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WHAT HAS THE BOER WAR TO TEACH US, AS REGARDS INFANTRY ATTACK ?

*A lecture delivered before the Military Society of Berlin, 5th March, 1902,
by Lieut.-Colonel von LINDENAU, of the German General Staff.*

PREFACE.

THE literature of the Boer war is already extremely voluminous. A stately row of volumes in different languages fills the military libraries of the world. Appendix I. shows those of which I have made special use, but notwithstanding the mass of writings, it is still a matter of great difficulty to arrive at a correct conclusion concerning particular engagements. The English reports leave many controversies undecided, and give as a rule few details. Some very good accounts have, however, been supplied by British officers, both gratuitously and by request, and these have cleared up some of the doubtful points.

The best account given me was that by Captain Freiherr von Lüttwitz, of the German General Staff, who took part in the Boer war as German Military Attaché on the English side. I owe him my best thanks.

The accounts from the Boer side are few in number, so that I was all the more pleased to have placed at my disposal the diary of a German who took part in the war, fighting on the Boer side, and who is again serving in our ranks. To the latter I also owe my best thanks, as well as to the author of "Military Observations on the South African War,"¹ who also fought on the Boer side, and supplied me with information I asked for on various points.

1. INTRODUCTION.

What lessons do we derive from the Boer war for our infantry attack?

At first sight this would seem under the circumstances a vain question, for what can a European Army which has to fight on European soil learn from a war fought under the hot sun of South Africa, and under such peculiar conditions?

2. TERRAIN AND CLIMATE.

Where can we find in Europe a country consisting of desert tracks miles in length, and marked by the absence of anything in the way of cover from view, such as trees and bushes, or human dwelling places? There lies over this broad expanse of Africa an atmosphere of astonishing purity and clearness. This very atmosphere makes the

¹ Translated in the *U.S. Journal* of February, 1902, *et seq.*

peculiar nature of South Africa all the more apparent, and renders it very difficult for the European accustomed to countries presenting many different forms of aspect to fix his position. Wherefore it is very easy to lose one's way.

It is only very gradually that the eye becomes accustomed to quickly identifying the changes in the surface of the country. All bright colours are more easily distinguishable there than at home. The question of dress therefore is one requiring careful consideration. The white helmets of the British were of little practical use in this respect, however good protection they may have otherwise given against the heat of the sun. The temperature continually rises to 30° Réaumur (100° Fahrenheit), and often it becomes so unbearable that troops can only finish their marches by night or in the early morning or evening. The difference in the temperature of night and day is considerable. In the dry season of the year, which lasts from April to October, the nights following the hot days are often marked by several degrees of frost.

The wilderness of ever-recurring mountains is covered by huge boulders. The ascent of these is only accomplished after considerable trouble. A perpendicular wall of rock often encloses the top, and here trees are as scarce as water. The kopjes, which played such an important part in the various engagements, are so regular in form that they can often be mistaken for fortifications made by hand. They even had the advantage of the latter, in that the irregular, dented character of the top gave the marksman excellent cover whilst firing. If we look at the picture of Spion Kop and the heights of Colenso, as drawn by Captain von Lüttwitz, and then, to make the impression all the more realistic, seek out ground formations in our own country similar to those of South Africa—such as for instance the "Finie," in the Province of Hanover, by the banks of the Leine; that is to say, in the neighbourhood of Elze.

Their value was tested in the Imperial Manœuvres of 1889 by the Xth Army Corps, under the orders of His Majesty the Emperor, by whom they were defended, and by the VIIth Army Corps, under command of General von Albedyll, by whom they were attacked. Only we must imagine the east wood which flanks the "Finie" in the direction of Wülflingn as wholly absent, for this enabled the VIIth Corps to make an enveloping movement under cover from view. It is only by making a comparison such as this that we can arrive at a correct understanding of the great difficulties of the attack as experienced by the British in South Africa.

3. STRENGTHENING OF THE NATURAL FEATURES OF THE GROUND.

The positions of the Boers were nearly always strengthened by means of irregular earthworks, deep rifle pits, or stones heaped up together. It should be remarked in passing that stone-splinters do not cause frequent and dangerous wounds, as is commonly supposed. Stones were employed by the Boers against every kind of fire, and made excellent cover. They preferred them to sandbags on the top of their earthworks.

Their fortified posts were nearly always skilfully adapted to the ground. They still further strengthened those positions which were already strong by nature, and thus made the task of the attackers all the more difficult.

4. NUMBERS ENGAGED.

The broad plains of rolling veldt common to South Africa were in striking contrast to the numbers employed on both sides. If one were to draw a line from Lorenzo Marques at Delagoa Bay, *viâ* Pretoria and Mafeking round to Cape Town, bounding the great theatre of war on the north and west, whose shores on the east and south are washed by the sea, the area contained would amount to about 800,000 square kilometres; that is to say, a tract of country nearly as large as Germany and Italy together. In this vast territory attackers and defenders split up their forces completely. The maximum of the Boer forces was in round numbers 50,000, or the equivalent of three German divisions on war strength. The British forces gradually reached the strength of about five German army corps; but the protection of their long lines of communication, and the great dispersion of their forces which was so prevalent until the arrival of Lord Roberts, resulted in only small fractions of the total strength of units being available for individual battles. Accordingly, for the three decisive battles chosen in these notes as examples for the attack, the forces at hand were as follows:—

At Magersfontein, 12,000 men (a weak division), against 6,000 (a brigade).

At Colenso, 15,600 men (a division) against at the most 3,000 (a regiment).

At Spion Kop, 20,000 men (a strong division), as against at the most 4,000 (a weak brigade).

5. INFLUENCE OF LAND, CLIMATE, AND NUMBERS.

In the peculiar circumstances depicted, which existed with regard to numbers, country, and climate, the fighting in South Africa in many respects assumed a different character to that which we would have expected from Armies in Europe, where huge masses of troops will, when in movement, endeavour to concentrate at particular points for decisive action. The course of these operations will therefore hardly show the local tying down of forces at particular places, which was so peculiar a feature of the Boer war. But in spite of this, we must unconditionally cast aside the objections of all who, in idle confidence, think that it is impossible to draw from this war useful lessons.

Nothing can alter the fact that in this war for the first time weapons in every respect more powerful were used, owing to the strides made in technical knowledge in the last century. Nothing can upset the contention that the defender, great as was his inferiority in numbers, nearly always was successful in the early stage of the war in beating back his opponent, greatly superior in numbers as he was. A German who took part in the war, and who is back again in our ranks, wrote in his diary on the field of battle, "One can see with how few men a mountain region can be held when they are well equipped and trained to shoot. Inferior forces are with difficulty dislodged by superior numbers, as long as their determination to resist is unbroken." By many the opinion was freely expressed that the defence was now the stronger form of combat. This was owing not so much to the position which the defender took up as to his weapons and their increased effect.

6. ARMS.

To be perfectly clear on this point a short consideration of the weapons employed by the opponents on both sides is necessary. The rifle used by the majority of the Boers was the improved Mauser 7-mm. (.275-inch) in calibre, whilst that of the British was the Lee-Enfield, with a calibre of 7.7-mm. (.303-inch). The rifle of the Boers was an extremely effective one of small calibre, which was first turned out in the year 1895, whilst the Lee-Enfield dates from 1888, being first known as the Lee-Metford, and only in 1895 being altered to its present form. The Boer rifle was on the clip system. The Enfield had a detachable magazine holding ten cartridges—a defect in the latter was that it could only be filled by inserting single cartridges one after the other after the original ten were expended, or by the substitution of a fresh magazine. The Boer rifle was accordingly far superior to that of the British.

A comparison of the field guns used reveals the following:—The British horse and field batteries had guns of 7.6-cm. calibre (3-inch). The former used 15-pounders, the latter 12-pounders, both constructed between the years 1881-95. Although both patterns had a device for the reduction of recoil, neither was a quick-firer. The British also had howitzer batteries of 12.7-cm. calibre (5-inch), 1896 pattern, which fired Lyddite shells. The effect of these was, according to Boer accounts, not very great against riflemen lying down, and was frequently nil, except to occasionally cause wounds of a not dangerous nature. The English shrapnels appear also to have had little effect; they often burst in such a manner that the shell remained whole and the contents remained inside. The cone of dispersion was extraordinarily small and the amount of front covered only 4 or 5 metres. They, therefore, did little damage against the thin firing lines of the Boers. Even the bullets with which the shrapnel were filled seldom caused serious wounds at 100 paces from where the shell burst.

On the Boer side, the bulk of the artillery consisted chiefly of Q.F. guns. Besides weapons of a more ancient pattern, they had, at the beginning of the war, 69 modern field guns, namely:—

Eight 7.5-cm. (3-inch) Q.F. guns, constructed by Krupp in 1899.

Sixteen 7.5-cm. (3-inch) Q.F. guns, Schneider-Creusot, constructed by Krupp in 1898.

Five 7.5-cm. (3-inch) Q.F. guns, Maxim-Nordenfeldt, constructed by Krupp in 1897.

Twenty-four 3.7-cm. (1.45-inch) automatic Maxim-Nordenfeldt.

Four 3.7-cm. (1.45-inch) Q.F. mountain guns, by Krupp.

Eight 12-cm. (4.7-inch) field howitzers (4 by Krupp, 4 by Schneider-Creusot).

Four 15.5-cm. (6-inch) position guns by Schneider-Creusot.

Of these guns the Schneider-Creusots were ballistically the best. They were, however, very delicate in mechanism. Their glycerine brakes for the reduction of recoil frequently jammed. Next to the Krupps, which were distinguished for their excellent shooting, the Maxim-Nordenfeldt proved to be extremely effective. Single guns of these have often fought with success against whole batteries at ranges of 3,000 metres. They were, moreover, the only guns which had shields, like those which the French adopted in their 1897 model. The advantage of such shields, which afford complete protection against

shrapnel and rifle fire has been clearly demonstrated by the Boer war. The disadvantages of such shields, which add to the weight of the system by about a hundredweight, and, under certain circumstances, increase the visibility of the weapon, have to be taken into account. The latter disadvantage in the course of the war proved to be of little importance. From the above it may be gathered that the Boer artillery, though inferior in point of numbers to the British, was nevertheless far more modern, but the preponderance in numbers of the British was such that, taken on the whole, their artillery overpowered that of the Boers. For this reason the Boers avoided the opening artillery duel, withdrawing their guns behind cover, and as a rule never replied to the British artillery fire which preceded the infantry attack. The Boers generally opened fire as soon as the British infantry arrived within specially effective ranges.

The attacker who does not wish to deprive himself of a great chance in the commencement must at least have weapons which are equal to those of the defender. If his rifle is inferior to that of the defender his field gun must be at least superior, *otherwise the success of the attack will be very doubtful*. Even our infantry, highly trained as it was in 1870, only succeeded in making its way with the needle-gun against the Chassepot, because our superior field guns completely overpowered those of the French.

When one remembers that the British gun-making industry is a highly developed one, and was in a flourishing condition, it was natural to suppose that their soldiers would be equipped with rifles and guns which were superior in themselves to those of their opponents. This was all the more requisite, inasmuch as they had nearly always to assume the offensive, which, as we have said, proved very difficult. Accordingly, England found at the beginning of the war the truth of the old maxim that weapons which are not modern become the most expensive that can be used.

7. THE EFFECT OF MODERN FIREARMS.

And England's Army had to learn yet another old truth on the battle-field, which had been forgotten in the changes of time. We can opportunely repeat it, so that we may not lose its application. Under the influence of experience, Captain von Lüttwitz, of the German General Staff, who was with the British, grasped it, and thus wrote from the theatre of war:—*Tactical formations are governed by fire effect, modern weapons govern modern formations*. Because England's old regiments did not understand at the beginning how to solve this problem of new formations, and did not recognise the fundamental principles which promised success even against modern firearms, they at first failed in all their attacks, and their failure was the more readily brought about as they began their attacks under conditions which, in German opinion, did not seem to promise success. The defender had the advantage of the ground; that could not be altered. The advantage which the superiority of weapons could have given to the attacker was overlooked. Superiority in numbers was, indeed, assured; but this could have been turned to far greater use than was actually done. Everything accordingly turned on the skilful use of forces; but here again was failure. The British Army, trained for years past in savage warfare, and over-confident, experienced a very unpleasant surprise when first exposed to the effect of modern firearms in South Africa. But this effect of modern firearms would

have been equally a surprise to the troops of other Armies. *In face of the conjoint rapid fire from the small-bore magazine rifle, and the quick-firing field gun, no army should have attempted the attack over the open smokeless battle-field.*

The maxim that "Facts destroy theory at one blow" was therefore again pressed home. New ideas could be evolved, which could only be tested on the actual battle-field. Mishaps such as the British met with in the earlier battles of the war, had unfortunately been already experienced by our own Armies in former times. When the Prussian battalions advanced, on the 14th October, 1806, to the attack of Vierzehnheiligen and Hassenhausen, and had already surrounded both places in a semi-circular formation, their attack failed, to the surprise of everyone, under the destructive fire of the swarms of French sharpshooters, who handled their weapons more skilfully and made the best use of ground before even the French columns had come in contact with the Prussian lines.

And it was only because the German infantry succeeded on its own initiative in throwing overboard the old attack formations during the campaign of 1870, formations which had cost it some of its best regiments in the early battles, that it was spared further sad experiences in the subsequent course of the war. But we all agree that the price at which our infantry bought their experiences was a very costly one. It must be admitted that those who maintained these losses should have been avoided, had due regard been paid to the experience gained by the troops in the battles of 1866, were justified in their criticisms. These lessons had simply been ignored.

In the first rank of these one should mention the well-known pamphlet of Captain May, entitled "Tactical Reminiscences of 1866." These facts must be alluded to here, to show clearly how it is the impressions formed on the actual battle-field, which produce changes in tactics. Certainly the way may be paved by discussion, but the solution is only arrived at in battle itself. In this connection it is not uninteresting to recall the fact that it was between the death of the great King and the defeat of 1806, that so much varied literature on the training and employment of troops appeared in Prussia. The absolute defects in the old form of fighting had been made quite clear, and had sometimes been published without any reserve.

There appeared, in the year 1805, a book by Heinrich Dietrich v. Bülow, entitled "Modern Tactics," in which it was stated: *The battles of the future will be decided by the fire of skirmishers.* Bülow also declares that the use of ground by skirmishers is extremely important, and even hints that creeping on the stomach should be carefully practised. "How much blood would have been spared if the Prussian Grenadiers and Musketeers had only ventured to lie down when under the enemy's fire!" says General v. der Goltz, speaking of Rossbach and Jena. But still more significant must it appear that the advice of Frederick the Great, in his Military Testament, could have been altogether forgotten: "In the future," says the great King, "I would leave the preliminary attack to the free battalions (Freibataillonen).¹ I would cause them to advance in a scattered

¹ The "Freibataillonen" were a kind of Volunteer Militia, recruited in the country districts; their discipline was not so strict as the Regulars, but they contained in their ranks many foresters, hunters, etc., who presumably were more or less skilled marksmen.

formation skirmishing, in order to draw the fire of the enemy on themselves and so that the troops in close formation can the better advance to the assault." It naturally occurs to one to think, when hearing this royal opinion, how absolutely different would the result of the battles of 1806 have been if his counsel had been followed!

It was only misfortune that brought the new formations of 1813 to the test. In contradistinction to this, the happy course of the war of 1866 caused the lessons which had been learnt, with regard to the employment of infantry to be forgotten and led to the costly sacrifices of 1870 already mentioned. Even when the splendid troops, in the course of the war of 1870 had shaken themselves free of the old and dead formations, and made the swarms of riflemen the principal fighting formation for infantry, 17 years in the feeling of victory passed by, and it was not until 1st September, 1888, regulations confirming the lessons learned in the battle-field itself were issued to the infantry.

8. THE BRITISH AND GERMAN REGULATIONS.

Nearly all the Armies of the world have taken advantage of our regulations of 1888 for the drawing up of their own fighting instructions, because they knew well that these regulations formed the thesis of original experience in war, direct from the domain of actual facts, and agreed upon by the best experts after prolonged discussion. Even the English Army had utilised many of our principles in its drill book of 1896. Especially do we find it in accord with our instructions on the attack contained in Part II., 82, of our own regulations. The guiding principle, *the obtaining superiority of fire over the defence*, is clearly laid down in section 113, both for infantry and artillery, and we find again, in paragraph 4 of the foregoing section, that the advance of the infantry should not take place before the artillery of the attack has gained a superiority of fire over that of the defence—(see our regulations, 82, 4). The principle also laid down by us in Part I., sect. 224, that a definite object of attack or specific duty should be allotted to each body of troops appears in section 112 of the British Infantry Drill. Equally clear, as with us, were the instructions contained in 110, 114, 115, and 124, that a frontal attack must be combined with an enveloping or flank attack.

It is laid down in sections 111 and 112 that the attacking force must be carefully distributed, especially in the depth of the formation, which should be carried out in three lines (see our regulations, II. 64). An essential difference, however, existed between the two regulations with regard to the duties of the three lines, which may, for short, be called the leading, assaulting, and reserve lines, respectively. Whilst in the German regulations it is provided that the first two should very soon work together, and that finally the reserve should be brought up for the decisive moment; the British regulations leave the attainment of superiority of fire entirely to the first or leading line; and it is not till the commencement of the assault that the second line comes into action.

Captain Schulz, of the Bavarian Regiment No. 14, in his paper on the tactical training of British Infantry (see the "*Jahrbücher für Armee und Marine*"), draws attention to the fact that the way in which the attack of the two following lines is carried out in peace-time caused the action of the leading line to be continuously curtailed, and made

the heavy onslaught of the second line chiefly an advance of drums, trumpets, and hurrahs.

Still more questionable was the use made of the third line, which, in a defensive position, awaited the outcome of the fight in order to cover the retreat or take up the pursuit. The manner of employing fire was very different in the two regulations. The British preferred the volley, the German relied on the well-aimed individual fire of the marksmen. The small stress which was laid on the training of the individual men on the range was due to this view of the British, although the number of rounds allotted to each man in the year was amply sufficient for his proper training in marksmanship.

With regard to the deployment of the shooting line, it was laid down in the British regulations that the interval between each man should be stated. A shooting line in single ranks arm to arm was contemplated in section 48. Close firing lines were nearly always made use of in the beginning of the war. It was only on the arrival of Lord Roberts in the country that more open formations were adopted.

Finally, differences existed between the two regulations with respect to the opening of fire, which were afterwards to prove fateful on the South African battle-fields. Whilst sections I. 132 and 133 of our drill regulations, taken in conjunction with section 160 of our musketry instructions, define the limits of the short, medium, and distant ranges, short ranges being reckoned up to 600 metres and medium up to 1,000 metres, the British drew the line between short and medium ranges at 500, that is to say, about 460 metres. It therefore placed this range, in spite of the increased effect of firearms, 140 metres nearer the enemy. It is only under quite exceptional circumstances that firing ought to be opened at ranges over 800 yards (735 metres); accordingly, whereas medium ranges, according to British ideas, commenced 265 metres after ours, it was clear that the fire of British infantry opened at a later stage in the fight than would have been the case with us.

It was laid down in our musketry regulations, drawn up by Major-General von Holbach at the end of the nineties, in the clearest manner and the most convincing form, that the fire opened by us at medium ranges was in no sense a preliminary to the development of an attack, but a serious and important part of the attack itself.

This required most careful training of officers and men in the employment of fire at medium ranges, when carrying out the attack. Five per cent. of hits of the ammunition expended would be expected in the first five minutes from marksmen against heads and shoulders at medium ranges, *i.e.*, from 600 to 1,000 metres, which, in the case of firing lines of equal strength, should entail a loss to the enemy of 25 to 35 per cent. This means, taking a look at the percentage of losses arrived at in the examples, greater losses than the British suffered at Magersfontein, Colenso, or Spion Kop. There can, therefore, be no doubt that individual fire is the best means of making headway at medium ranges, *i.e.*, from 1,000 to 600 metres. The old principle, in itself correct, that success depended not so much on early but decisive fire, became therefore exaggerated and misunderstood by all those who, considering the increased effect of modern firearms, which was quite recognised at the end of the century even before the Boer war, were always saying: "We must advance without firing a shot until we approach to ranges of 600

metres." Even before this, the effective employment of the rifle at ranges of 1,000 metres has brought about the disintegration of the enemy's fire. Of course, as the enemy's position is approached, endeavours to make the fire more effective should be made; but here the defender may prove to be the better, especially if he is able to surprise the attacking ranks with his magazine fire, as the Boers did the British in South Africa.

Inasmuch, therefore, as the British regulations differed from ours in very important particulars, it is, in my opinion, only right to admit that German method of attack exercises, as seen by the British on our drill grounds, may have had some influence on their too hurried method of attack, which caused them to advance on their opponents without sufficient preparation by infantry fire up to short ranges. The latitude which was allowed by our regulations had shown the British officers who came to us pictures of our attacks, which misled them, and they, misunderstanding the principles of our regulations on the infantry attack, drew erroneous conclusions, such as only could be justified under most exceptional circumstances.

Quickness of movement and deployment had undoubtedly been very much to the fore on account of the level nature of our parade grounds, and had made a lasting impression on the eye of the foreign critic. The great rushes which our riflemen made, which, according to section I. 127, were to be seldom more than 80 metres in distance, but were in practice never less, and the great extent of frontage in which these rushes were made—without there being any detailed regulations on this latter—often battalions, seldom under two companies, appeared to all, who considered the solution of the attack problem to be celerity of movement, as especially efficacious. If the opinion has sometimes gained ground that the British have since maintained without cause that their defeats were due to having adopted our plan of attack, in order to make excuses for this defeat and as an answer to the bitter attacks of the German press, I for one don't believe it. From all I have been able to find out in this matter, I am convinced that these opinions were the result of scrupulous conviction.

It must here be mentioned that "The Military Observations on the War in South Africa," which aroused a well-merited discussion, confirmed in the most absolute manner the opinions which had reached us as to the great similarity between the German and British form of attack. In one passage of the "Observations" we read the British infantry generally deployed under the fire of its own artillery in formations very similar to those observed at our "peace manœuvres." Another passage runs: "The plan was in principle much the same as ours." There is no question therefore about similarities.

To make this clear, and thereby to examine the use the English made of their own regulations, it seems to me that the three examples of the battles of Magersfontein, Colenso, and Spion Kop are especially instructive. Their consideration will thus prove all the more practical, because it was from these very battles that the British learned those lessons which led to such efficient tactical formations after Lord Roberts had assumed the command.

(To be continued.)