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Abbreviated Notes on MILITARY ENGINEERING.

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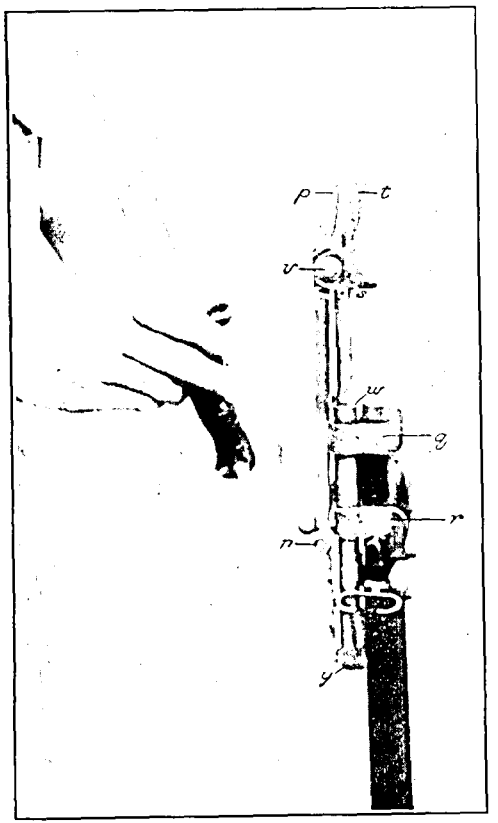
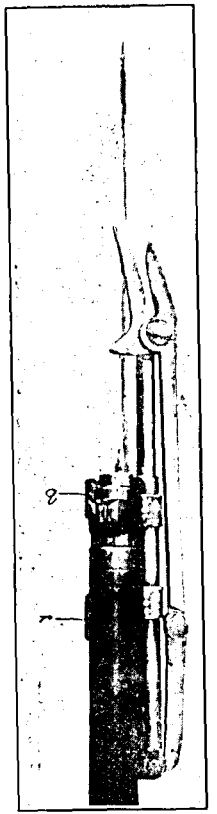




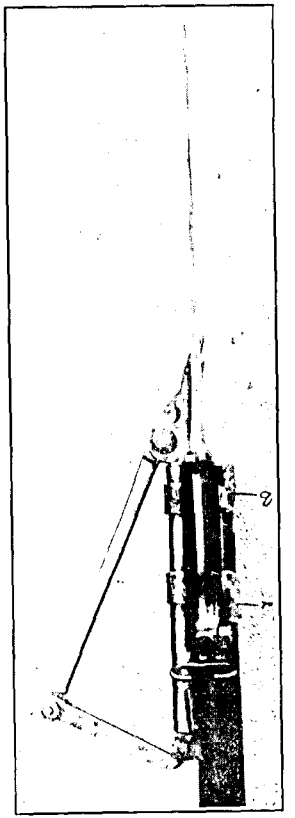


Photo I.—To show method of attaching wire cutter to rifle. (Viewed from above). Photo II.—To show wire cutter fixed to rifle and ready to receive a wire. Photo III.—To show wire cutter in position assumed at moment the wire is severed. (Viewed from below).
Photo IV.—To show method of using cutter on a wire fence.

RIFLE ATTACHMENT WIRE CUTTER.

By MAJOR R. L. MCCLINTOCK, D.S.O., R.E.

THE ideal wire cutter for military purposes should before all things possess the quality of not requiring the soldier to have more than the usual pair of hands.

No pliers wire cutter with which I am acquainted can be worked successfully with less than one hand ; two are better, one to steady the wire and the other to operate the pliers. In attack, the soldier in addition requires two more hands for his rifle. These conflicting claims have to be met by slinging the rifle, or carrying it in one hand, leaving the other free for the pliers. Such compromise must obviously detract from the soldier's efficiency in either aspect of rifleman or wire destroyer.

How can this be avoided, and the soldier enabled to cut wires while still retaining his rifle in his two hands, ready for immediate use with either steel or lead ? The following is an attempt at solving the problem, by No. 4 Engineer Field Park, 2nd Q.V.O. S. & M. :—

I. GENERAL DESCRIPTION.

This is a wire cutter of the pliers pattern attachable to the Service rifle and bayonet. It is designed to cut any strand of a barbed-wire fence by the simple act of lunging at it with the bayonet. It can be attached to, or detached from, the rifle in a moment by the mere act of fixing or unfixing the bayonet. When so attached, it does not interfere with the use of rifle or bayonet as such. It weighs no more than the current pattern of hand wire cutter, as issued in India.

II. DETAILED DESCRIPTION.

The wire-cutting rifle attachment comprises four main parts :—

(*a*). *The Pliers* (*pz, tk*).—These consist of two steel jaws (*pz* and *tk*) pivoted at (*v*), *vide Figs.* 3 and 4. The shank of the jaw (*tk*) is circular in section and $\frac{13}{32}$ in. in diameter—that is, capable of sliding freely in the piece of tube (*wx*), which is $\frac{7}{16}$ in. internal measurement. The shank of the other jaw (*pz*) is rectangular in section and drilled at the lower end (*z*) to receive the bolt (*n*).

(*b*). *The Guide Tube* (*wx*).—This consists of a piece of metal tube (*wx*), $\frac{7}{16}$ in. internal diameter and $7\frac{1}{2}$ in. long. Its upper end (*w*) is open and receives the circular shank of the jaw (*tk*). The lower end (*x*) is closed with the metal plug (*h*, *Figs.* 3 and 4), secured to the

tube by the rivet (*g*). The lower end of this plug projects below the tube (*wx*) for $\frac{5}{8}$ in. and is drilled for the second rivet (*g'*). To this tube (*wx*) are attached the two metal lugs (*q* and *r*, *vide Figs.* 3 and 4).

(*c*). *The Lever* (*yz*).—This consists of a piece of steel (*yz*, *Fig.* 3) riveted to the plug (*h*) at one end, and connected at the other to the extremity (*z*) of the jaw (*pz*) by the bolt and nut (*n*). Both these joints are free, and the system can assume either the position shown in *Fig.* 3 or that of *Fig.* 4.

(*d*). *The Spring* (*m*).—This is a spiral steel spring (14 *S.W.G'*) of such diameter as will permit it to fit inside the guide tube (*wx*). It is 6 in. long when uncompressed and not more than $1\frac{1}{4}$ in. long when compressed as fully as possible. It is placed within the guide tube, its lower end resting on the top of the plug (*h*) and its upper end pressing against the end (*k*) of the jaw (*tk*). It will then be compressed to $4\frac{7}{16}$ in. in length, *vide Fig.* 4.

III. METHOD OF ATTACHING TO RIFLE.

Note.—In the following instructions, the rifle referred to is that known as "Rifle, short, Mark 1*," and the bayonet is that known as the "1903 pattern."

The wire cutter is fixed to the right-hand side of the rifle muzzle as follows (*vide Photo* I.) :—

Hold the rifle between the knees, as for fixing bayonets. Place the lower edge of the lug (*r*) on the top of the upper surface of the "bayonet standard" of the rifle, the lug (*q*) resting against the underside of the "nose cap," below the "bayonet boss." Hold wire cutter and rifle muzzle together in this position with the left hand. Then, with the right, fix the bayonet on the rifle in the usual manner. The two lugs (*r* and *q*) will now be confined between the back of the bayonet hilt and the metal nosecap of the rifle (*vide Photo* II.). The cutter is accordingly immovably secured to the rifle as long as the bayonet is fixed. The top (*w*) of the guide tube comes level with the top of the "bayonet boss." The jaws of the pliers lie along and at right angles to the upper edge of the bayonet, and the portion (*ts*) of the jaw (*tk*) actually slides up and down along it as the cutter assumes the position of *Fig.* 3 or *Fig.* 4. The cutter is again detached from the rifle merely by unfixing the bayonet.

IV. METHOD OF USE.

Lay the flat of the bayonet on the top of the wire to be cut (*vide Photo* IV.). The jaws of the cutter will then be at right angles to the line of the wire, and open as in *Fig.* 1. Then lunge with the bayonet sliding across the wire. The latter will slide straight into the jaws, which will at once close over and cut it (*Photo* III.). They will then immediately open again for the next wire.

V. Explanation of Action.

On the lunge being delivered, the wire slides along the flat of the bayonet into the jaws of the cutter (*tvp*). It can go no further, and so presses against the bottom of the jaws (*v*). This gives before the pressure, the shank (*tk*, *Fig.* 4) sliding down the guide tube (*wx*), till brought up in the position shown in *Fig.* 3 by the shoulder (*s*) bringing up against the top of the tube (*w*), and the "bayonet boss" of the rifle. As this shank (*k*) retires down the guide tube, it compresses the spring (*m*) before it, till at the end of the movement the spring is fully compressed (*Fig.* 3). This movement of the jaw (*tk*) from its *Fig.* 4 position to its *Fig.* 3 position, at the same time causes the jaw (*pz*) to close over the wire and cut it. The instant the wire is thus cut, its pressure on the bottom of the jaws ceases, and the spring (*m*) again expands, returning the jaws to their original position (*Fig.* 4) and opening them again for the next wire. Wires can thus be cut as fast as lunges can be delivered.

VI. Advantages Claimed over Hand Wire Cutter.

(*a*). That the soldier attacking an entanglement can demolish it while still retaining his rifle in his hands, ready for instant use with bullet or bayonet, instead of having to sling it or lay it down, as is the case if he is using the hand wire cutter.

(*b*). That owing to the leverage obtained and to the utilization of the weight of man and rifle in closing the jaws of the cutter, thicker wire can be cut than with the hand pattern in which the leverage is less, as the applicable force is limited to the strength of the man's grasp.

(*c*). That a wire entanglement can be more rapidly destroyed than with the hand pattern, and the wire adjusts itself automatically in the jaws instead of having to be felt for.

VII. Remarks.

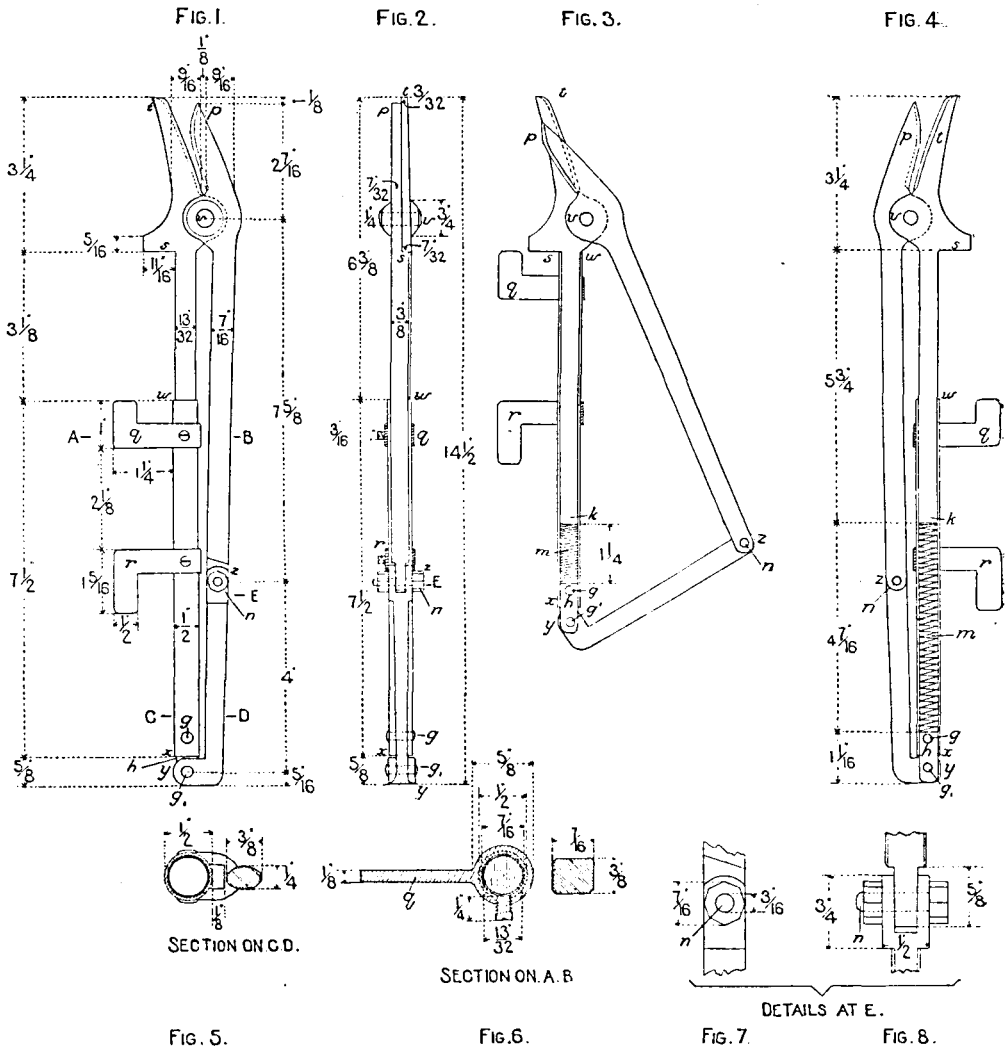
(1). The wire cutter described was constructed to fit the "Rifle, short, Mark 1* and the Bayonet, 1903 pattern," *i.e.* the *short* bayonet, as the inventor's unit was thus armed. To make it fit the short rifle with the subsequently introduced *long* bayonet, the opening of the upper lug (*q*) must be made somewhat wider, as the ring of the latter bayonet is a little broader. It has not so far been fitted with the old "long" rifle and bayonet, as but few are in use; it would, however, only be a question of rearranging the lugs (*q*) and (*r*).

(2). The photos do not absolutely tally with the drawings, as they were taken of a slightly older pattern. There are a few minor differences, notably in the attachment of the lower end of the lever (*yz*) to the bottom of the tube (*wx*).

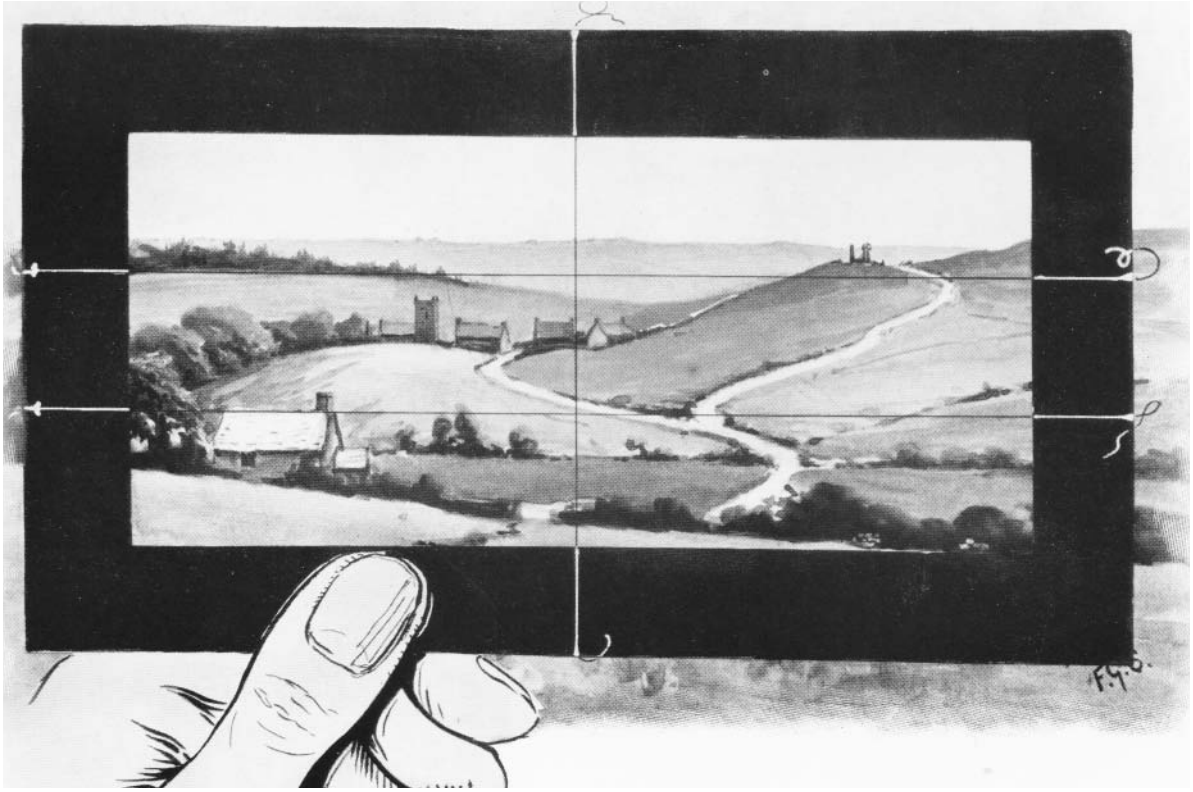
(3). This cutter is only adapted for cutting taut wire, or wire which will become taut under a continued thrust. It will not cut wire lying loose on the ground, as this offers no resistance to the lunge.

My thanks are due to Staff-Sergt. Rogers, of No. 4 E.F.P., who was of the greatest assistance to me in evolving the above wire cutter.

FIGS. 1 TO 4 QUARTER SIZE.



FIGS. 5 TO 8 HALF SIZE.



HINTS ON PANORAMA SKETCHING

HINTS ON PANORAMA SKETCHING.

By E J. McKaig, A.M.I.C.E., R.E. (T.).

The following remarks are not intended to apply to the accomplished artist, or to those skilled in drawing landscape from nature; but it is hoped they will be of some assistance to others who either from lack of opportunity, inclination, or both, have never seriously attempted to understand perspective, or to put on paper accurate impressions of their observations, in such a way, and as few lines as possible, to be a true record of value to another person. Further it must be understood there is no attempt to strive after artistic effect, or picture composition; such things being outside the province of a sketch made under and for military conditions and purposes, during reconnaissance, as an adjunct to sketch maps or written reports.

All that is required is that it shall be as true a drawing as possible, giving an accurate idea of the appearance and character of the surrounding country.

As in the case of all military training, and rules laid down in manuals, these hints are not to be taken as an end in themselves, but as a means to an end; although the methods described could be used in actual practice, to some advantage, they are primarily intended to assist in training the unpractised to see and draw things as they really appear.

The subject dealt with here is, what would be called "sketching on blank paper" but in the first attempts it is suggested that the paper shall not be blank, but ruled as shown in the illustrations. This is to enable the beginner to put down the relative proportions or depth, of distance, middle distance, and foreground; the whole success of the sketch entirely depends upon this point; and the first stage of the sketch can well be put down in three lines, each line representing one of the three distances. This three-line method will be found a good one to follow always, and any detail required, or extra lines, put in afterwards in their true relative positions to the distance, middle distance, etc. In some lights to the beginner, it may be rather difficult to divide the panorama or landscape up into these three layers, but with a little practice, it will be found quite easy and more readily observed in morning light, after sunrise, and similarly before sunset; or during the first signs of twilight. With a little practice it will soon be found a simple matter to divide

most scenes into three layers or lines, and when properly mastered more lines can be used to advantage, but generally, the three will be found adequate.

The trouble with the beginner is that he sees too much, and the vastness of the scene before him confounds him and results in confusion.

A useful exercise is to practise observing; that is, when looking at any landscape, to mentally divide it up as described, and decide exactly the extent and outline of the middle distance, because after all it is this central portion of the sketch that is important and really makes for good or bad perspective. The materials required are some pieces of paper of a suitable size, pencils, and a piece of cardboard, prepared as shown in *Fig.* 1 and later described, called the picture finder.

The size of paper used may of course be anything, but it is wise for the beginner to make his first attempts on sheets of the same size or at least of the same proportions, such as 8 in. × 4 in. or 12 in. × 6 in., 9 in. × 3 in., or 12 in. × 4 in. and so on, or use a sketch book of the type called the press sketch book, having perforated leaves, and sold by most artist material retailers.

The sheet to be drawn upon should then be prepared by ruling faint lines across it as shown in the illustration; these may be made in pale blue, or diluted ink, and failing this, in thin pencil lines; blue lines however will be found best, because they will not become confused with the lines of the sketch. These lines can be of any number, but two equidistant horizontal, and one vertical, will be found sufficient for ordinary purposes; the arrangement being in the same proportion as the lines or webs of the picture finder, which need be nothing more than a piece of cardboard of suitable size to be carried in the sketch book or pocket, preferably black, and having an aperture cut in it of similar proportions to the sheet to be sketched upon, and fine threads stretched across the aperture in the same ratio as the ruling of the paper (see *Fig.* 1).

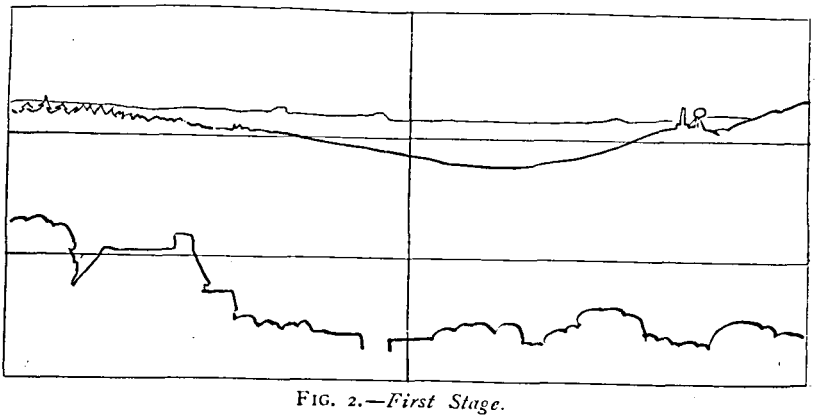


FIG. 2.—*First Stage.*

Another type of finder can be a piece of framed glass, with lines ruled upon it, but the cardboard one described, will be found just as effective and easier to make and carry.

The picture finder is then held up, and the panorama to be drawn observed through the aperture, the distance from the eyes being adjusted until all that is required is visible; and whilst in this position it is carefully noted where the main lines cut the edges of the aperture and cross the threads or webs. Points coinciding with these are then marked on the sheet, using the ruled lines to represent the webs of the picture finder. When these points are fixed, proceed to draw in the line of the horizon through them, care being taken to give the character of the observed outline to the line (*Fig.* 3).

FIG. 3.

Then proceed with the middle distance, which will naturally be shown in more detail, and follow with the foreground.

The three main lines of the panorama are now completed and any further detail can easily be put in where it occurs in relation to these main lines, and in such amount as the requirements of the drawing necessitate, together with written notes and descriptions as in the specimen completed sketch, *Fig.* 4.

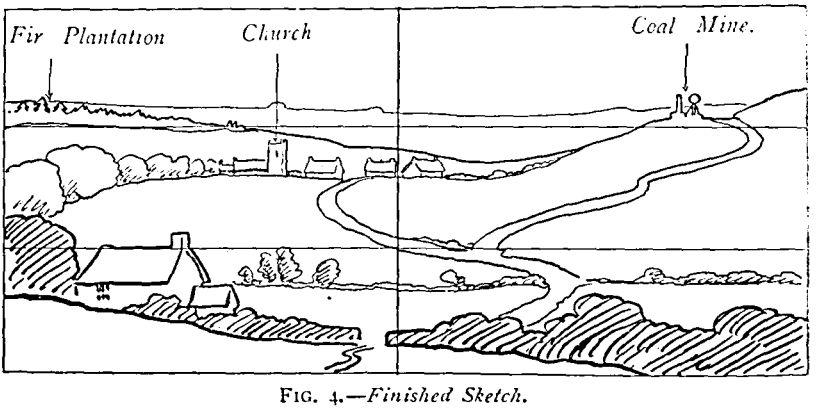


FIG. 4.—*Finished Sketch.*

Another important point to obtain good results is the varying strength of line; the distant horizon being represented by the finest line, the strength increasing towards the foreground. A simple way to obtain this is for the beginner to use three pencils—H, HB, and B, each degree of hardness being used for the three lines respectively, or if one pencil only is used, say B, and the sketch commenced at the horizon, with a fine point, the pencil will wear down as the work progresses and automatically give the required varying strength. This however is a matter of technique and will come with practice. In a little time all the varying shades and feeling of line will be found to come naturally, the picture finder and ruled paper becoming superfluous, but until such time it is hoped the methods given will be found to be of assistance to the unskilled draughtsman, to whom, as already explained, these remarks are addressed.

SIEGES AND THE DEFENCE OF FORTIFIED PLACES BY THE BRITISH AND INDIAN ARMIES IN THE XIXth CENTURY.

(*Continued*).

By COLONEL SIR EDWARD T. THACKERAY, V.C., K.C.B. (LATE R.E.).

CAPTURE OF MAGDALA, 1868.

His Royal Highness the Duke of Cambridge in describing in the House of Lords the operations in Abyssinia under General Sir Robert Napier (afterwards Field Marshal Lord Napier of Magdala, G.C.B., G.C.S.I.) declared that "his every step had been a success and a triumph." As Commander-in-Chief of the expedition, before he took the field Sir Robert Napier, as a philosopher in his study, planned a piece of mechanism, of which every piece of military arm, every military department, and every branch of military science were the polished *wheels*, the whole to be kept in motion by one highly tempered *main spring*.

In the Abyssinian War, Sir Robert Napier's "thin red line" was an arterial line of communication a few feet only in breadth, but in length extending from the Red Sea to the Amba or Citadel of Magdala; upon the vitality of this arterial line, the life of the invading army depended. If, throughout its enormous length, pulsation at any one point had ceased, mortification at the extremity must inevitably have ensued. From Zoulla, in spite of physical obstruction of every description, it stretched itself onwards for nearly 400 miles, through the scarped and counterscarped gigantic outworks of the Citadel of Magdala, until within its second gate, it reached the self-condemned, self-executed, ghastly corpse of King Theodore. And then as the victorious army returned it instinctively contracted, until on the embarkation of the last regiment at Zoulla, as if its commander signalled to it to depart, it vanished. On the march through a region of the world in which war had always been disgraced by robbery, murder, and mutilation, he induced the troops "to be true and just in all their dealings." To keep their hands from picking and stealing, and in the battlefield, to do unto their wounded enemy "as they would he should do unto them."

Bearing no malice or hatred in his heart, he offered not only to forgive, but also to give honourable treatment to King Theodore, who for many years had trespassed against Her Majesty the Queen

and her subjects. King Theodore shortly before he gave the fatal pull to the trigger of his revolver, wrote to his conqueror, as his last dying speech and confession: "Since the day of my birth, whenever my soldiers began to waver in battle, it was mine to arise and rally them. Yesterday, though I killed and punished my soldiers they would not return to the battle. You have prevailed against me by people brought into a state of discipline."

At sunrise on the morning of Easter Monday, April 13th, 1868, Theodore arose and calling to his troops said: "Warriors who love me, gird yourselves; leave all behind, take nothing but arms and follow me; the time has come to seek another home." He had apparently determined to make an attempt to escape, and went out of the fortress near the Kiffir-bir Gate at a place where it was possible to descend towards Sangallat. He was followed by two chiefs of rank, and about 2,000 men, variously armed. As he passed down he asked where the advance guard was, and on being told that they were in rear, ordered them to the front. They refused, saying that they would never flee before an enemy again, and would rather seek death in Magdala. Theodore pondered for a brief space, and then saying "Let it be so" re-ascended the mountain. It would have been impossible for him to continue his journey alone, as the cries of the Gallas, who, under the guidance of Meer Akber Ali, were watching the issue from the fortress on that side, could be distinctly heard. On re-entering the fortress, he told all who were not prepared to share his fortunes to the last to provide for their own safety. Thousands thereupon left him, and ultimately surrendered to the British.

It was a fine sight, the long line of red, Royal Engineers, toiling under their scaling ladders, Sappers, 35th and 45th Regiments, the 4th King's Own, the Beloochees in their dark green, the Royal Artillery in blue, and the mountain batteries on mules, toiling up the steep ascent that led to the Fahla saddle; while down by the side of the hill by every sheep track, streamed the soldiery of Theodore, who had surrendered to Capt. Speedy, and laid down their arms. Old men and boys, mothers, and families, with their household treasures, were seeking an asylum in the Arogi Valley till the storm of war should be over above. Sword and helmet sparkled in the morning sun, the banners were unfurled, the breeze was just enough to display their gay colours, and all nature seemed to contribute to the splendour of the pageant.

Inspirited as the soldiers were by the thought that their toils were now almost over, and that success was about to crown their enterprise, their ardour was also strengthened by the uncertainty which surrounded everything up to the very last moment. For all anybody knew to the contrary, Theodore might have 10,000 armed men in battle-array on the top.

About 4 p.m. the order to storm was given. The mountain batteries kept up as long as possible a fire over the heads of the troops advancing to the assault. The 33rd Regiment led by Major Cooper, and keeping up a continuous fire from its skirmishers, soon surmounted the steep precipitous cliff which lay between it and the outer gate, notwithstanding the fire of the garrison from behind its defensive line, which consisted of a wall surrounded by thick and strong barricades of thorny stakes, with a narrow stone gateway. The gate being closed, the progress of the assailants was arrested, and for the moment the powder bags with which to blow it in were not at hand. On arriving close to the gate the enemy opened fire through loopholes, by which Major Pritchard, R.E. (afterwards Lieut.-General Sir Gordon Douglas Pritchard, K.C.B., Colonel Commandant, R.E.), two non-commissioned and one sapper were wounded, and Lieut. Morgan at the same time received a severe contusion on the head and shoulders from stones.

Major Pritchard thus describes the affair: "About 2 p.m. when it was decided that Magdala should be taken by assault, I received orders to send back for the ladders, powder barrels, bags, etc. (these by order of Sir C. Staveley had been left at the foot of the cliff). I accordingly sent a detachment who brought up the ladders, the two barrels of powder, the fuze, etc., but not the powder bags, which on inquiry I found had been taken by the natives for their original purpose of carrying water. I reported the circumstance to Sir C. Staveley and informed him that I could if necessary, blow open the gate of Magdala with one of my barrels of powder and fuze. About 4 p.m. the Engineers took the post of honour, carrying our entrenching tools, ladders, two barrels of powder, fuze, etc., and led the way along a path on the side of a precipice to the gate, on the right of which over the wall we effected an entrance by climbing and using our ladders."

The entrance was made at two points, Corpl. M'Donough, R.E., being the first man in at one, whilst Major Pritchard, Lieut. Le Mesurier and Sapper Bayley (one of the flag signallers) entered at the same moment by escalade at another. Immediately following them the 33rd Regiment forced its way over the stockade at the right, and joined Pritchard and his small party within the gateway. They then made a dash at the upper gateway which was not defended, the enemy flying in all directions. Here they found the body of King Theodore, who had shot himself on realizing that his troops could make no stand against the British forces. The summit of the fortress was quickly occupied, the British standard was planted upon the African rock which had been so long the prison-house of British envoys, and Magdala was captured. The followers of Theodore immediately threw down their arms and prayed for quarter, which was of course granted, and no further loss of life occurred.

So ended the war and the prisoners were rescued. On April 17th Magdala was burnt to the ground, and the fortifications destroyed. The army wended its way back as rapidly as possible and re-embarked on reaching the base. This fortress, which was comparatively easily carried, might (owing to its outworks, Fahla and Selassie which added so much to its strength) have been made impregnable.

If Theodore had been properly supported by his soldiers, the British could not have escaped severe loss in its attack. As it was however his army had been so completely demoralized by the severity of the loss inflicted two days before, that the troops remaining faithful to Theodore were few; and when they found that their unscientific defences gave them no opportunity to inflict loss on the assailants, without exposing themselves to the fatal fire of the breechloaders, they abandoned the contest as soon as their first line of defence was carried by the stormers.

This campaign has a peculiar interest for the Royal Engineers, in that it is the first in which the supreme command was entrusted to one of their Corps. The difficulties attending the operations were probably more considerable than would be encountered in most campaigns, but it was universally admitted that, great as those difficulties were, they were clearly foreseen and admirably provided for.

Officers of Artillery and Engineers have since been employed in high positions in command of troops other than those of their own services, and the results have proved as satisfactory as in the case of the Abyssinian Campaign. The peerage earned by Lord Napier of Magdala shows the value set by public opinion on his work, but he has received beyond this the warm gratitude of his brother officers, for having demonstrated how fallacious was the idea that men of the scientific corps were wanting in the military genius necessary for the command of an army.

REVIEWS.

GERMANY'S VIOLATIONS OF THE LAWS OF WAR, 1914–15.

FROM A REPORT COMPILED UNDER THE AUSPICES OF THE FRENCH MINISTRY OF FOREIGN AFFAIRS.—*By* J. O. P. BLAND.—(Published by William Heinemann, London).

THE Great European War now raging within gun-sound distance of the British Isles has been productive of many surprises; none of these, however, seems to have been more unexpected, if the situation may be judged by the correspondence which has been published in the Press of the neutral and belligerent nations, than the black savagery practised by German troops on the innocent civil populations of Belgium and France from the time that they crossed the frontiers of the former country. Many there are, in all parts of the world, who are anxiously enquiring whether the acts of enormity with which the Teuton hosts are charged have been purposeless or purposeful. Some of the acts of barbarity (to which the term "frightfulness" has, *faute de mieux*, been applied) alleged against the German soldiery were so unlooked for and hideous in their nature that many would not, and could not, give credence to the reports on the subject which gained currency last year. Commissions and committees have, as is well known, been appointed to investigate and report on the subject. The report of Lord Bryce's committee dealing with the atrocities committed by German soldiers in Belgium and in France has been in the hands of the public for some weeks past and has thrown a lurid light on the conduct of the German Army.

More recently the French Government has published the Report of a Commission appointed, on the 23rd September, 1914, for the purpose of inquiring on the spot into the breaches of International law committed by the enemy. This Report contains, in addition to the letterpress, many photographic reproductions of German documents bearing on the inhuman and barbarous conduct charged against the German Army and its leaders. A translation has been made of the French Report by Mr. J. O. P. Bland and has just been published, together with an introduction by the translator, by Messrs. Wm. Heinemann of London; the evidence, which is here reproduced, will enable the masses of the English-speaking races to form a more or less correct opinion on the subject of the atrocious conduct charged against the enemy. Whether the acts committed were purposeless or purposeful is difficult to judge from the evidence so far brought to light, but what evidence there is points conclusively to the fact that the Teuton soldiery have proceeded about their abominable work against the unoffending and innocent civil

population with great deliberation and under the orders of superior authority. Under all the circumstances, therefore, it is thought, the presumption may safely be made that the acts alleged against the German Army have not, at all events, been altogether purposeless.

In his introduction to the volume under review, the translator points out that in compiling and publishing the Report of the French Commission "the French Government aims at bringing into full relief the fact . . . that as a matter of deliberate and predetermined policy the German Government and the German Army have persistently sanctioned the systematic violation of the Geneva and Hague Conventions." As regards the evidence which has been accumulated by the French Commission the translator remarks: "It includes little which impartial opinion can ascribe to the passion or prejudice of hostile witnesses. Most of these documents . . . are of German origin; they deal only with the War on land and with Germany's flagrant violations, by order of responsible authority, of her definite pledges recorded in Treaties and in the Conventions of the Hague." No attempt has been made in the Report to appeal to the emotions but, clearly perceiving the psychological factor, the French Government acting with deliberation "has confined itself to a clear line of direct indictment and carefully avoided all debatable side-issues. . . . Its object is to convict the German Government of calculated bad faith, and the German Army of criminal outrages, by the evidence of their own recorded words and deeds."

The enormity of the offences committed by the German Army is unfortunately gigantic, but it is difficult to account for the very considerable surprise which appears to prevail concerning Germany's methods of making war. There must be many British subjects alive to-day who have heard from the lips of relatives, domiciled in France in 1870-71, of the outrageous conduct of German soldiers during the Franco-German War of that date, and of the fact that even the status of their relatives as neutrals protected neither their persons nor their property from molestation, and how Prussian soldiers, maybe after pillaging the contents of their homes, set fire to the buildings which housed them. The translator of the French Report opportunely quotes an extract from a letter from the pen of Sir Edward Hamley published in the *Times* in January, 1871, in which the distinguished general, *inter alia*, states:—"The 'laws of war,' as promulgated by the Prussians, may be condensed in the case of invasion into the general axiom that the population of the invaded country lose their rights of property and of personal security, while the persons and effects of the invaders become absolutely sacred."

A perusal of the documents in the Report of the Commission show that, in spite of all the agreements made between the nations of the world and to which Germany herself was a party, the barbarous methods practised by Germany 45 years ago have been pursued, with aggravated violence, by the German Army as part of the "hacking-through" policy in the present War. In the Preface to the French Report reference is made to the definite obligation the German Empire entered into at The Hague in July, 1899, to give effect to and to act in accordance with the

rules and regulations embodied in the "Convention concerning the Laws and Customs of War on Land" made and agreed to by the representatives of all the civilized nations of the world; rules and regulations which had for their object, (i.) the mitigation of the rigours of war, so far as non-combatants might be concerned, and (ii.) the treatment of combatants in accordance with the newer conceptions of humanity dictated by the progress of modern civilization. No secret is made of the fact that the signatory powers were profoundly disturbed, in 1902, on the appearance in print of a manual entitled "Kriegsbranch im Landkriege" ("The Laws of War on Land") published by the Great General Staff at Berlin. In this manual, the German officer was put "on his guard against the *humanitarian ideas* which inspired the Conferences of Geneva, of Brussels, and The Hague, and it lays down for him rules of conduct which very frequently, even in essential matters, are opposed to the stipulations of the Conventions of 1899"; stipulations to which Germany herself was a party. The contents of the Report of the French Commission are arranged under the following 10 headings:—

I. Violation of the Neutrality of Luxemburg and Belgium.
II. Violation of the French Frontier before Declaration of War.
III. Killing of Prisoners and Wounded.
IV. Looting, Arson, Rape, and Murder.
V. Violations of the Geneva Convention.
VI. Use of Forbidden Bullets.
VII. Use of Burning Liquids and Asphyxiating Gas.
VIII. Bombardment of Fortresses without Notice, and of Unfortified Towns; Destruction of Buildings consecrated to Religion, Art, Science, and Charity.
IX. Treacherous Methods of Warfare.
X. Cruelties Inflicted on the Civil Population.

In the first chapter extracts are reproduced from Article 2 of the Treaty of London, May 11th, 1867, and from Articles 7 and 25 of the Treaty of London, November 15th, 1831, in which the neutrality of the Grand Duchy of Luxemburg and of Belgium are guaranteed. These extracts are followed by others from the French Yellow Book, the Belgian Grey Book, and the British White Paper relating to the violation of the neutrality of the Grand Duchy and of Belgium and to the rupture of diplomatic relations between Great Britain and Germany.

The second chapter begins with Article 1 of Convention III. of The Hague which requires a "clear preliminary notice" in the form of a declaration of war to be given by the contracting powers before the commencement of hostilities. The orders and instructions issued to French troops, to prevent any violation of the frontier of Germany or that of neutral countries, are reproduced *in extenso*. These are followed by the reports made by officers of the Custom Service and others stationed at various points between Rougement and Delle (in the region east of Belfort) dealing with incidents connected with the violation of the French frontier on the 2nd August, 1914, yet Germany did not declare war on France until 6.45 p.m. next day. A sketch map is inserted on which are marked the 11 points on the frontier at which it is definitely

known German troops crossed prior to the declaration of war. In many of these cases fire was opened by the enemy on French Police and Customs officers who were naturally ignorant that a state of war existed.

An extract from Article 23 of the Regulations of The Hague which declares that, " It is forbidden :

(*c*). To kill or wound any enemy who, having put down his arms or no longer having means of defence, has surrendered at discretion.

(*d*). To declare that no quarter will be given "

heads the third chapter. This extract is followed by numerous police and other official reports relating to the massacre of wounded French soldiers and of prisoners of war, not only singly, but occasionally in batches of even 30 to 60 soldiers at a time. The statements made by witnesses testify to the revolting circumstances under which these crimes were committed and cruelties practised and to the callous indifference shown by the German officers and men to the feelings of the combatants and non-combatants called upon to witness the murders of the most brutal description committed by them without the slightest provocation. A young woman, 22 years of age, tells of a case which occurred on the 29th August, 1914; she states : " Thirty soldiers of the 99th Regiment of Infantry came to take shelter in this cellar (*i.e.* in her father-in-law's house). They were discovered by German soldiers. Seeing the Germans, the French soldiers laid down their arms and gave themselves up as prisoners. My father-in-law, who speaks German, conveyed to the Germans what the French soldiers were saying, but one of them replied in German, 'We do not want prisoners.' They made the French soldiers come out of the cellar and then compelled them to go down on their knees in the garden which adjoins the house ; later they led them to the front of the house, and placed them up against it, a yard's distance from the wall, facing towards the road, and there they shot them. I did not witness the last part of this scene, for I was utterly overcome ; I only heard from the cellar the noise of the firing, and the last anguished cries of the French soldiers. A few moments afterwards I came out and there I saw, stretched side by side and lifeless, the 30 Frenchmen."

In another case a private of the 254th Regiment of Infantry made a statement when *in extremis*, relating to the massacre, on the 22nd or 23rd September, of some 50 or 60 men of his regiment made prisoners near Mouilly (Meuse), in the following terms :—" After having disarmed them, a German captain drew his revolver and blew out the brains of the adjutant. This was the signal for a general massacre. The soldiers, under this captain's orders, proceeded to shoot the Frenchmen point-blank. Not a single one was spared."

Evidence from German sources is also published in this chapter ; it indicates that the killing of prisoners was carried out in compliance with a predetermined policy. The French Government learnt in September, 1914, that General Stenger, commanding the 58th Brigade, had given orders to his troops to kill their prisoners. One of the forms in which this order reached the French authorities is as follows : —

"From and after to-day no more prisoners are to be taken. All prisoners are to be massacred. The wounded, whether with or without arms, are to be killed off. Even when prisoners are in regularly constituted units they are to be killed. No living enemy must be left behind us."

The following extract from the note-book of a N.C.O. of the 85th Regiment of Infantry, 9th German Army Corps, has a particular interest in this country (the photograph of the original is published in the work under review):—"October 6, 1914. We wanted to take the fort at once, but we had first to camp at Kessel (to the E. of Antwerp). The captain called us round him and said: 'In the fort we are going to take there will very probably be English soldiers. But I don't wish to see any English prisoners with my company.' A general Bravo of approval was the answer."

The fourth chapter deals with the laws, rights, and duties affecting Militia and Volunteer Corps (Arts. 1 and 2 of the Regulations of The Hague), and those affecting family honour and looting (Arts. 46 and 47 of the Regulations of The Hague).

In order to have a pretext to justify the atrocities committed by the German troops, a communiqué was published in the *North German Gazette* of the 15th August, 1915, charging France and Belgium with acts contrary to the law of nations in regard to the organizing of the civil population for warlike purposes. The French Government, four days later, addressed a memorandum to the Powers in which a most vigorous protest was entered against this defamatory accusation.

Much evidence is reproduced in this chapter relating to the wanton destruction of private property without any justification whatever, the ill-treatment of aged and infirm persons of both sexes, the violation of young and elderly women, the wounding and shooting of young and old, of men and of women. The evidence of a German private of the 57th Regt. of Infantry in relation to one of these incidents reads as follows:—

"We brought the women out (*i.e.* out of a house at Metten) and took them to the major, and then we were ordered to shoot the women.

"The major was called Kastendick and belonged to the 57th Regiment of Infantry. When the mother was dead the major gave the order to shoot the child, so that the child should not be left alone in the world, and when the mother was shot the child was still holding her hand, and as she fell she pulled the child over with her."

The heartrending scenes appear, at times, to have been too much even for the Teuton; a soldier of the 32nd Regiment of Infantry records in his note-book: "Women, children, and old men stand at the end of the village weeping and holding up their hands, a dreadful moment for me. My eyes fill with tears."

Another private (of the 1st Regt. of Light Horse), writes: "In a general way it was necessary to order many punishments that were disastrous for the population, sometimes indeed unjustly, and it is unhappily true that the evil elements felt authorized to commit nearly every kind of misdeed." Further in the letter, he refers to the looting of houses and "befouling" of everything by his comrades and admits "that every right-thinking person must be filled with horror at the misery of the War."

The following extracts from the diary of a German N.C.O. of the 38th Regiment of Fusiliers (Silesians) is of interest:—"Beer was brought along in cases in exchange for a receipt which is certainly worthless. Alas! how quickly one sees the *bête humaine* revealing itself in many a soldier; it was not long before we could tell whether our 'kultur' was a mere surface varnish or something more deeply rooted." And "All rights of property are abolished; we are doing infinite injury to our reputation."

The foregoing extracts show sufficiently clearly how very completely the discipline of the German Army broke down on its transformation from a peace to a war status; these extracts represent but a small part of the evidence which has been collected in relation to the particular class of wrongdoings of the German Army dealt with in this chapter, and even then perhaps not in relation to the most diabolical of the crimes committed. One of the worst cases on record is testified to by a lieutenant of the 8th Bavarian Regiment of Infantry (Reserve) who witnessed the shooting of the father of a family by a Bavarian soldier with "incredible brutality" in the presence of his wife and child.

The fifth chapter treats of the utter disregard shown by German officers and men to the provisions of the Geneva Convention; not only has cruel treatment been inflicted on wounded men under the protection of the Red Cross flag, but the evidence collected also places on record facts connected with the deliberate shooting of medical officers and stretcher-bearers whilst in the performance of their duties.

In the sixth chapter are given photographic reproductions of cartridges with explosive bullets, which had apparently been dropped by German soldiers on the field of battle in the early days of the War, together with reports on these cartridges prepared by the Director of the Technical Branch of the Artillery at Paris. A report on the nature of wounds produced by the use of "reversed" bullets is also to be found in this chapter.

The seventh chapter opens with extracts from the Declaration of The Hague, July 29th, 1899, and Regulations of The Hague (Art. 23), which forbid the use of projectiles the sole object of which is to disseminate asphyxiating or deleterious gases, and prohibit the employment of poison or poisoned weapons, and of arms, projectiles, or material calculated to cause unnecessary suffering.

A memorandum drawn up by the French Government on 29th April, 1915, included in the Report states:—

"For some time past, the French military authorities have noted the abominable methods used by the German troops against the armies of the Republic, in violation of all the undertakings solemnly given by the German Imperial Government to the other Powers, and in contempt of all the sentiments of humanity."

In connection with this memorandum a photograph of a type-written document relating to flame projectors is reproduced; therein it is stated that, "The waves of flame have an effective range of 20 square metres. Their deadly effect is instantaneous, and they throw back the enemy to a considerable distance by means of the great heat they generate."

The memorandum continues: "No government can remain defenceless against such refinements of barbarity without endangering the safety of its troops. The Government of the Republic, governed solely by its military exigencies, accordingly proposes to adopt every means calculated to prevent the German soldiers and military authorities from committing their premeditated crimes and murders."

In a report from the Minister of War to the Minister of Foreign Affairs dated May 6th, 1915, it is stated that the asphyxiating medium used by the Germans against the French lines was chlorine, although apparently in some quarters the opinion was held that it was a mixture of bromine and gaseous hydrochloric acid which had been used.

In this chapter are also included a clinical, anatomo-pathological and histo-chemical study of cases of poisoning by the irritating gases used by the Germans, the details of which are somewhat too technical for reproduction in this article.

The eighth chapter is concerned with the violations of the provisions of Arts. 25, 26, 27 and 46 of the Regulations of The Hague, extracts from which are quoted. By the terms of these articles the attack or bombardment of undefended towns, villages, dwellings, or buildings is forbidden, and provision is made for sparing, as far as possible, buildings dedicated to public worship, art, science, or charitable purposes, historic monuments, and hospitals. It is further provided that family honour and rights, individual life and private property must be respected.

The little respect which has been shown to these provisions of The Hague convention is thus briefly summed up in the Report: "The German Army, in France as in Belgium, bombarded and destroyed so many towns and villages, so many buildings dedicated to art, science, and charitable purposes, without any military purpose, and these crimes have been so openly committed in the sight of the world that it will be unnecessary to cite many documents here." Copies of the document addressed by the French Government to the Powers, protesting against the first bombardment of the town of Pont-à-Mousson, and of two documents relating to the bombardment of Rheims Cathedral are reproduced in the Report of the French Commission.

The ninth chapter deals very briefly with the treacherous methods of warfare practised by the Germans. The evidence on this subject shows that prisoners of war have been placed in front of German troops so as to be exposed to the fire of the Allies, that French women have been made to walk in front of German troops so as to act as a screen, and that French women and children have been placed at the windows of houses, during an attack on a village, whilst German soldiers stood behind them for the purpose of firing on French troops engaged in the attack on the village.

A letter from a Bavarian officer published in the *Vorabendblatt* of the *Münchener neueste Nachrichten* of the 7th October, 1914, reproduced in the Report, openly avows the lengths to which German officers have gone. In it the writer tells of the *brilliant idea* with which he was seized; some civilians who had been arrested were compelled to sit on chairs out in the middle of the street of a village during an attack. He states: "On their part, pitiful entreaties; on ours, a few blows from

the butt end of the rifle. . . . At last they were all seated outside in the street. I do not know what anguished prayers they may have said, but I noticed that their hands were convulsively clasped the whole time. . . . The flank-fire from the houses quickly diminished, so that we were able to occupy the opposite house and thus to dominate the principal street. . . . Later on I learned that the regiment of reserve which entered Saint-Dié further to the north had tried the same experiment. The four civilians whom they had compelled, in the same way, to sit out in the street, were killed by French bullets. I myself saw them lying in the middle of the street, near the hospital."

In the tenth chapter are reproduced reports relating to the murder of civilians and the cruelties inflicted on the civil population by German troops; these reports conclude the present historical record of the acts of infamy charged against the German troops, which acts must remain for all time an indelible stain on the character of the German nation.

W. A. J. O'MEARA.

RUSSIAN SELF-TAUGHT.

By MAJOR C. A. THIMM; *revised by* J. MARSHALL, M.A., late of Petrograd.

(E. Marlborough & Co., Publishers, 51, Old Bailey, London, E.C. 5th Edition. Cloth, 2s. 6d.; paper, 2s.).

THIS is another of the "Self-Taught" series which the publishers have placed on the market and is in every way comparable in excellence to the others. It contains Naval and Military vocabularies and phrases, and will prove of much use to sailors and soldiers and others in touch with Russia at the present time, while to the general reader it will be of great assistance whether studied privately or in classes. It contains—Vocabularies, Elementary Grammar, Conversations, Naval Talk; Naval, Military, Commercial, and Trading Terms; Cycling, Photography, Shooting, Fishing, Money, Weights, Measures, Illustrations of Coinage. It is handy in form, easily carried either in kit or pocket.

NOTICES OF MAGAZINES.

JOURNAL OF THE BRITISH SCIENCE GUILD.

The British Science Guild published the first number of its journal in September last. This journal contains a report of the Ninth Annual Meeting of the Guild which was held on the 1st July last at the Institution of Electrical Engineers and also an address on "The National Organization of Science" by Sir William Ramsay delivered on the same occasion. The subject of the address is one of considerable importance to the nation just now, as it deals with the problem of the utilization of our scientific resources of all kinds in the interests of the particular needs of the country at the present moment as well as for the promotion of the general welfare of the nation as a whole. Sir William touches upon the offer made by the French Académie des Sciences to the French Government on the 4th August last year to place all its resources in aid of the national defence and refers to the various committees which were born of this offer. An outline is also given of a draft scheme prepared by Lord Sydenham, one of the Vice-Presidents of the Guild, for the organization of the Royal Society to meet the exigencies of the War, and the hope is expressed that when peace comes the organization in question will not be allowed to lapse. The scheme proposed by Lord Sydenham provides for the establishment of a General Advisory Committee, to which all Departments of State would be directed to apply for assistance in regard to new inventions, improved methods of manufacture; and imposes the duty on this General Advisory Committee of making suggestions to the head of any Department of State in regard to questions of applied science.

In passing it may be stated that the British Science Guild was founded: "To convince the nation of the necessity of applying methods of science to all branches of human endeavour, and thus to further the progress and increase the welfare of the Empire." In order to attain its objects the Guild has pursued the policy of opening very wide the door to its membership; it has been fortunate in receiving the support of many eminent men belonging to almost every intellectual sphere of activity, consequently although the Guild is still young—it was founded in 1905—by virtue of the ties created in influential quarters it has already succeeded in doing much for the benefit of the British public; the Guild is deserving of all the encouragement those interested in the introduction of scientific methods and management in every sphere of our national activities are prepared to give it and more specially so in the direction of increasing its membership.

REVUE MILITAIRE SUISSE.

60th Year. Nos. 7, 8 and 9 (July, August and September, 1915), with Supplement.

No. 7.—July, 1915.

INDEPENDENCE AND NEUTRALITY.

Le Devoir Suisse.

The article, which was commenced in the number of the *Revue* for the preceding month, is concluded in the number now under review (*vide R.E. Journal* for September, 1915). A fourth reason is given for the observance of a strict neutrality on the part of the Swiss during the conflict now in progress between the great European Powers; the Treaty of Paris, it is pointed out, expressly imposes a duty on Switzerland both towards the remainder of Europe as well as towards herself to remain exclusive and independent, so far as concerns external influences, put briefly, "*c'est notre indépendance de toute influence étrangère.*"

The *question des étrangers* had become a vexed national problem previous to the outbreak of the present war, indeed, the Press references to it date back 10 years and more. In 1914, the foreign element in Switzerland equalled about one-seventh the total population of the Republic; there were over 104,000 Germans in Zurich and Bâle alone, about 63,000 Italians in Geneva and the Ticino Canton, and over 37,600 French in Geneva. In consequence of this foreign intrusion a fear existed in some quarters that a fate similar to that which overtook the Transvaal might be in store for Switzerland, specially in view of the political influences at work in the foreign colonies and the power of their Press. The author expresses the opinion that the German peril had completely hypnotized the Swiss; this peril was no doubt the greatest which threatened the nation, but two other dangers there were, which also required to be dealt with. It is suggested that the Swiss should endeavour, during the present crisis and even in the future, before taking sides, to place themselves completely outside foreign influences and to purge their Press also of these same influences. It is pointed out that the foreigners who are now partaking of Swiss hospitality must in the ordinary course of intercourse with the citizens of the Republic, consciously and unconsciously, exercise a certain influence on them by their conversation, expressions of opinion, etc.; further, primordial interests dictate to the belligerents the adoption of measures to win over the opinions of neutrals in favour of their cause. Among the residents in Switzerland there are foreign propagandists who make use of two means to gain their ends: they endeavour to create a schism between the French and German elements composing the Swiss nation, they spread false reports and give an untrue representation of passing events. "Let us be on our guard to-day, for to-morrow it may be too late," says the author. He quotes the following views of M. Georges Wagnière: "There is another form of danger which the War has revealed to us; that is the *opinion étrangère* which has taken root throughout Switzerland and ousted the *opinion nationale*. Everything is now

judged by the mirror reflecting the opinions of foreigners, 'tis so even in matters affecting the Fatherland. And in espousing all the sentiments of the foreigner, his ambitions, hate, bitterness, the fatal mistake is made of adopting just those ideas which hatred always blindly engenders. From that time our opinions lose all their value: they become deficient of that single quality which renders an opinion of value, that is the independence of him who gives expression to it."

It is urged that so long as the War should last, the national interest demands that the Swiss should suspend, or at least reduce to as narrow limits as possible, intellectual intercourse with foreigners, and particularly with foreign universities. The adoption of this course is held to be essential for the protection of the national *indépendance intellectuelle*. It is argued that in France, Germany, and Italy, the universities, the schools, the reviews have become hotbeds of propagandism; the most eminent authors and professors have taken up belligerency with great zest, and unfortunately their opinions carry the full weight of their authority on the minds of the Swiss people. It is urged that the belligerents should be furnished by Switzerland neither with the ideas likely to be conveyed by an argument nor with arms—certainly not for use against themselves.

The opinion is expressed that in regard to the present crisis the Swiss Press is in a state of moral bankruptcy; it ought to have striven to form and guide public opinion in the interests of the country as a whole; it is alleged that, on the contrary, it has divided the nation and too often forgotten the true interests of the Republic.

The German section of the Press was the first to go wrong; it took up the Teuton cause with the ardour of a belligerent. The French section of the Press had a more correct view regarding national interests; it expressed the fear that a complete victory of the Germanic Powers might involve at first the economic absorption of Switzerland only, and later also the loss of its political identity. It is stated that the hatred of all things of German origin has gone beyond reasonable limits and that the reaction against "*Prussian militarism*" threatens to be converted, in a word, into "Antimilitarism."

The Press of a country, it is pointed out, is by the ordinary individual held to represent public opinion; therefore the more unanimous, the more judicial and the more scrupulous that the Swiss Press is, the greater will be the power of the Central Authority to ensure respect for the neutrality of Switzerland and to protect the national interest.

Yet a fifth reason is put forward why Switzerland should maintain her neutrality: her *mission internationale* imposes the adoption of this course on the Swiss people. The accomplishing of great international duties is an honour to her citizens and the justification for the existence of the Republic; it is only by attending to these duties that Switzerland can hope to retain the absolute confidence of the belligerents. The maintenance of the neutrality of Switzerland is required in "the interests of entire Europe"; it is for this reason that Swiss citizens can busy themselves not only in the domain of philanthropy, but also in the intellectual and moral spheres of activity. The Swiss, it is stated, should strive resolutely to obtain the full benefit arising out of impartiality of conduct; they should avoid being attracted in one direction or another

either by affinity of race or common origin of language. What is most wanted is that the citizens of the Republic shall, at the same time, strengthen in themselves the *esprit suisse* as well as the *esprit européen*. The identity between the national interest and the European interest imposed by the Treaty of Paris should at no time be lost sight of, it transforms the neutrality of Switzerland into a *neutralité positive*, even in relation to the obligations which are superficially the most negative. A correct understanding of these obligations will cause hate and preferences to be dismissed, the heart to be elevated and the mind to be illuminated.

Consideration must at all times be given to the future. The question is asked: "Will the present war spare us?" The hope is expressed that it will do so, but of this no one is absolutely certain. The situation has not changed appreciably since August, 1914, and from Porrentruy and from Basle the smoke of battle can be seen and the sound of the struggle heard, and now that Italy has entered the conflict Switzerland finds herself surrounded by fire; she is indeed in the very vortex of the storm. War is ever present to the nation and arms must ever be kept in a state of readiness for instant use.

A period of supreme danger may supervene for the Republic when the date for the settlement of the accounts between the present disputants is at hand. This period will, it is suggested, be a more dangerous one for Switzerland than that of August, 1914. It is just possible that, at the conclusion of the present conflict, new quarrels may arise outside which it may not be so easy for the Swiss to keep as has been the case as regards the existing struggle. It is expected that after the War great economic groups will be formed by the European nations, one or other of which Switzerland, it is thought, will be invited to join, and, indeed, will be compelled to join if national extinction is to be avoided.

The present situation would, it is stated, be clearly understood by the Swiss if they possessed but a little of the *sens historique*; if they understood the history (which the great Swiss Jean de Müller calls "A storehouse of experiences available for use in dealing with questions of high politics") of their nation, the good citizens would realize that their country is not some abstract idea, that its neutrality is not something residing outside the limits of time and space. Switzerland is a State like others, but being situated at the centre of Europe it is in close contact with the great nations of the Old World, which are tending to crush the Republic merely by their potential weight. Switzerland has never succeeded in keeping herself entirely free from entanglement in the conflicts which have torn Europe in the past; these conflicts have at times enmeshed her last of all, sometimes only indirectly, but the fact remains that on every occasion that a considerable European disturbance has occurred the end has not been reached without drawing Switzerland into the influence of the storm. History teems of examples in this respect. Switzerland indeed was born of the tumult of the Middle Ages, the "emancipation of the communes." The Union of the Waldstätten may be regarded as an episode in the struggle between the Guelphs and Ghibelines. Switzerland was divided at the Reformation, disturbed by the Thirty Years War, stained by blood at the Peasants' Rising, and she has had her frontiers violated by Mercy and by Prince

Eugene. If in 1792 and in 1793, she was, to a considerable extent, spared at the time of the French Revolution, nevertheless, in 1798 and in 1799, the armies of the Directory trod her sacred soil which also became the theatre of the European War. The opinion is expressed that the cruelties perpetrated by German troops in Belgium, in connection with the present war, are no more barbarous than the bloody exploits committed in the Petits Cantons by the XIV. (French) Demi-Brigade composed of released criminals, whose memory has remained a ghastly nightmare in the little Republic ever since the foundation of the Swiss nation. To add insult to injury the generals and soldiers who had violated Swiss neutrality, after having admitted it, did not cease to proclaim her neutrality aloud in the name of universal liberty, equality and fraternity, and even to claim that they had freed the Swiss people. Finally, from 1813 to 1815, foreign troops were once again seen within the territories of the Republic, when fresh trials had to be suffered by its citizens during the last war of Napoleon.

In conclusion, the author of this paper puts on record his own articles of faith; these are too numerous to reproduce here *in extenso*. The following are examples :—

"We have no right to sacrifice the Fatherland to our egoisms, to our individualisms, to ill-defined generous feelings, to mere ideas, however noble they may be. To an idea we may sacrifice but our own selves."

"Work for the Fatherland, this is the surest means of working for the whole human race."

"By being good Swiss, we shall also be good Europeans. We can be that without uppishness and conceit, without finding it necessary either to prophesy or to anathematize."

"It is not war which is impious but hate."

"To work in silence will be our salvation."

"A country is defended by two forces: its army, the exterior force; the patriotism of its people, the interior force."

"The Swiss people are sovereign; each citizen is a member of this sovereignty: each citizen therefore must bear his share of responsibility."

"This responsibility necessitates the performance of obligations before pressing for rights; it requires submission to civic and willing discipline analogous to military discipline."

"A country must not only defend, but also justify its existence."

"The Treaty of Paris guarantees us nothing in itself: a scrap of paper can never have the strength of a shield."

"If we wish to remain neutral—and we do so wish—let us accept all the obligations of neutrality without reserve."

"An individual cannot at the same moment be French and Swiss—German and Swiss—Italian and Swiss."

"The love of Fatherland is imperious, exclusive."

"Patriotism is not a debatable subject, because it is not possible to debate one's duties."

The final recommendation is that the Swiss people should, at the present time, adopt for their motto the injunction contained in the following line by Corneille :—

"Let us do our duty and let the gods do theirs."

FRENCH MILITARY REGULATIONS CONSIDERED BY THE TEST OF ACTUAL WAR.

The hostilities which commenced last summer in Western Europe had long been awaited; consequently, the French Army was not taken by surprise, sudden as was the outburst which has involved the greater part of Europe in a devastating war. The imminence of the danger having been apparent to all eyes, preparations had been continuously in progress in France to meet it, and therefore her army was not called on to act against the foe in accordance with rules and regulations relating to field operations which were out of date and otherwise unsuitable of application under modern conditions of fighting. The French regulations on the subject, on the contrary, were of recent date, and those who had been responsible for their compilation were, on the outbreak of war, called upon to apply the maxims laid down by themselves in actual practice. Thus, it has been possible to obtain the maximum advantage therefrom. A critical examination of the French regulations follows, a commencement being made with the Decree of 28th October, 1913, which was drafted by a commission of military officers and deals with the operations of the larger formations or units. This Decree was but 10 months old when war broke out; the General Staff of the French Army was naturally aware of its general tenour, and the generals in command of the larger formations had had sufficient time to grasp the inner meaning of its contents, but enough time had not yet elapsed to allow them to forget the lessons therein contained.

The systematic silence maintained with regard to the operations which have been taking place since August, 1914, naturally renders it difficult for an investigator to be fully cognizant of all that has been happening; the truth is only known partially and even then in a disconnected form. The deepest ignorance prevails, even in well-informed quarters, in relation to many important facts; many others have been so twisted and turned—in some cases unconsciously in others by set purpose—as to bear no longer any impress of their true image. For the foregoing reasons, it is impossible to penetrate sufficiently deeply into the principal events of the War for the purpose of laying bare in all their nakedness the shortcomings of the regulations under consideration; all that can be done at the present time is to put forward a few notes, of a more or less summary nature, which may be of use when the Great Inquest, which must of necessity be opened after the termination of the War, takes place.

The Operations of Large Units.

The decree of the 28th October, 1913, deals with the general principle of strategy, and as the larger movements of armies cannot be hidden from public knowledge and their main object can, in some measure, be understood even by laymen, the remarks in the preceding paragraph do not apply to the contents of this Decree.

Generally speaking, it is for a government alone to determine the political object of a war. This truth seems to be a veritable truism and it is asked, therefore, whether under these circumstances any reference thereto should exist in a guide prepared exclusively for the use of divisions, army corps, armies and groups of armies. On the other hand, it is certainly a mistake to allow the civil authority to decide which

body of troops it is to whom the term "*principal*" *adversary* is applied in the decree aforesaid. On the commencement of hostilities the question immediately arises: Who is the "*principal*" *adversary?* Is it that nation or body of troops which is considered the most formidable either by reason of its numbers, or the skill of its generals, or the superior power of its engines of war? On the other hand, is it the one who, in the general interests of the situation, must be knocked out first?

It is rightly concluded, that there must be a complete understanding between the two authorities, civil and military; for instance, it is for the Central Government to indicate the political and social considerations which must be borne in mind, and for the military authorities to see to it that their plans conform thereto and meet the requirements of the general situation. The execution of the military plans then proceeds automatically; the army to which the objective has been clearly indicated, is in a position to decide on the methods by which the end in view can be attained, and it only remains for the Central Government to provide the wherewithal necessary for the purpose of the war.

The first paragraph of the decree referred to states:—"If a campaign is so widespread as to effect more than one frontier, the Government will designate the *principal adversary* against whom the largest portion of the national forces should be directed. It allots, in consequence, the troops and resources of every kind and places them at the sole disposition of the generals commanding-in-chief in the several theatres of operations."

In Germany, where the civil authority is submerged in the military authority, the important question requiring a decision at the beginning of the present war was which of the two, Russia or France, was really the *principal adversary*. It is now known that there was hesitation in high quarters in Berlin to give a definite pronouncement on this important matter, and the distribution of the German forces, which was made at the beginning of the War, has since been modified more than once, and even at this date a state of stable equilibrium has not yet been attained.

France had no choice, she placed under one general the whole of her forces and he has had them at his *entire disposal*. It is alleged that when the Government wished to withdraw a small part of these forces for employment in another theatre of operations, it came into conflict with the generalissimo, who, under the paragraph of the Decree quoted above, was acting strictly within his rights.

The provisions of the paragraph quoted above seem therefore out of place; it would appear that no civil authority, competent enough to advise on the political significance of the terms of this paragraph, was consulted. Had this been done such a civil authority would, it is presumed, have pointed out that the Central Government must possess the power to intervene at any moment, since the general situation, internal as well as external, is liable to modifications and alterations instant by instant. The attitude of the nation and the intentions of foreign states are as changeful as the designs in a kaleidoscope. The periodical reports of diplomatic representatives and of provincial officers can and must exercise an influence which reacts with considerable force on military operations. It naturally behoves the government of a country to act with great circumspection in dealing with a military situation; it must not meddle with it every minute. Only when some far-

reaching change in policy is necessary should it intervene; otherwise the government should leave matters in the hand of the military chief, so long as he is not so much left alone as to be constituted a veritable dictator.

It is held that the objections to the provisions of paragraph 2 are not any less open to objection than those of the first paragraph of the Decree. It contains a qualification of doubtful value. The main provision thereof runs :—

" Military operations contemplate the complete destruction of the organized forces of the enemy."

The qualification is expressed in the following terms :—

" This principle, which is of an absolutely rigorous application in the principal theatre of operations, is subject to exceptions in those secondary theatres of operations where an immediate decision is not being sought."

The leading principle of the above paragraph is based on a theory of Clausewitz which has served its time. The object of war is to obtain the victory, and this can be brought about by crushing his army ; it can, however, be obtained in other ways ; by putting his army *out of action*, by obliging it to consume munitions and food faster than supplies can be renewed, by reducing his country to a state of famine, by creating demoralization and tumults among his people ; any one of these means may bring the enemy on his knees to seek peace. It is the enemy's *power* which must be destroyed, not necessarily his *army*. It is stated that the conception of a triumph won by prowess of arms, and that alone, is a purely military conception.

The world is revolving at a time when a generalissimo has to be satisfied with " nibbling " ; he has to give up the idea of taking big bites!

The injunction contained in paragraph 3 of the Decree has proved abortive: by it the commander-in-chief is exhorted " to seek a decision *within the shortest limits of time*, in order to terminate the campaign promptly."

True to the precepts contained in the last quotation, the Germans have pushed their offensive hard ; however, their efforts are tending to prolong rather than to shorten the War. The French are proceeding on similar lines.

The present war is proving more than ever before that the preponderance of numbers tells. But the situation in France seems to indicate that the first duty of the country should be to take care that no more men are called out for service with the colours than can be immediately utilized. Pursued by the obsession for numbers, it is said that, by degrees, every man capable of military service has been called up, causing the rest of the population to be left in a state of chaotic disorganization.

The official maxims of war adopted in France are laid down in paragraphs 4 to 9 of the Decree of 1913. The offensive is preached therein with great persistence :—

§ 4. " The decisive battle, sedulously sought for from the commencement, is the sole means whereby the initiative of the enemy can be crumpled up and the destruction of his armies effected. It constitutes the essential act of war. The conquest of a part of his territory, the capture of fortresses, can never alone ensure decisive results.

" Strategic combinations consequently have for their objective, above all things, the adoption of measures to compel the enemy to accept battle."

However, what if he refuses battle? It is well to remember the retreat of the Russians to Moscow before Napoleon when the Great Emperor was "defeated by his very conquest."

§ 5. "In order to conquer, it is necessary to break up by force of arms the enemy's battle formations.

"This breaking up of his formations demands persistent attacks, well pushed home without any consideration as to the cost: it can alone be obtained at the price of enormous sacrifices. Every other idea on the subject must be put aside as being contrary to the nature of war."

In the present war, both French and Germans have played up splendidly to the principles inculcated above. But nowhere has the front been broken through permanently; at most, the fronts have had nicks made in them of no considerable depth, and here the damage done has been quickly repaired in the same way that a cicatrice quickly forms to close a slight open wound in the flesh.

§ 6. "The offensive alone produces positive results. In war, success has always been on the side of the generals who have wished for and sought battle; those who have waited for it have always been beaten.

"In taking the initiative in operations, a commander imposes his will on his foe instead of having the latter's will forced on him. An energetic commander-in-chief, full of confidence in himself, in his subordinates, in his troops will never suffer his opponent to open the battle. . . ."

The spirit of the French regulations cannot be more clearly exposed than is done by the preceding paragraph. The Campaign of 1812, already recalled earlier, shows that success in war has not always been on the side of commander who has wished for and sought battle. In taking the initiative by attacking a strongly fortified position, a commander, at times, falls into the trap set for him by his adversary. The truth is, the offensive increases the dangers which one's own troops run as well as those which the enemy is made to run. The question to be determined is whether the increase in one's own vulnerability resulting from the adoption of the offensive is more than balanced out by the increase of effectiveness obtained thereby. Clearly, sometimes the balance of advantages will be in favour of the offensive, at others against it. The mistake lies in adopting, *a priori* and without taking all the factors into consideration, a settled conviction in favour of one single mode of combat to the exclusion of every other, thereby the mischief is done of inculcating a formal dogma.

The view is expressed that having regard to the French temperament, instead of urging on them the offensive, it would have been wiser to have prepared them for the waiting game which the necessities of the situation has now forced on them; the wonder is that the ardour of the French has not cooled and that they still retain full confidence in themselves, in spite of their past training and education.

The qualities, indicated above, which have been shown by the French troops are the contrary of those expected by the authors of the Decree of 1913, as disclosed by their report to the Minister of War; *inter alia* they state:—

"The conduct of war is dominated by the necessity of giving a vigorously offensive impulse to the operations.

"Among the nations of the world, it is France which in its military history affords the most striking examples of the far-reaching results to be obtained in the conduct of war in an offensive spirit, and of the wholesale disasters which follow in the train of a defensive war.

"Raised by us to a state of perfection, the doctrine of the offensive has brought us the most glorious successes. And, by a cruel counter-proof, the day on which we have neglected it, it has furnished, there and then, to our enemies the weapon by whose aid they have defeated us.

"The lessons of the past have borne fruit; the French Army, having reimbibed its former traditions, no longer recognizes for the conduct of operations any other law than that of the offensive."

The authors of the report in question refer therein to the views which prevailed after the South African War as to the impregnability of a defensive front and of the possibility of bringing about decisive results by manœuvre alone and without combat, and to the *coup de grâce* given to these "*dangerous theories*" by the lessons of the Russo-Japanese War. As might be expected, it is pointed out that in war all the decisions of the higher command must be inspired by a desire to seize and maintain the initiative; further, that this desire for the offensive must be pursued without relaxation, in spite of all obstacles and inevitable accidents. The theory is correct enough, so long as it is not pushed to absurd lengths; useless sacrifices must be avoided at all costs.

In paragraph 6 of the Decree very properly nothing was said, as has formerly often been the case, that the fate of a campaign depends on the results obtained after first contact with the enemy. The expectation contained in this paragraph that "in every case the first battles are of great importance in view of the preponderating influence which they may exercise on the succeeding course of events" the experience of the present war has, fortunately, proved to be somewhat wide of the mark, having in view the sense in which the foregoing language was employed. The result of the fight at Charleroi certainly exercised a great influence on the succeeding course of events; and also provoked a proper wish for revenge, of which the victory of the Marne may be considered the first-fruits.

True to its faith in the "*decisive battle*" the regulations relating to the operations of the large units are naturally concerned with the "supreme struggle which decides the fate of the War and the future of the nations hanging in the balance." In paragraph 7 are given the conditions necessary to ensure success; it is laid down that all available forces must participate in the fight. These forces cannot hope to obtain success unless the commander and his troops are confident of victory and possess the firm desire to obtain it, cost what it may (para. 8). Once victory is obtained, it must be completed and rendered decisive by "a pursuit executed without truce or relaxation and by putting forth all available energy even up to the breaking point"; it must end in the annihilation of the hostile forces (para. 9).

In practice, it has been found impossible to fight a *decisive battle*. As to the taking advantage of victory, the Germans certainly attempted to do so, to a greater or less extent, after the Battle of Charleroi, but the French were not in a position to do so after the Battle of the Marne.

The general principles set out at the commencement of the regulations

are developed in Chapter VII., which deals with the operations of an army corps. It is there stated (para. 114) that "the decision to fight and even the general lines on which the collision shall be effected should be worked out previously to actual contact." This precept leaves out of account the movements of the enemy, the local situation, the atmospheric conditions. Such a procedure has never succeeded in practice.

The regulations also lay down the injunction that the higher commanders should never tell their subordinates, in some cases, that their troops have a secondary *rôle* assigned to them, and in others, a primary *rôle*. Such a precaution will, it is stated, prevent operations from being carried out smoothly.

In the report to the Minister of War already referred to occurs the following passage :—

"During the whole course of the action, the commander must at all times be *looking ahead ;* in the event of failure, all his efforts should be bent to the renewal of the combat and to the resumption of the offensive."

The doctrines laid down in the regulations have penetrated into the blood and marrow of the officers of the French Army ; these officers have repudiated all timidity, maybe even all prudence. The hard lessons of real war have taught them that fortune does not always smile on the brave and the bold, and that it is wise to have some regard for things behind them. They have become more circumspect with the progress of time, and, without losing any of their ardour, they have finished by realizing that there is no reason on earth why the effort put forth by them and their troops should not be proportioned to the results desired. To divert the enthusiasm of the warrior into suitable channels is by no means the same thing as to destroy it. For this reason it is wrong to develop the offensive spirit exclusively, to push it to extremes regardless of the demands of the situation ; however, such is the dominating theme which has inspired the regulations for the operations of large units.

The contents of the Decree of 1913 were intended to serve as a guide to the Staffs of the Army for the preparation and execution of schemes in connection with manœuvres and war games ; the maxims contained in this Decree further laid down the doctrine on which the instruction in the École Supérieure de Guerre, as the centre connected with the higher military education of officers must *compulsorily* be based ; finally, this doctrine constituted the framework on which the field service regulations of the French Army were built up.

The artisan is judged by the quality of his work ; the results obtained by him indicate the value of the theories put into practice by him. The experience of war is the most telling of all tests in proof or disproof of any particular theory, though admittedly faulty application of a theory naturally does not necessarily completely vitiate it, but only modifies its efficiency factor. The truth of a dogma is unaffected by the errors of the doctors who discuss it or the wrongheadedness of the faithful disciples who interpret it in a contrary sense. Having formulated this reserve, it is held that, since in less than a year after the rules drawn up in 1913 by the French Conseil Supérieur de la Guerre were approved, the test of war has shown them to be defective only goes to prove that this body was fallible, after all, like all other human institutions.

The Commission, responsible for the terms of the Decree, laid it down

as a principle that an army corps should at all times operate by complete divisions. It explained in its report that "it wished to set its face against the systematic employment of mixed bodies of all arms to which the appellation *groupements momentanés* had been applied. The latter groups can at times be effectively employed in certain cases where the country is enclosed or provided with much cover; but the employment of such groups leads to a disruption of tactical cohesion and to a discontinuity of effort."

It is pointed out however that in every part of the theatre of operations, from the commencement of the War to the present time, the commanders (of the French Army) have continuously formed groups of this kind in order to carry out operations which have been decided upon from time to time. Every time any particularly hazardous enterprise has had to be carried out the generals commanding such forlorn hopes have been willingly given *carte blanche* to constitute their commands so as to meet the special requirements of the situation; the question of tactical cohesion has had to take care of itself, no hesitation has been shown in disregarding the most recent and formal of the rules having official sanction.

NOTES AND NEWS.

Portugal.—A special correspondent points out that some excitement has been caused in Portugal by the publication of a sensational brochure. It is from the pen of a distinguished diplomat. The work bears the main title, "Contribution of a Page to National History," the sub-title being "Portugal before the War."

The brochure does not deal with any military matters of a technical character, but it touches upon questions closely affecting the Defence of Portugal, and has therefore excited considerable interest in the Portuguese and foreign Press. In an extract taken from the brochure it is stated: "Soon after the declaration of the present war in Europe, the several chancelleries published official correspondence in relation to the great events in progress.

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"Ten months have passed by since the first negotiations took place between the Portuguese and British Governments on the subject of our attitude to the latter country and in relation to the European conflict and up to the present public opinion in Portugal has not been enlightened on this important matter by the publication of a single official document.

"Portugal has not yet denounced her neutrality, although in Africa, at Naulila, German troops have invaded our territory and, after a sanguinary combat, have taken some Portuguese officers and soldiers prisoners who still remain in German hands.

"These facts indisputably constitute a state of war, logically and inevitably implying a rupture of diplomatic relations to which effect should have been given without a moment's delay. Nevertheless, the German ambassador is still resident at Lisbon and the Portuguese ambassador at Berlin.

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"The European War is essentially a political fact. On one side, a fight is in progress for liberal ideas tending towards a general transformation of human relations; on the other, the defence is in hand

of reactionary ideas consisting of dogmas resisting every programme of emancipation. Ranged up on one side is democratic Europe, on the other feudal and apostolic Europe. The European War has divided opinion in the neutral countries of Europe into two perfectly distinct camps. The reactionaries adhere to Germany's cause, they see in the triumph of German Imperialism the defeat of liberal ideas; advocates of liberalism cling to the cause of France and Great Britain. In our case, the great majority of the nation has given its adhesion to the cause of the Entente Powers, but the conservative element and the reactionaries of the political and religious worlds have bound themselves hand and foot to the cause of the German Empire.

"The fallen Royalists place all their hopes in the success to German arms, therein they think they perceive the best chances of the re-establishment of a monarchical feudalism in Europe and, for Portugal, the guarantee of a new monarchy supported by the Imperial power of the Hohenzollerns, a guarantee which is not forthcoming from the British Government."

It is stated by the special correspondent that, in August, 1914, Portugal offered Great Britain her co-operation, but that the former's military resources were at that time held to be insufficient: soon afterwards, however, Great Britain expressed the wish to have the co-operation of Portuguese Artillery, but the Portuguese Minister for War felt that the susceptibilities of the other arms of the service would be wounded if the artillery were treated exceptionally; that is to say, he wished to send a completely organized unit of all arms. His views being unacceptable, guns were eventually despatched but no *personnel*. The view is expressed that the adoption of this step has converted Portugal into a clandestine depôt of war materials for one of the belligerents and, therefore, to clear up the international position of Portugal and to have everything above board, it is necessary for the Portuguese Government to return to the ambassadors of the Powers at war with Great Britain their credentials and passports.

INFORMATION.

Switzerland.—A military wrist watch, known as the "Madix," is illustrated and briefly described. It is provided with a double face glass, the exterior surfaces of which are concave, and not convex as is usually the case; the case is also of stronger design than that supplied to ordinary wrist watches.

This number concludes with bibliographies relating to the War, and other publications of military interest.

No. 8.—August, 1915.

IMPRESSIONS OF GERMANY.

The Army on a War Footing.

The German Army, in the year of grace 1915, has been found by those who have had the privilege of a close acquaintance with it in the piping time of peace just what one would have expected; an army trained above all things for the prosecution of war. The experiences gained during the early battles have caused a modification to be made with regard to certain tactical principles, but in other respects matters remain as in pre-War days, down to the smallest details, and orders are being executed at the Front in the same calm and confident manner as they were executed in garrisons, prior to August, 1914.

The German Army was completely ready to pass from a peace footing to a war footing without having to undergo the radical changes which have had to take place in the cases of the armies of its opponents, where improvisation has had to meet the deficiencies due to a lack of preparation.

The Man.

The Soldier.—The soldiers of every arm look healthy and strong; they are correctly dressed and smartly turned out. Noisy and drunken men are not met.

Bearded reservists, between the ages of 25 and 35 years, are by far the most numerous class; there are a few volunteers under 20 years of age in the ranks. The landsturmers have rolled up particularly well. The men back from the Front look tired; they are sunburnt and their dust-covered uniforms have lost their original colour. These men disembark from the trains in silence; much respect and sympathy are shown them by the crowds at the station.

Soldiers proceeding to the Front are accompanied to the railway by their relatives; they are saluted by the bystanders, but no cheering or other demonstration takes place. So far as the Guard Corps is concerned the men are of fine stature, with intelligent features, they possess physical strength without any sign of coarseness; in other corps, on the other hand, there are many "dumpies," and men of low intelligence.

The recruits of the 1915 class are still dressed in the old deep blue uniforms, and their presence in German towns creates an impression that ordinary peace conditions still prevail. In Berlin more men are now seen in uniform than was the case in peace time, and the constant marching to and fro of the troops, with bands playing, creates the impression that nothing has changed in the capital; this has had a very reassuring effect on the civil population.

The opinion so frequently expressed that the German soldier is lacking in *initiative* and only shows courage when acting in masses and under the eyes of his chiefs is held to be defamatory. At the Front, the quality of the initiative possessed by the individual soldier has been much developed since the beginning of the War, in witness whereof stand the results obtained by patrols. All true soldiers appreciate the sterling qualities exhibited by the German soldier, his unshakable confidence, the sacrifices he has made.

The N.C.O.'s.—Reserve regiments commenced the campaign each with from 50 to 60 N.C.O.'s of the active army; the remaining N.C.O.'s were drawn from the Reserve. The heavy losses suffered by the German Army have naturally increased the proportion of the latter class of N.C.O.'s in the units. The German N.C.O. is a most valuable asset, the unchallenged prestige which he enjoys is directly due to the position he has made for himself in the army. Within his own domain his authority is absolute; his experience assures him the respect and moral support of his officers, who often, it may be said, seek his views. In peace time, the value of the reserve N.C.O. in no way approached that of the professional N.C.O. War has altered all this; the reserve N.C.O. can now become even an officer.

The Officer.—The junior ranks have outwardly altered considerably. The present-day elderly lieutenants and first lieutenants, with their heavy figures, look out of place. Practically the whole of the company

commanders and subalterns of the active army were wiped out in the first battles of the War; officers of the Reserve and promoted N.C.O.'s are filling their places.

The old prejudices against the officer of the Reserve have been killed by the War; he is now in the majority and doing his duty manfully. The War has brought about a democratization of the officer corps; the privations and dangers met with in common strongly binds the officer corps together, in spite of the many social differences which exist.

The strong caste feeling, which has so often been held to be a reproach to the German officer, is, after all, nothing more than a highly developed type of *esprit de corps*.

Discipline.

Discipline is strictly maintained, in respect of even trifling matters, alike in the case of the landsturmer as of the recruit, aged 20 years. The highest conception of duty prevails everywhere and in every branch of the service. The German officer is too intelligent a person not to realize the importance of the moral education of the soldier; he knows how to appeal to the heart of his subordinates, to their *amour-propre*; and he does so without the use of extravagant language. The German regulations lay down rules for the conduct of the officer towards his men, he is reminded that: "The constant solicitude for the welfare of his men is one of the highest privileges which an officer can enjoy." The latter is enjoined to be the faithful protector, who should share in the joys, anxieties and privations of his men, thus to gain their full and entire confidence.

A visit to the Front provides ample evidence that strong bonds of affection, based on respect and confidence, exist between officers and men of the German Army. The number of acts of devotion done on behalf of their officers by the men has been increasing almost daily since the War began.

A feature of the discipline of the army is the instantaneous manner an individual in a unit thereof makes the quick change from a state of the most complete laxity in his general conduct to that of the most absolute rigidity, a change which amounts to automatonism.

The battle discipline of the German Army is splendid. Germans do not confound the march of men, elbow to elbow, which is a form, with cohesion which is a mental state. An extended formation may occasionally favour cohesion far more than a formation in serried ranks. French and British journalists often speak of the mass formations used by the Germans in their attacks, and the public imagine that by this is meant that divisions and army corps advance in slow step and with bands playing under a devastating fire; indeed, as did d'Erlon's Corps at Waterloo. References to "Mackensen's phalanx" recall Ancient Greece and Philip of Macedonia to mind; 300,000 men advancing 32 ranks deep to be mowed down by the "75" gun; what a splendid display for a cinematograph film! The real thing is quite different: "the attack in deep masses" spoken of in the Press, is nothing more than an attack in which depth is the essence of the formations employed, consisting of echelons in reserve marching sufficiently close to the first or firing line so as to be in a position to reinforce the latter in good time. The echelons in rear remain in close formation, so long only as they are not under hostile fire.

The successive lines of attacking infantry, which always follow close behind one another, seen from their enemy's position have the appearance of a compact mass. In time the successive lines merge into one another as they get close to their objective, and this feature of the attack it is which has given rise to the legend that a revival of the ancient phalanx has been brought about by the Germans.

It must be borne in mind that the Germans put greater store on the reinforcement of the firing line in good time and on the maintenance of the correct direction than on the avoidance of obstacles and the minimizing of losses. "Advance at all costs" is the overriding consideration laid down in the German *Field Service Regulations* as a maxim for the guidance of commanders in the field. Blind adherence to the principles contained in these Regulations has no doubt been largely responsible for the very heavy losses suffered by the German Army in the present war.

In the Trenches.

At first sight, the German trenches create the impression of a vast labyrinth of ditches and drains, crossing one another at all angles, which appears to possess considerable depth horizontally. Later, the fact strikes the observer that there are really two or three parallel lines of trenches which are interconnected by communication ways. Behind the whole are support points, consisting of villages and isolated farms which have been carefully fortified.

The First Line Trench is by far the strongest and most completely organized. Its trace is sinuous, all angles being carefully avoided, and follows the contour lines of the ground as much as possible. It is by the trace of the trenches that the traverses along it are formed. The depth of the trench is as a rule about 6 ft. 6 in.; the bottom is generally paved or covered with a wooden grating. The side of the trench nearest the enemy is perpendicular and revetted with watling; sandbag loopholes are provided, and in many cases steel shields, obtained from the siege artillery, have also been fixed along the parapets. The exterior slope has a gentle slope, the parapet having a thickness of from 6 ft. 6 in. to 10 ft.

Isolated Machine-Gun Emplacements are constructed in the form of small casemates provided with overhead cover consisting of timbers and earth (about 1 ft. 6 in. thick). The portholes are formed of sandbags and steel plates.

Observation Posts are provided in the line of parapets at suitable intervals. The important posts are provided with telephonic communication, and a periscope or a pair of Zeiss glasses (magnification 15).

The *niches* made in the parapets on the enemy's side of the trenches have been replaced by regular *casemates* along the opposite side of the trenches (*i.e.* with openings towards enemy). These casemates are large enough to hold 20 men and have overhead cover consisting of at least a 3-ft. thickness of earth; some of them are comfortably furnished.

Scrupulous cleanliness prevails everywhere in the trenches; many of these and their points of intersection have been named after well-known streets, squares, etc. Portraits of the idols of the German Army are to be seen everywhere in the trenches and in the casemates.

Obstacles extend along the whole front, at a distance of about 100

yards from the trenches ; these obstacles consist of barbed-wire entanglements, flanked and commanded by machine guns, palisading, inundations, military pits, etc., all are cleverly hidden from view. Corpses can still be seen lying about in the obstacle zone.

Saps are continually being driven towards the enemy's trenches, mines are often lodged at the heads of these saps.

At ordinary times, when the enemy is not busy, the German Infantry keep up a desultory rifle fire ; 20 men per company being employed for this purpose, half of whom are provided with field glasses. The German musketry regulations lay greater stress on the necessity for accuracy of fire rather than on its volume. The men feel relatively safe in the trenches and therefore their fire is steadier and more accurate than when fighting in the open. The fusillade is intermittent ; there are short periods of calm.

At intervals along the communication trenches there are *sidings*, in which the reserves are stationed. At certain places deep ditches, several feet deep, have been sunk in the communication trenches and have been bridged over ; obstacles are placed at the bottoms of these ditches. In the event of a retreat taking place from the fire trenches the bridges are removed by the men who last pass over them ; as machine guns have been installed to cover these ditches, in positions within 100 yards therefrom, a withering fire can be brought to bear on any of the enemy who dare to pursue as far as the ditches referred to.

In some cases, elevated observatories have been erected from which a view is obtained over a great extent of country.

Field guns are as a rule placed in emplacements about 1,000 yards in rear of the fire trenches, further in rear are located the field howitzers.

The *retrenchments* behind the fire trenches are not so substantial as the latter ; they are roughly made, very little revetting having been executed in them ; on the other hand, great quantities of wire entanglement have been constructed in front of them.

Troops withdrawn from the trenches, on completion of a tour of duty, are billeted in abandoned villages ; after a short period of rest, such troops are drilled for several hours every day.

Questions Affecting Equipment and Stores.

The whole army is wearing the grey field service uniform, known as the *Feldgrau*. Even the Landsturm has been issued with this kit, except that it still retains the historic headdress, consisting of a black oilcloth helmet with a yellow metal Maltese cross as a badge, worn during the Wars of Independence of 1813. A cloth cover is worn over the black " Pickelhaube " helmets, but cloth helmets are now being issued to the troops, metal mountings still being worn with them.

Line of communication troops are armed with the Mauser, 1888 pattern, or with French rifles.

Detachments proceeding to the Front have completely new uniform and equipment issued to them. Considerable changes have been made in the dress and equipment of officers, in order to render them undistinguishable from their men at a distance. All the new uniforms are of stouter and stronger material than that with which the campaign was begun ; it is also more expensive. The German soldier still wears the stiff half-Wellington type of boot worn in peace time.

At the *Ordnance Depôts* not only are new articles of uniform and equipment stored, but, at many of them, repair shops have been established for renovating guns, rifles, wagons, etc., and also for converting equipment, etc., captured from the enemy, to render the same utilizable by the German Army.

General Remarks.

The dominant impression which a visitor to the German front carries away with him is the apparent calm which prevails there; things proceed as if the troops were merely taking part in grand manœuvres, it is only when the dead and wounded are seen that the fact is realized that the German Army is actually at war. A calm, bred of confidence, also reigns in rear of the army amongst the civil population. Neither the country nor the army are yet approaching any way near exhaustion, in spite of the alarming reports concerning the condition of Germany in the foreign Press.

HISTORY OF THE MACHINE GUN.

The history of wars and of weapons is as old as that of human races. From the earliest times much ingenuity has been expended in designing and fashioning engines of war. The sling and the bow and arrow have been used side by side with huge catapults employed to hurl stone projectiles. The invention of gunpowder gave a spurt to the manufacture of improved weapons of warfare, though at first the progress made was not commensurate with the importance of the discovery referred to; the fire of the old guns was slow and inaccurate. To overcome the disadvantage of slowness of fire, weapons were constructed having for their main object the discharge of a number of projectiles successively one after the other; in one case an iron tube was designed, permitting the rapid discharge of ten lead bullets. These bullets were inserted in the tube successively, each preceded by a charge of gunpowder; they were perforated with a small hole which was primed with sulphur, so arranged that the firing of the charge nearest the muzzle caused the ignition of each of the remaining charges successively by the flash from the sulphur priming in the bullet in front thereof; as each charge exploded it naturally propelled the bullet in front of it to its destination. Out of this developed the idea of the machine gun; the first weapon of this type consisted of two to four guns of small calibre mounted together on one and the same axle. The vents of these guns having all been primed, a red-hot iron bar was so placed as to come into contact with the priming in all the vents simultaneously; consequently, the projectiles in all the barrels were expelled practically simultaneously. It was towards the middle of the XV. Century that the "bullet pump" or "organ-gun," as it is familiarly called on the Continent, was first invented. These consisted of a number of barrels (small-arms) put together bundle fashion and firmly fastened together; the barrels were breech-loading and mounted on an axle carried on two wheels. A description of this gun is given by Leopold Frondsberg in his book on the art of war. The "bullet pump" was used as a field piece.

During the XVI. and XVII. Centuries guns of this description were in use in all the European armies. The progress of invention and the introduction of made-up cartridges for the powder charge led to further improvements in this type of armament. In 1678, Daniel Kollman, the

Director of the Vienna Arsenal, designed a multiple-barrel gun; it consisted of 50 tubes arranged in two horizontal rows: the tubes were of rolled brass, each 27½ in. long, with an internal diameter of $\frac{9}{10}$ in. The so-called "Saxon organ-gun" (introduced in 1814) consisted of 64 barrels in eight horizontal rows which could all be discharged practically simultaneously. The so-called "Danish blunderbuss" had two rows of 20 barrels; it was still in use as late as 1864. These guns had an extreme range of 400 yards. The many disadvantages possessed by these early types of machine gun led to their premature suppression. At the beginning of the XIX. Century, an attempt was made to utilize the expansive force of steam as a propellant in place of gunpowder. In 1805, Watt experimented with a "steam-gun." The French general Girard designed a 6-barrel gun working with steam power, a boiler for generating the steam being carried on the gun-carriage. A large number of this latter type of gun was in existence in 1814, and it was proposed to employ them for the defence of Paris; 180 shots per minute could be fired from them. This type of gun was also discarded on account of its manifest disadvantages and the same fate befell the "Steinheil gun," invented in 1832, the projectiles from which were discharged by the rapid rotation of a wheel.

The American Civil War (1861-1865) led to considerable progress in technical matters connected with armaments. Among the ideas borrowed from the past was the principle of the "repeating rifle." The first of the weapons of this type was a multiple-barrel gun, consisting of 25 (small-arm) barrels in one row, and was used with success at the Siege of Charleston in 1863. It had a range of 1,200 yards (at 9° elevation) and was capable of discharging 175 projectiles per minute. Another machine gun used in the American Civil War was the Gatling. The Federal troops installed some of these in their lines on the James River in 1862, as well as on their boats on the Mississippi. In its perfected form, it consisted of four to six barrels of large calibre and ten of small calibre carefully bound together; the whole of these barrels moved on a single pivot.

The Gatling gun was a breech-loader, the cartridges being contained in a cylindrical attachment. One man was employed to load the chambers of this cylindrical attachment, whilst a second caused the barrels to rotate by turning a handle. As each barrel arrived in its lowermost position, it was fired automatically. The 10-barrel Gatling (calibre $\frac{4}{10}$ to $\frac{6}{10}$ in.) could fire 200 to 300 projectiles per minute; this gun weighed nearly 8 cwt.

In 1881, the Gardner gun, built on the same lines as the Gatling (calibre about $\frac{4}{10}$ in.), was introduced into the British Army.

After the experience of the Six Weeks War of 1866, when the Prussian needle gun proved so effective, France and the other European countries realized the absolute necessity of putting breech-loaders into the hands of their troops. Time was required to effect this change; after the Six Weeks War the tension between France and Prussia began to increase, Napoleon III. therefore felt that the storm might burst before the rearmament of his troops could be completed, and he consequently decided to introduce into his army a weapon capable of augmenting the rifle fire of his infantry. The weapon selected by him was constructed

on lines similar to those of the Gatling; the cartridges were, however, contained in a box-like receptacle instead of a cylindrical one.

Experiments were made in France about this time with the *mitrailleuse*, on the Manceau system, consisting of 21 barrels arranged in three horizontal rows. Difficulty was experienced with the method of obturation then used, nevertheless the weapon was capable of discharging 126 to 168 rounds per minute; the weight of the piece was about 4 cwt. An improved model of *mitrailleuse*, system Montagny, was introduced into the French Army in 1867; it consisted of 25 barrels (calibre $\frac{1}{2}$ in.) placed either chequerwise or in horizontal rows of five each. This gun was capable of discharging 200 rounds per minute.

In 1870, further improvements were effected in the design of the *mitrailleuse* by Christoplie and Montagny of Liège. This type consisted of 37 rifled barrels of steel (calibre $\frac{4}{10}$ to $\frac{56}{100}$ in.) which were surrounded by a wrought-iron jacket. The gun was so mounted that when in action the barrels could, by means of a screw, be given a slight horizontal movement, or mowing action, to right and left. Up to 2,000 yards range, its fire was very accurate; 410 to 480 rounds per minute could be discharged from it. This improved *mitrailleuse*, as well as those of the models Montagny and Manceau, were used by the French Army in the Franco-German War of 1870-1871. In all the types of multiple-barrel guns mentioned above the longitudinal axes of barrels were parallel to one another, so that the cone of dispersion of the bullets was exceedingly small, so much so was this the case that from 10 to 15 bullets had been found on the body of a single soldier killed on the field of battle. In order, if possible, to remedy this defect Werder, the inventor of the Bavarian rifle of that name, assembled the barrels so that their longitudinal axes diverged from one another from the breech-end towards the muzzle. A multiple-barrel gun of the Werder model was used by the Bavarian Artillery in the War of 1870-1871, but without much success.

Machine guns did not come up to expectation in the Franco-German War of 1870-1871: it was, however, recognized that they possessed very useful properties for defensive purposes, in consequence, weapons of this type continued to be used. About this time the Nordenfeldt, Hotchkiss and Gardner guns (sometimes referred to as *revolver guns*) appeared on the scene; the number of barrels was reduced in these to two or four, but the calibre was increased. The Hotchkiss was provided with five barrels (calibre about $1\frac{1}{2}$ in.).

The first machine guns of the designs last referred to were all too heavy to be employed as field pieces; Hiram Maxim first solved the problem which made it possible to construct mobile machine guns suitable for use with a field army. Maxim concentrated his attention principally on two points:—

1. A reduction in the number of the movements necessary to load and fire the gun and the replacement of human effort by automatic action for effecting these movements.

2. The utilization of the recoil on discharge as a useful force for opening and closing the breech and for feeding the ammunition into the breech.

Maxim's gun had a single barrel and was the first of the type to which the term *automatic* gun has been applied; his first patent was taken out

in 1883: the 89 model was capable of firing 600 rounds per minute, a band feed being used. The total weight of this gun was only 270 lbs.

Since 1890, every European Power has introduced machine guns into its army and the number of these guns provided in each army has been steadily increasing. Each nation has adopted a special model of its own; the best known being the Schwarzlose, the Hotchkiss, and the Maxim.

Machine guns have played, and are playing, a most important *rôle* in the present war; they are the arm of the XX. Century.

INFORMATION.

Switzerland.—The description of the new field service uniform for the Swiss Army commenced in the number of the *Revue* for June is concluded (*vide* September *R.E. Journal*).

This number concludes with a bibliography.

No. 9.—September, 1915.

SOME OF THE PRINCIPAL HISTORIANS OF THE WATERLOO CAMPAIGN.

The events of 1915 have largely overshadowed those of 1815. The operations which took place in the memorable year last mentioned have, perhaps, been the cause of more controversy on the part of military writers than those connected with any other campaign in the world's history; the stirring acts connected with Napoleon's final struggle have proved, even at this date, not to be sufficiently remote to allow of an impartial expression of opinion in relation thereto. The conflicting claims set up for the armies of their own country severally by the historians of the nations taking part in the operations have, to some extent, kept the controversy alive.

As recently as December, 1903, a speech of the German Emperor on the occasion of the celebration of the Centenary of the Hanoverian Regiments which took part in the Waterloo Campaign added fuel to the dying embers. The following passage occurs in His Majesty's speech: "In casting a glance backwards on the past, let us render a just tribute to the German legion in memory of its incomparable deeds on the field of Waterloo, where with Blucher and the Prussians, *it saved the British Army from destruction.*" The *Journal des Débats* in its issue of the 24th December, 1903, commenting on the German Emperor's speech remarks: "This lesson should be taken to heart by us in relation to history considered as an exact science, as simple philosophy. Here is a battle, the most formidable one of the century, the one fraught with the most far-reaching consequences. German science teaches that without Blucher the Allies would have lost. An English proverb runs: 'That's to arrive after the battle, as Blucher did after Waterloo,' whence it follows that in England the *rôle* played by this general is considered similar to that of the Carbineers of Offenbach. Some pundits, in Belgium, claim that the battle was won by the Belgians. It is held, in France, that had Grouchy risen from the table before dessert, the whole face of the world would have been changed."

The *Times* and the *Globe* took up the cudgels on behalf of Great Britain, and pointed out that the German Emperor had not made a happy choice of words in referring to the part played by Blucher, the latter paper remarking that to render a signal service to anyone is by no means the same thing as to save him from destruction. The German

Press made a reply reiterating the claim that the British would have been defeated at Waterloo had it not been for the timely arrival of the Prussians and, at the same time, expressed regret that the British were so touchy on the subject of Waterloo.

The conflict of opinions in relation to the part played by the Allied troops has existed from the earliest days; the origin of this conflict can probably be traced to Wellington's dispatch of 19th June, 1815, to Lord Bathurst in which he states that he must do justice to Blucher and the Prussians and gives them credit for the fortunate results which followed on account of their intervention in the battle. The Iron Duke in express terms states that the march of Bulow on the enemy's flank was decisive; he adds that *if he had not himself been in a position to deliver the attack which decided the affair*, the Prussian general would have compelled the French to retire.

Gneisenau, Blucher's Chief of the General Staff, who wrote his report of the battle at the same time as Wellington compiled the dispatch, referred to above, naturally looked at the situation from a different angle of view. He refers to the stand made at the plateau of Mont-Saint-Jean, and adds: "But the superiority in numbers of the enemy was too great: Napoleon was continually pushing forward enormous masses, and however stubbornly the British troops might have been prepared to fight, in order to hold on to their positions, it was impossible for their heroic efforts to last for ever. It was 4.30 . . . not a moment was there to be lost. The generals (Prussians) did not let them slip away. . . ." Gneisenau expresses the opinion that the fate of the French Army was settled by a charge delivered by Ziethen's cavalry against its right flank.

The accounts of German writers have agreed substantially with those of Gneisenau stated above, but there has not been the same unanimity on the part of British writers. The most sober of the British authors of the first half of the XIX. Century, of whom Siborne is one of the best known, and the majority of those of the second half of the century have claimed the victory at Waterloo as being exclusively won by the British troops, and have declared that the Prussians played an insignificant *rôle*. Ronland Blennerhasset, writing in *The Nineteenth Century* in 1904, goes so far as to claim that the steadiness of the British infantry saved the Prussian Army from annihilation. In a work containing the recollections of Serjt. Wm. Laurence, published about ten years ago, it is interesting to note that in writing of Blucher's troops the serjeant states that these reinforcements arrived after sundown and only just in time to pursue the retreating enemy.

As is well known Chesney, whilst a professor at the Staff College, expressed the opinion that the popular views held in Great Britain on the subject of the Battle of Waterloo were as near the truth as those contained in the famous chapter of Victor Hugo's *Les Misérables*. Sir Herbert Maxwell has also drawn attention to the fact that 90 per cent. of British people look on Waterloo as a purely British victory, in which the Prussians, if anything, played a very secondary part. A century after the great battle, the opinions of the British public on this subject remain practically unchanged.

Many works have been published on this campaign in Holland and

in Belgium. As recently as 1908, three large volumes on the Waterloo Campaign, based on documentary evidence, were completed by Colonels de Bas and T'Serclaes, the Chiefs of the General Staff of the Dutch and of the Belgian Army respectively They claim a share in the military glory accruing to the Allies in respect of this campaign on behalf of the armies in which their ancestors fought.

In France, the subject has been discussed from a totally different angle of view. The aspect of the situation dealt with in that country is no longer one concerning national dignity; rather is it one affecting the fundamental principles of war as applied by one of the greatest captains the world has known. The important question is: did Napoleon owe his defeat to his own mistakes? The majority of Frenchmen have never been willing to admit that such was the cause of the great Corsican's misfortune. In France, the view prevails that some misadventure or treason alone can have been responsible for his failure. The French report of the battle attributes the rout of Napoleon's army to a sudden panic which overtook it. General Drouot adopted this view when addressing the French Chamber on the 23rd June, 1815.

No advocate has pleaded his cause more brilliantly, none has shown himself more adept in the art of persuasion, none has exhibited more eloquence than has the defeated Emperor when dealing with the catastrophe of the Hundred Days. To read his *Dictées de Saint Hélène*, even now after the elapse of a century since his views were committed to paper, is to smell fresh-burnt gunpowder.

As is well known during his captivity at Longwood, Napoleon procured from Europe practically every work published in relation to his last campaign; he frequently made biting comments on their contents in the margins thereof. In the work entitled *Mémoires pour servir à l'histoire de la vie privée du retour et du règne de Napoléon en* 1815, Fleury de Chaboulon wrote, in reference to the Emperor's return to Paris: "The reasons which prompted Napoleon to separate himself from his army at Laon are not known. I will throw light on the subject." Napoleon has entered in the margin of his copy the following remark: "Very bad and just what one would expect from a young man who has to treat of a matter of this kind for the first time."

In the *Commentaries sur l'Art de la Guerre*, published in 1818, the author criticises, in no measured language, the dispositions made by the Emperor at Waterloo. The Great Captain adds a note in the margin: "History proves that all libels are promptly forgotten. Let libellers rummage amongst the files affecting Henri IV. and Louis XIV. stored in the National Library; they will be humiliated by their impotency; no trace remains of any defamatory matter."

Napoleon's first account of the Waterloo Campaign was published in 1818, ostensibly as the work of General Gourgaud. In the preface to this work it is declared: 'All the chances of victory were in favour of the French. The moves were all well co-ordinated, great prevision was shown; but what can even the highest form of genius hope for when an adverse fate intervenes?"

In the same year Berton published his *Précis historique, militaire et critique des Batailles de Fleurus et de Waterloo*: in it the author attributes the Emperor's misfortunes to three great mistakes. The first of

these was the recall of d'Erlon's Corps, on the 16th June, by Ney when it was marching on Ligny by Napoleon's orders. The second was the timidity and slowness shown by Grouchy, on the 17th June, in pursuing the defeated Prussians after the fight at Ligny. The third was the delay and uncertainty in the movements of Grouchy, on the 18th June, on the French right.

In 1820, Gourgaud published his *Mémoires pour servir à l'histoire de France sous Napoléon*, this work has also been annotated by the Emperor. The latter puts the blame for the disaster which overtook him definitely on three men: Murat, King of Naples, on account of his unfortunate move against the Austrians which, in his opinion, precipitated the war; Ney, for allowing Wellington to establish the British position at Quatre Bras; Grouchy, for his failure to render Blucher innocuous. Some of the works published in relation to the Hundred Days have been inspired by political *hatred* rather than a desire to search out the truth; in this class stands the work entitled *Relation fidèle et détaillée de la dernière campagne de Bonaparte*, published in 1816; according to its author the infamous conduct and incapacity of Bonaparte were, without any doubt whatsoever, the sole cause of France's ruin.

One of the most interesting documents connected with this epoch is Ney's letter addressed, eight days after the battle, to the Duke of Otranto, President of the Provisional Government; in it he protests with vehemence against the accusations of treason levelled against him. The bitterness shown in this letter is not incited alone by defeat.

Three years after the first publication of Gourgaud's work Gamot, Ney's brother-in-law, published his *Réfutation* in which the orders issued by Napoleon were reproduced. But the appearance of the *Mémoires de Sainte-Hélène* by Las Cases in 1820, followed two years later by his *Mémorial de Sainte-Hélène*, silenced the Emperor's enemies.

A very critical examination of the Waterloo Campaign was made by Jomini in his *Traité des grandes opérations militaires*. In a copy of this volume, which Napoleon had at St. Helena, he entered a note expressing the opinion that the work was one of the most valuable criticisms on the campaign published up to that date. Jomini had also intended to make the subject matter of the 1815 Campaign the 22nd Chapter of his *Vie politique et militaire de Napoléon, racontée par lui-même au tribunal de César, d'Alexandre et de Frédéric*; however, the manuscript prepared was mislaid and not discovered again till 1839 (12 years after it was penned). Without disputing the point that Ney, Grouchy and other subordinate generals committed mistakes, Jomini deals with those for which, in his opinion, the Emperor should be personally held responsible. He refers to the fact, patent to all students of war, that Napoleon did not act with his customary energy in this fateful June. Speaking of the 16th June (the day before Ligny), he writes: "One is compelled to admit, that his conduct on this morning will always remain a mystery for those who knew him best." He makes a similar remark in relation to the Emperor's acts of the day following.

At the time that Jomini was writing in France Clausewitz was studying the 1815 Campaign in Germany. These two writers are in agreement on many points in relation to the Waterloo Campaign, but there are points on which their views are in direct conflict; these two students

of war differed widely in their mental attitude. The empirical methods of Jomini did not suit the philosophical mind of Clausewitz; further the latter never really grasped the fundamental principles of the Napoleonic strategy; sympathetic to Blucher, indifferent to Wellington, he was distinctly hard on Bonaparte.

Clausewitz's views were little known in France till 1900, in that year was first published a French translation of his great work, but his philosophical reasoning did not appeal to the French imagination. Two French writers, Lieut.-Colonel Charras and the historian Edgar Quinet, have given expression to opinions very similar to those propounded by Clausewitz.

The first three editions of a work entitled *Histoire de la campagne de* 1815 attracted considerable attention in foreign countries as soon as they were published. However this work was not read in France; in it, the author Charras violently attacks both Las Cases' *Mémorial* as well as his *Mémoires;* he makes a critical examination into the conduct of the principal actors, with the aid of numerous unpublished documents, and comes to the conclusion that alone is it due to misplaced sentiment, to convictions illogically arrived at, that the quality of infallibility has been almost universally attributed to Napoleon. Charras's opinions have not been acceptable in France, and Quinet who, in some measure echoed the views of Charras, has been no more successful in gaining the ear of his countrymen; both these writers have acquired the reputation of being partial. The French, on the other hand, have readily accepted the views put forward by Thiers in his *Histoire du Consulat et de l'Empire;* in this work there was raised a new monument to Napoleonic infallibility.

During the past few years, the subject of the campaign has been again taken up. In 1899, Henri Houssaye published his *Waterloo*, which in a few months ran into its 15th edition. In this volume Houssaye, it is claimed, has said the last word on the subject. It is not possible, it is said, for any author to produce ampler documentary evidence, to present the same in a more logical sequence, to set out his arguments with greater precision, clearness and penetration, to arrive at better balanced conclusions. As of yore, Napoleon's lieutenants are again found guilty of the crime of having committed egregious blunders, the Great Captain is once more absolved of blame. He is neither the incapable leader some would have believe, nor the sluggard which others tell of, nor the ambitious egoist, nor the invalid suffering from premature senile decay.

In 1904, there appeared a work entitled *Critique de la Campagne de* 1815, in which its author, Lieut.-Colonel Grouard, challenged the conclusions arrived at by Houssaye. Grouard does not contest the sources of information relied on by Houssaye, although he draws attention to the insufficiency of some of the documentary evidence and inaccuracy in the reproduction of others. However, the Colonel, comparing the evidence once again and examining the same in a new light, draws therefrom, so far as the essential points are concerned and specially those affecting d'Erlon and Grouchy, conclusions the direct opposite to those drawn by Houssaye.

Since Grouard published his work, a considerable volume of new literature on the subject of the campaign has been produced in Germany and Italy. One of these works is a fantastic story in six volumes by the

Italian historian Rustelli entitled *The Enigma of Ligny and of Waterloo.* The two best histories last referred to are those written by General Lettow-Vorbeck of the German Army and by General Albert Pollio of the Italian Army and are comparable to Houssaye's *Waterloo.* Lettow-Vorbeck holds views in conflict with those of Clausewitz and those made public by his compatriot York von Wartenbourg in a work entitled *Napoleon, Commander-in-Chief.* Lettow-Vorbeck is of opinion that the great stroke attempted by Napoleon to win victory for the French Eagle was "one worthy of the great past of the Emperor."

The work of General Pollio differs in some respects from the earlier writings on the campaign; fatalism occupies, according to him, a very prominent position in deciding the course of the events discussed. In future probably the Waterloo Campaign will possess only an archæological interest, and in the years to come it may be the numerous problems connected with the present War which will be of most absorbing interest.

MILITARY BANDS.

The recent mobilization of the Swiss Army has brought to light defects in the organization of the regimental bands; the organization is said to be bad and out of date, and no longer meets the exigencies either of the service or of good music. The problem of reorganizing the bands is a difficult one to solve; to find a practical and logical solution, it is necessary to bring the goodwill of the civil population and the special knowledge of the military authorities to bear jointly on the matter.

One of the main difficulties lies in obtaining good instrumentalists for the military service. It is possible that if the question is dealt with judiciously considerable improvements might be effected, but it is essential to abandon the idea that bands in the Swiss Army can ever be comparable to those in the German, French and Austrian Armies.

In Switzerland the bands belong to battalions as opposed to the German system of *regimental* bands; it is suggested that the number of bandsmen in each battalion should be doubled in order to obviate the necessity of employing civilian musicians periodically, as at present.

Full responsibility for the band should, it is urged, be vested in the bandmaster. It is admitted that duties connected with the maintenance of discipline and the interior economy of the band may interfere with the bandmaster's primary duty of giving the bandsmen instruction in connection with the technique of music.

Some modifications are necessary in the methods adopted in selecting battalion bandmasters; if possible they should be selected from the ranks of accomplished professional men in the civilian ranks; and they should be given rank in the army, not lower than that of sergeant. The three battalion bandmasters should act under the orders of a regimental bandmaster, who should be of officer's rank and should be made responsible for the instruction in music of the three battalion bands of the regiment.

The question of the repertory of a military band requires to be most carefully overhauled; time alone can cure the deep-rooted defects existing in this matter at the present time. Greater care also is necessary in connection with the method of procuring musical instruments; it is desirable that all instruments with a particular band should be manufactured at the same factory, thus only can be obtained that quality of *timbre* essential to perfect harmony.

It is suggested that the Swiss *Société fédérale des fanfares*, which has exercised a beneficial influence on civil bands, should devote its attention, with a similar object, to military bands. A logical reorganization of the Swiss military bands can only be of permanent value if carried out after careful investigation of the minutest details, without any scruples regarding vested interests and with the earnest desire of putting military bands in a position efficiently to perform the duties which naturally appertain to them.

Notes and News.

Switzerland.—Reference is made to the fact that a separation was effected, in August last, between the political censorship and the military censorship in Switzerland. It is remarked that the tone of the Swiss Press has, in consequence, improved and it is regretted that so simple a measure, one which would have obviated many misunderstandings in Switzerland, was not adopted earlier. Satisfaction is expressed with the methods adopted by the political censorship; it is further stated that the separation of the two branches of censorship has eased the situation in the military office which gave rise to so much friction in the past. Switzerland being a small country it is more difficult to keep from the knowledge of the public information concerning incidents which have taken place in the Republic; for this reason it is desirable that the Press should refer to them rather than that the public should begin an ill-informed discussion on the subject. In Germany, it is the Government which moulds public opinion, this is not so in Switzerland, where public opinion has its birth outside Government circles and cannot be ignored; further, in the latter country it is, at all times, a most delicate instrument which cannot be governed by rules and regulations prepared by a General Staff, more tact being required to control it than that necessary to command an army. The proper criterion by which the censor should be guided in deciding whether in any particular case he should exercise his power of excision should depend on the answer to the question: Is the publication of this information at all likely to compromise national defence? If the answer to this question is in the affirmative, clearly the censor cannot do otherwise than erase the words which jeopardize the success of the military measures adopted; if in the negative, the widest latitude should be allowed the Press in relation thereto.

The differences of opinion between the two main branches—the German and the French—of the Swiss public are not great; the admirers of the political anachronism represented in liberal Europe by the absolute rule of a military autocracy so closely associated with the dominion of the Hohenzollerns in Germany are few indeed. Much of the suspicion and misunderstandings which have prevailed in the Republic have had their origin in the attitude of the minority on this subject.

A rumour has been afloat in Switzerland that one of the belligerents has succeeded in tapping one of the military telephone lines in the Republic. Such an act it is pointed out cannot but have been deliberate and amounts to a calculated violation of Swiss neutrality. It is urged that the true facts relating to the incident which gave rise to this rumour should be officially disclosed.

A painful surprise has been caused in Switzerland by the prohibition of the sale and distribution of the German text of the Belgian Red Book.

entitled *Berichte über die Verletzung des Völkerrechts in Belgien* (Report on the Violation of International Law in Belgium).

The Federal Council appears also to have raised a storm of indignation by seizing one of the numbers of the *Bibliothéque Universelle* of Lausanne. It is stated that the management of this publication has caused counsel to be instructed to raise, in the Federal Courts, the question of the legality or otherwise of the act of the Federal Council; and it is hinted that there are men enough in the Republic who will see to it that the provisions of the Constitution are strictly observed by the Government, even under the exceptional circumstances which now prevail. It is demanded that the decisions of the censors shall not be arrived at in the inner recesses of some dark dungeon. It is stated that experience has abundantly proved that even the most intelligent individuals find it impossible to carry on a government efficiently in the absence of a counter-weight in the form of public criticism. Imperialist Germany, in the hands of a government subject to no checks, will yet prove the ruin of Europe and of her own misfortunes. The cry is raised: Let us be done with plenary powers; they prevent us from being Swiss.

Portugal.—A contribution from a special correspondent is published in which reference is made to the fighting which took place between Portuguese troops and Germans in Angola when the latter took some Portuguese soldiers prisoners. These prisoners were incarcerated in Damaraland, until the successful enterprise under General Botha placed German S.W. Africa under British dominion; the Portuguese prisoners have now returned safely to Lisbon.

Steps have been taken to develop the national aviation service in Portugal; a publicity campaign has been started and it is proposed to carry out competitions and to do all things else to popularize aeronautics. An aviation ground has been established about 25 miles from Lisbon.

The 1st and 5th Divisions and detachments of minor importance were detailed for the autumn manœuvres of the current year.

CORRESPONDENCE.

A short note by a Swiss officer is published dealing with the article entitled "*Independence and Neutrality. Le devoir suisse*" (reviewed in *R.E. Journal* for September, 1915, and in current number). The writer of the Note states that he has made a careful search of the documents relating to the French Army of occupation stationed in Switzerland in 1798 and has been unable to find any record of the alleged cruelties attributed to the XIV. French Demi-Brigade; the charges of cruelty occur alone in works by German Swiss historians. The unfortunate people of the Quatre-Cantons Lake region assuredly had much to suffer during the War of 1798—1799; but, all the same, the national historians have unnecessarily exaggerated their trials. The author of the article on "*Independence and Neutrality*" is also taken to task for the silence maintained by him on the subject of the premeditated destruction (by fire) by the Germans of Louvain, Dinant, Aerschot and Senlis, acts which were far more execrable, in the opinion of the writer of the Note, when committed in the year of grace 1914, than was the burning of Brunnen in 1798.

This number concludes with a bibliography of literature of military interest.

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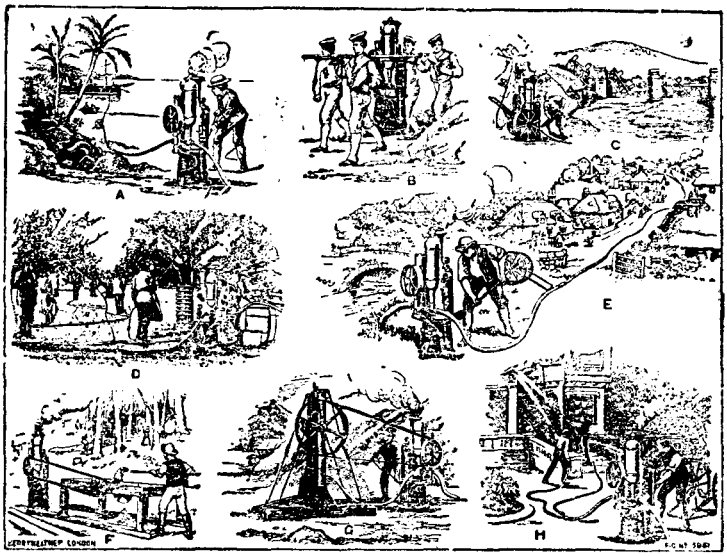

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