundred and twenty men at base camps and clearing hospitals with two hundred beds situated at the head of lines of communication.[50]

Haldane's reorganization of the army would have been meaningless had he not provided a sufficient number of troops. The three traditional hindrances to recruitment had been the general disparagement of the military way of life, the awkward terms of service and low pay. The public image proved the hardest problem. It could be overcome by a national emergency which would allow the populace to overlook the system's flaws, or alternately be remedied by reforms, some of which had already been instituted. These changes included improved living conditions and educational levels designed to heighten self-respect among the enlisted men. An unnamed author writing in Blackwood's Magazine claimed,

> the soldier is not the vagabond of Mr. Kipling's imagination, but a man who for his station in life, is as well educated as his officer; and it is the pile of irksome regulations which so often drives him out of the army after he has become an efficient soldier.[51]

In order to assure higher rates of enlistment and not foreclose the option of a civilian career, terms of service were reduced in 1907 to seven years with the colors and five with the reserves. The argument for higher pay hinged upon the improved quality of recruits, public appreciation and the desire to continue the trend of enrolling other than the hard core unemployed into the other ranks. The raw material of soldiers had improved dramatically in the preceding years. The percent of men with primary education rose from 34% in 1903 to 41% in 1904 to 47% in 1905, 52% in 1906 and to 55% in 1907.[52]

With better raw material and a slow gain in sophistication the way was opened for a new set of regulations based on the Conference on the Supply of Officers on Mobilization of 1909 to accept N.C.O.s into the higher ranks in the case of war. In many ways this was as momentous a move as the Indian Army's acceptance of native Captains and Lieutenants in the wake of the mutiny. In both cases the solution was a response to the dearth of

officer recruitment. To further address the problem Haldane helped to upgrade the Public School Cadet Corps into a Junior Officer's Training Corps with a strengh of 25,000 members. The poorly organized and neglected University Volunteer Corps was given new life as the Senior Officer's Training Corps.[53]

For those officers already in the service greater educational opportunities were opened through the institution of courses in military administration arranged through the London School of Economics. One should not underestimate the importance of Generals Ellison and Haig (who himself had come to power under the influence of Esher, Nicholson and French), in sponsoring the production of numerous manuals and the gradual conversion of various march and ride pasts into ever more complex exercises in combined arms. It was by these methods and tests of which Haldane enthusiastically approved that the new British Army was formed. Prior to the South African War it had been claimed that the only real exercises for war had been conducted overseas. That practice had deprived much of the army of the opportunity to build a proper training infrastructure in Great Britain and had been changed for the better.[54]

Of the highest levels of command and decision making much has already been written but on the C.I.D. a few more words are necessary. Despite its manifold contributions there remains considerable evidence for dating the decline of this institution from the departure of Sir George Clarke for the Bombay Governorship in 1907. This change was brought about by both his increasing disagreements with the navy over its independent attitude and his perception of Haldane's resistance to an independent Directory. The new Secretary Sir Charles Ottley involved the Committee in ever more technical subjects which while useful, proved far more limiting than the parameters originally envisioned for the C.I.D.

The development of the Entente wasdeleterious to the C.I.D. as the old naval predominance was shaken and the Committee became divided within itself. Clarke, Esher, French, Haldane and Sir Edward Grey, the Foreign Secretary, all took a more solidly pro-Army and pro-reform stance which threatened naval appropriations. The Admiralty subtly lobbied for increased garrisons in order to cater to invasion fears and boost its own budget but met with only mixed success.[55] Haldane, who had focused upon thoroughgoing army reform, was unprepared to settle for

mere appearances by creating a cheaper bloated Militia which would have left room for yet another round of shipbuilding. As the Committee became deadlocked and then diffused into a powerless compromising body it expanded to include the scores of participants in its various subcommittees. Asquith further diminished its prestige by a series of appointments that added little substance, for example Lord Tweedmouth who was only being recognized for his past accomplishments as a statesman. The Army, mindful of this morass, began to develop its own plans for continental intervention contingent upon future Governmental consent in times of crisis.[56] The appointment of Churchill as First Sea Lord in 1911 proved ineffective in an effort to reform the Admiralty and increase cooperation with the Army and Haldane.

By World War One the C.I.D. was an altogether less important organ of policy than it had been under Balfour. It preserved its mystique by the novelty of the issues it addressed, such as espionage, long range air power, censorship, shipping insurance, food supply, and neutral rights. It effectively avoided all issues fundamental to national policy so as to preserve itself from further controversy. The appointment of Captain Maurice Hankey to

Secretary of the Committee was most in keeping with its new role. Capable, well-connected, lacking any real expertise and opposed to Esher's original grandiose plans, Hankey would take years to grow fully into his role. In the interim the most important function of the C.I.D. would be that of a bridge between civil and military functionaries.[57]

The foundation of the C.I.D was no doubt a great achievement of the postwar period and the weathering of the transition from Balfour's administration to that of Campbell-Bannerman was of great importance For Haldane to garner any credit with regard to this institution is however unjustified. Just as it took Arnold-Forster to create the General Staff and Haldane to get it moving, the reverse was almost the case with the C.I.D.. Haldane himself came to regret that the C.I.D. never became a "real War Council".[58]

Haldane and his predecessors modified and restructured the various higher levels of command in the postwar years as direct and indirect results of the conflict. Increasingly however the rapidly altered grand strategic situation achieved predominance.. Tactical developments were also influenced by these two stimuli

although the effects were in this case quite variable depending upon the arm in question and a third set of factors, subsumed under the heading of technology. The final ground of reform in peacetime lies in numbers. Increased efficiency and modernity of methods are hard to evaluate without war, whereas the numbers of men in the ranks or the state of the military estimates is far easier to verify.

The year 1907 in retrospect appears most crucial to any analysis of the foregoing question of manpower. Prior to that, higher command structure and tactics had been formulated while the nature, composition and role of the army had remained in constant flux. A War Office memorandum of August 1907 mandated a serious change in past practice by allowing only a single modification in the War Establishment per year. Unlike those of his predecessors, Haldane's reforms would have time to bear fruit. The second major change in 1907 was the appreciation of Russia's weakened position in Asia which in turn allowed for the development of a new strategy towards Europe. By 1909, for the first time since the introduction of the Cardwell system, the number of battalions at home equalled those abroad. These troops were now organized into

standing brigades and divisions with full complements of special service support units.

Manpower levels in 1911 were within reason in most units thanks to Arnold-Forster and Haldane's elimination of superfluous cadre organizations. Interestingly despite the changes between 1899 and 1911 the number of men liable for service had remained virtually the same. In 1899 the total force (including the various reserve and militia units) theoretically available for action was 592,774 men. An additional 74,466 soldiers were stationed in India which itself fielded an army of 145,022 men.[59] In January of 1911 the British Army at home and abroad consisted of 653,935 far better trained and equipped troops. The Regular Army in India totalled 77,804 and the Indian Army 159,350.[60] Proof of the changes that had taken place in the intervening years was the certification of 251,481 men qualified for overseas duty in June of 1910 which, with the addition of Reserves and Special Reserves, could be built up to 336,315 men.[61]

From a Parliamentary viewpoint one of the great achievements of the reform period was its relatively small cost. The prewar estimates had been about £20 million, postwar refitting and reorganization budgets lasting

through 1906 averaged close to £30 million after which they dropped to around £27 million through 1910.[62] If one considers inflation factors the achievement is rather impressive. It might further be noted that the budgets themselves indicated that the most fervent period of change was just after the war through Haldane's first year and that therafter the pace slowed down considerably.

Haldane's reforms may be viewed as the logical capstone of the work of Brodrick and Arnold-Forster. Each was perhaps a bit more removed than his predecessor from the realities of South Africa but there can be no doubt as to the resounding resiliency of the war's lessons, most especially on tactics and equipment design up through their various administrations. Haldane provided the final synthesis between an essentially colonial army and one geared to continental affairs. He strove to impose uniform standards, methods and structures on what had been a cumbersome, often unresponsive, military establishment while seeking to avoid any overcentralization which would have clashed with historic British sensibilities.

The final test of Haldane's army came in 1914 when within two weeks of the opening of hostilities over 100,000 well-trained men were deployed in Belgium with more on the

way. The continental scale infantry divisions consisted of over 18,000 men who were probably the most proficient in Europe in terms of marksmanship and field skills. The twenty-four machine guns allotted each division was in similar proportion to that of the French and Germans. Of heavy and medium artillery pieces only the British saw fit to distribute them on a divisional level. The cavalry division for once excelled in reconnaissance. With four times the machine guns of their German counterparts, a rifle and years of experience in dismounted drill the British cavalry was the best of its day.

The quality of the British army in 1914 can hardly be credited solely to the influence of the Boer War but if one looks at all the details of the development of the General Staff, military education, divisional organization, supply, manpower procurement, tactics and technology in the decade following the War, its importance is hard to overestimate.

Despite its many flaws the Schlieffen plan came very close to success, halting a mere fifteen miles from Paris. The contribution of the British Expeditionary Force in delaying the Germans is well known yet the margin of safety was razor thin. Without the various army reform movements culminating in those of Haldane a smaller less well trained

and equipped army would probably have arrived at a later date. If that had been the case Paris might well have fallen and with it France's ability to continue the war. From the British viewpoint there remains the question: had there been no Boer War to demonstrate the deficiencies of the Victorian Army, would there ever have been such a complete army reform movement? Perhaps more than Bismarck's police would have been needed to arrest the British Army, but it is doubtful that the Allies would have won World War One without these much needed changes.

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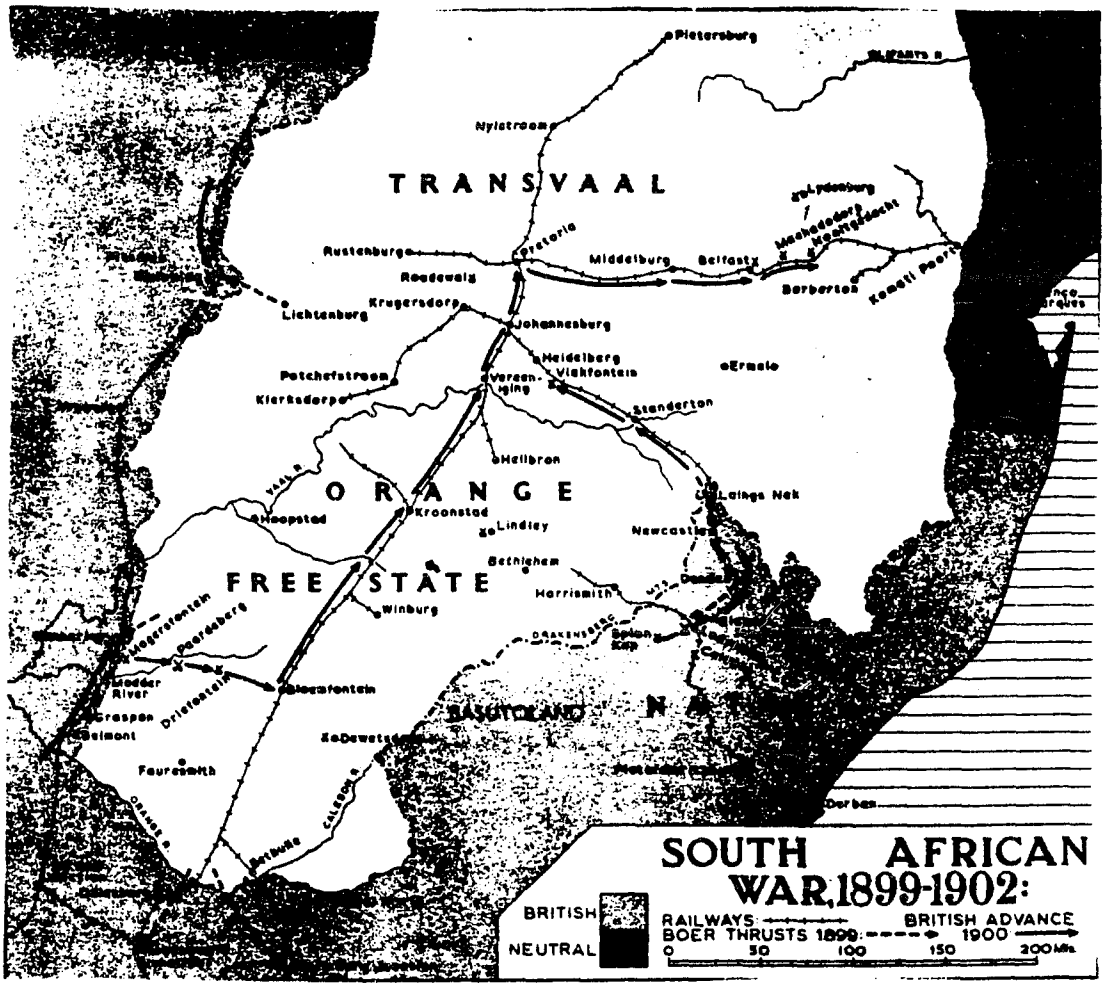
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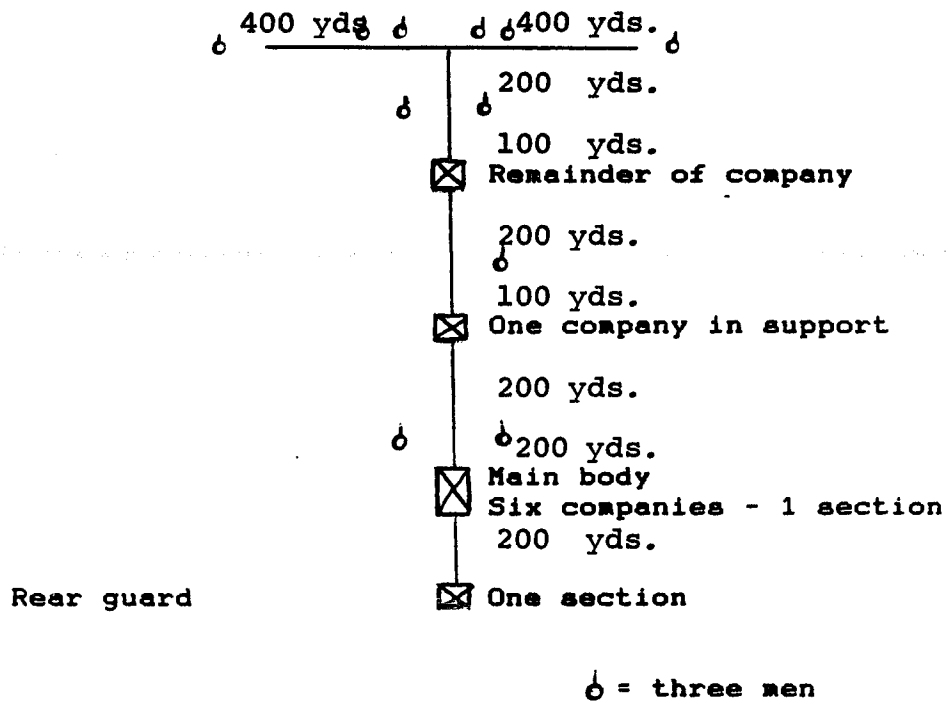
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Appendix II

Battalion Column of March circa 1907



Appendix III

Rawlinson's Moveable Blockhouse System

Rawlinson

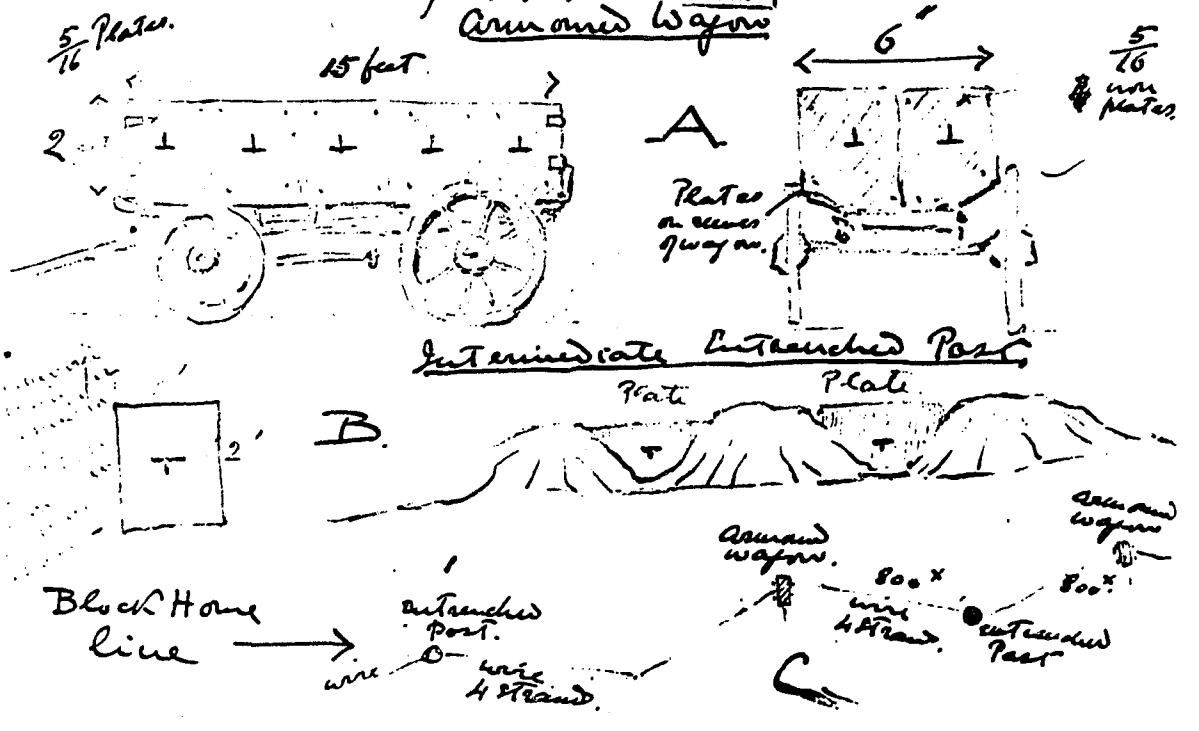
COMMANDING-IN-CHIEF'S OFFICE,
SOUTH AFRICA,

8/19 p. 2.
1901.

A MOVEABLE BLOCK HOUSE LINE

The Unit would be an armoured waggon as below, with sufficient plates (loopholed) for a second blockhouse about 800 yards distant. This waggon would carry one mile of wire with stands and complet a 20 gallon water tank and the Kits tools ammunition &c of 16 men including 1 N.C.O. -

KITCHENER PAPERS



Appendix IV

European Horse and Field Artillery 1903

Field Artillery

	Calibre inches	Wt. of shell lbs.	No. of bullets per shell	Muzzle velocity	Max. Effec. range yards	Weight in draught	Q.F. or not
Brit. 15 pdr. B.L.	3	14	2-300	1,574	5,900	37.5	No
Proposed 18.5 pdr.	3.3	18.5	364	1,600	6,500	38	Yes
Fr. 75mm (1897)	2.95	15	256	1,640	6,000	38	Yes
Ger. Model 1896	3.03	15	300	1,525	5,500	33.5	No
Russ. Model 1900	3	14	260	1,950	6,000	37	No?

Horse Artillery

Brit. 12pdr. B.L.	3	12.5	156-82	1,553	5,600	33	No
Proposed 12.5 pdr.	3	12.5	236	1,700	6,500	30	Yes
Fr. 80mm (1877)	3.15	14.5	160	1,542	6,000	32	Yes
Fr. 75mm (1897)	2.95	15	256	1,640	6,000	38	Yes
Ger. 1896	3.03	15	300	1,525	5,500	33	No
Russ. 87mm 1895	3.42	15	200	1,600	4,500	32	No
Russ. 1900	3	14	260	1,950	6,000	34	Yes?

Letter from Sir H. Brackenbury (D.G.O.) to Arnold-Forster, 3 December 1903, Arnold-Forster Papers, vol. 7 no.50306 p. 1. BL.

Appendix V

Brodrick Scheme

6

battalions would be employed; their Artillery would be to the extent of 1rd Militia or Volunteer Artillery, and their mounted troops would be to a large degree drawn from the reorganized Imperial Yeomanry.

The Volunteers attached to these brigades would be picked corps, with some similar training to that given in the present year, and and would be excluded from the Army-Corps unless well reported on annually.

The General Officers and Staff would be appointed, only on the certificate of the Commander-in-Chief, that they were fit to command in the field the troops allotted to them. They would be appointed for 3 years only, and subjected to frequent inspection.

Each Army-Corps would keep its own stores, and the position of each would lend itself to rapid mobilization, and in the case of the first 3 to embarkation.

The surplus Militia and Volunteers, with the exception of 120,000 employed in garrison, would be assigned with heavy Field Artillery to defensive positions round London.

To meet these requirements the following changes are necessary:—

1. The Militia must be brought up to full strength, viz., 150,000.

In the absence of compulsion I propose to do this by forming a Reserve for Militia consisting of—

a. ½ Line soldiers who have done 16 years' Reserve and Colour Service.

b. ½ Militiamen who have served their term in the Militia.

I should give each Reservist 6*d.* a day. Cost for 50,000 equals 150,000*l.*

2. The Volunteers must, to the extent of 25 battalions and about 60 batteries, have a special training, cost 135,000*l.*

3. The Yeomanry must be reconstructed, the sword and Cavalry uniform abolished, the

7

rifle and Mounted Infantry drill substituted, and numbers raised from 10,000 to 40,000. To gain this the force must be trained for 16 days annually, and the pay, &c., made to cover the expenses. Cost, 600,000*l.* By this arrangement we should treble our available mounted troops.

4. Every existing barrack which was considered fit for troops has been worked into the scheme. We require additional Infantry barracks and additional Cavalry barracks for the troops already authorized. These will be provided in the districts in which they are needed. Even allowing that the recently built huts should be temporarily utilized as permanent barracks, there must be a further loan for barracks.

5. The reserves of stores and provision of ammunition, &c., must be calculated for 6 Army-Corps instead of 5, as taken last year. Extra cost, 500,000*l.*

6. A sum must be taken for additional manœuvring ground and ranges in north of England, Ireland, and Scotland.

— War under modern conditions cannot be practised at Aldershot or the Curragh.

The division of the field forces into Army-Corps and their proper organization require special sanction owing to the cost involved, but I shall have to submit proposals involving some cost for—

1. Reorganization Army Medical Corps.
2. Reorganization Transport.
3. Increased reserve of Officers and facilities for training.
4. If compulsion is not conceded, an increase of pay by establishing the 1*s.* as *free of all stoppages* except penal stoppages.

At present the soldier pays for his washing, library, reading room, hair cutting, and the up-

keep of his kit, *e.g.*, he is given two shirts to start with and when worn out he replaces them, *etc.*, while ordinary barrack repairs are assessed against him as barrack damages. His stoppages come to *5s.* per month, apart from any fault of his own, or *2d.* a day out of *1s.*

The cost would be 600,000*l.*, but as our new system will offer the soldier a career, there will be considerable incentive to recruiting.

5. A soldier who elects to serve in the Fortress battalions, when he has done with the Line should, after 21 years' service in all, of which not less than 12 years with the Colours, get a pension. I suggest *6d.* a-day up to 65, and then *1s. 6d.* This is better and cheaper than *1s.* a-day throughout.

6. Many of the Militia Colonels are desirous that the Militia should undertake the liability (in case of emergency) to go abroad. The existing Militia Reserve for the Line, by which 30,000 Militiamen are now serving in their Line battalions at *1l.* a-year retaining fee, is not likely to fill up again after the call made on it.

If we gave the Militia the same retainer as the Army Reserve, viz., *6d.* a-day, we should probably get 50,000 Militia as units—an immense addition to our foreign strength for line of communications, &c.

Under the scheme, apart from this, we shall only have 3 Army-Corps (110,000 men) to go abroad, as against 220,000 men now in South Africa.

To sum up, our available force will be—

Home Army ..	165,000 men; service, 3 or 7 years.
Army Reserve ..	90,000 men; service, 9 or 7 years.
Fortress battalions ..	8,000 men; service, between 12th and 21st year.
Militia	160,000 men.
Militia Reserve ..	50,000 men; service, after 16 years in Line and Reserve, or after Militia service.
Imperial Yeomanry ..	40,000 men.
Volunteers	250,000 men, of which about 40,000 specially trained.

I hope to attach Colonial mounted troops to Imperial Yeomanry, with same uniform.

I propose to raise the number of Reservists who were offered a special inducement to serve in small wars without calling out the Reserve, from 5,000 to 7,000, which would enable us at any moment to send a force of 15,000 men abroad.

The above provisions allowing for improved training would give us an increase of about 150,000 reliable troops.

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