FEB 1919

FEB 1919

WORK BY R.E. UNITS IN THE WAR.

EXTRACTS from the Reports of Units to the Engineer-in-Chief, B.E.F.

17TH DIVISION.

Report dated October 25th, 1918.

River Selle.—On the 11th of October, 1918, eight infantry bridges were erected over the river, four to the north and four to the south of Neuvilly. The Engineers went forward with the first wave of an attack at dawn (it being found impossible to erect the bridges or reconnoitre river until then owing to the enemy holding a trench within 20 yards of the river), carrying small bridges, ranging from 12 ft. to 15 ft. which they had previously constructed. In two cases when the bridges proved too short, they were supported at one end by the sappers standing in the river under heavy M.G. and rifle fire and bombs thrown from the trench. After the infantry passed over, these bridges were made good. These bridges were continuously renewed until the night of the 19th October. On the night of the 19th an improvised tank bridge 18-ft. span, constructed of 20-ft. R.S.Js. (12×5) 4-in. decking, 12×12 transoms and sleepers which had been previously carried up and hidden near the site, was erected across the river north of Neuvilly. This bridge was completed by 2100 in an hour and 45 minutes, thus enabling the tanks to cross with the first wave of the infantry in the morning.

Further footbridges were erected on both sides of the village and were all complete by 2300. On the morning of the 20th, half an hour after zero, the two first-line transport bridges, one trestle and one of telegraph poles and other local material, were commenced on either side of the village. These were completed in time to enable the guns to follow up the infantry advance. The tank bridge was further improved. As soon as the advance had progressed sufficiently far, two bridges were commenced on the site of the main bridges in the village of Neuvilly, one (E.-in-C. D.P./755/1) to take all loads including tanks, and the other (E.-in-C. D.P./755/2) to take 12-ton axle loads. This latter was completed at 1845 hours on the 21st, although it had a direct hit while being erected. The tank bridge was completed at 1600 hours on the 22nd.

3RD AUSTRALIAN TUNNELLING COMPANY.

Report dated 14th June, 1918.

A charge of ammonal had been prepared by Lieut. Wallman for Capt. N. T. Hartley of the West Yorks, to blow in a shaft leading from the German trenches to what was thought to be a dug-out. On enquiry for the charge at Tunnellers' Headquarters by Capt. Hartley, I arranged to first make a reconnaissance to find out if the explosion would in any way affect our listening system, and, if so, to prevent the demolition. I suggested we should go over in daylight, and Capt. Hartley agreeing, we went over accompanied by another West Yorks officer and a serjeant to remain in the German trench to give the alarm. I left Lieut. Sternberg in charge of the section in case of mishap. We arrived at the shaft mouth without accident, and Capt. Hartley leading, we descended the incline. As a shell had fallen near the shaft entry was difficult. The incline was about 1 in 3. At 14 ft. we met a block with a sniping hole in the centre and a traverse to the left. We cautiously advanced and completely traversed an apparently self-contained listening system of some extent, finally reaching an inclined shaft leading to a vertical shaft, which is badly crumped in. This and our shaft of entry were the only two entrances to the system, which was quite extensive. All the drives were 4 ft. × 3ft., close and very well timbered. We made a rough survey of all the drives, and noted anything likely to prove useful. I examined each face and found a conical hole in the centre of each, about 7 ins. deep and horizontal, evidently used to hold some listening instrument. We cut all wires and disconnected bells as we went along the galleries. Leads, evidently coming from a mine, buried in the floor were disconnected. We were over three hours in the system, and after collecting a few souvenirs hastily withdrew.

As unfortunately I had no compass I decided to return and take a few bearings, and tape off a few distances. Two hours later (8.30 p.m.) I returned to the shaft head, with a West Yorks lieutenant, who volunteered to come and help me tape. We entered again with the usual difficulty, and were able to get an accurate bearing, and tape off the incline and its extension. Fancying we heard an alarm we scrambled out. The magnetic bearing of the main incline shaft was 222. The demolition took place at 11 p.m. under the supervision of Capt. Hartley. It was completely successful. The charge was placed 16 ft. from mouth behind the block. I afterwards went over and examined the shaft to make sure the work of charge had been effective. The listening system showed no signs of recent occupation. Boot marks and refuse were examined carefully.

We have established the fact that Bosche is not working in the system immediately in front of "C" Listening Posts, the system being at present unoccupied. Also that his main tunnel (of this system) is in very close proximity to "C" Listening Posts.

174TH TUNNELLING CO.

Special Report on Operations on 20th November.

We had been warned of the impending attack on Tunnel Trench by 16th Division, and were instructed to provide reconnaissance parties to go over with the assaulting troops and secure the tunnel against mines, booby traps, etc. The attack was timed for 6.20 a.m. on the 20th November. We had four parties of one officer and ten other ranks, each taking an active part, and a fifth party of similar strength in reserve. (On the 19th inst. a man of the 47th I.R. gave himself up on the right flank of proposed attack. On being questioned as to mines he said that he had attended a lecture given on the working arrangements of those in the Siegfried Tunnel and had also seen them. 16th Division invited us to come down and question the prisoner. He supplied us with some very valuable information, which was subsequently proved absolutely correct.) The parties were for convenience numbered, and detailed for work from right to left along the front of attack. A copy of Operation Orders is attached. No. 1 Party were assembled at No. 4 Mebus apart from the infantry, and as soon as the barrage lifted they advanced. For a reason unknown the infantry in this sector were late and our party reached Tunnel Trench just as the Huns were coming up out of the tunnel. The Huns immediately started to bomb our men and Lieut. Smith rushing forward scrambled to the top of Jove Mebus where he was killed almost at once. His serjeant and corporal were wounded by bombs and the remainder of the party lay in shell holes and sniped such of the enemy as showed themselves. The infantry were by this time coming over. Being now without either officer or N.C.O.'s confusion reigned among our men and eventually three unwounded men returned to our lines. No. 5 Party were immediately sent out to carry on, but on reaching Tunnel Trench found that the enemy counter-attack had driven our men in from the flank and that No. 2 Party had already established a block in the tunnel on the flank as then held. The infantry were invited to provide a bombing party to protect our men whilst they established a block further south, but as the protection was not forthcoming our party was withdrawn. No. 2 Party advanced with the infantry and entered the tunnel with the infantry bombers. All went well for a start and information of the Boche prisoner was found correct, so that

the work of disconnecting mines went on quickly. The party was working southwards and owing to varying fortunes above ground the bombers had withdrawn but no information as to the failure on the right had filtered through. Presently the southern party consisting of an officer, a serjeant and a sapper encountered a Hun who immediately dodged up the nearest entrance and returned with bombers. An underground fight ensued in which our party gradually retired until they came to an entrance guarded by our men. Here they called for assistance and the officer started placing a charge whilst the N.C.O. and sapper held off the enemy. As soon as two bombers arrived our party made a determined rush and drove the enemy back to gain time for lighting up; then at the officer's signal all retired hurriedly, hard pressed by the enemy who must have been caught in the explosion. The explosion brought in the gallery and established a block breast high. When the smoke cleared no Boche could be seen or heard. The block was then increased to fill the entire gap by shovelling back débris and roughly setting the broken timber, it was in this state the tunnel was handed over. The No. 3 Party advance went perfectly and they entered the tunnel ahead of our infantry, encountering a pioneer officer and a group of men who showed a disposition to resist. The officer was discouraged by the combined efforts of our officer and a sapper, and the rest, 43 in all, surrendered. Twenty-seven mines characteristic of those throughout the tunnel, were disconnected and the leads cut every few feet. The mines were placed in open recesses on the west side of the tunnel and generally consisted of two heavy T.M. shells (200 lbs.) side by side with a primer box, laid across the top, into which detonators connected to the main cables were inserted. In a few cases, instead of two large shells, four smaller ones arranged for firing in precisely the same manner were used. As far as can be discovered the charges throughout the whole length of the tunnel between Fontaine and Bullecourt were arranged for firing from somewhere behind the line, and in all there seemed to be four separate circuits serving separate parts of the tunnel. From prisoners' statements the main cables were dug in beyond the parapet on the north side of the communication trenches, they were fitted with test boxes at various places and were dug in where they crossed a trench, their position being indicated by white tape pegged on the parados and parapet. They entered the tunnel behind the timber on the north side of their respective shafts. We confined our attentions to rendering these charges harmless, and did not have the opportunity of investigating the main controlling cables. No. 4 Party encountered some resistance before entering the trenches, and one of their mobile charges was unfortunately detonated and the sapper in charge blown to pieces and the officer slightly wounded. This party had thoughtfully provided themselves

with a few Mills bombs and overcoming the resistance entered the tunnel by various entrances. At the one entered by the officer and corporal a large party of the enemy intimated that they wished to surrender. They were led by four officers, who, on seeing only a wounded officer and a corporal, evidently changed their minds for as he was about to pass them up the entrance the corporal was struck hard in the face by one of the officers. He countered and laid the officer out, bayonetted the next and threw the third down on top of a bomb, the rest surrendered without hesitation and the count became confused after 57. The only remaining officer, believed to be a major, was forced to show all the mines and also the defensive mining galleries. The mines were all disconnected and the Siemens Halske Electric (disc) listening apparatus taken from the galleries. In one case according to the captured Mining Plan one of the galleries was under Lump Lane near the Mebus, at a depth of 50 ft. The end showed signs of being chambered, but had evidently not been worked for some time. There was also a connection started to tunnel support.

The whole operation cost us the following casualties :—

	Killed.	Wounded.
Officers	1	1
N.C.O.'s	1	4
Men	2	5

and earned the Company the unstinted praise of both Brigades, Division and Corps.

Several scares have been investigated since, but nothing of importance has transpired. We have a party detailed in connection with a new attack on Jove Mebus. Their duties are to carry out the work originally allotted to the No. 1 Party.

46TH DIVISION.

Extract from a Letter from C.R.E., 46th Division, dated October 2nd, 1918.

* * * * *

" You will doubtless be pleased to know that Corpl. Openshaw of the 466th Field Co., R.E., was one of the first to reach the Canal on the extreme left of the attack. Three German pioneers were just about to blow up the brick arch bridge (Pont Riqueval) when Openshaw dashed at them, bayonetted two and took the third prisoner, and thereby saved the bridge which proved to be of the utmost value afterwards. The prisoner was then made to disclose the demolition charge which was soon extracted. This same corporal accounted for a machine gun nest on his way down the canal.

The G.O.C. is very pleased about it and is going to give Openshaw the D.C.M. which he so richly deserves."

* * * * *

565th WILTS A.T. COMPANY, R.E.

Report on the Construction of a Bridge at Solesmes.

As a result of the reconnaissance of the site on the morning of 21. 10. 18, a 30-ft. span, A. type, girder bridge was decided on for the following reasons :—

(1). The old shore footings were in good condition.

(2). The wreckage of the previous bridge was lying in the bottom, and would have to be removed if a trestle or pier was required, which would take a considerable time.

(3). When the wreckage had been cleared away, a soft muddy bottom would have been found with a stream running about 2 miles per hour.

The completion was of the utmost urgency and an officer and 35 other ranks 181st Tunnelling Co., R.E. commenced work by clearing débris and preparing abutments at 1400 hours, 21. 10. 18. The first relief of 2 officers and 20 other ranks of the 565th Wilts A.T. Co., R.E. commenced work at 1800 hours. Timber for the footings was obtained at a German dump about 500 yards away. At 2000 hours the launching gear arrived on two lorries and off-loaded. Work was at once commenced on its erection. About 0400 hours on the 22nd, three F.W.D. lorries and trailers arrived with bridging material. This was off-loaded and a commencement made on the erection of the girders. A fourth F.W.D. and trailers apparently broke down on the road, and could not be found. By 1130 hours the launching gear was completed, the bridge seats finished, and the two girders, with the exception of a missing end piece, erected and cross-braced as far as possible. Work then ceased. At 1400 hours an F.W.D. and trailer arrived with a wrong section, and an urgent message was sent by despatch rider to the bridging dump for the correct section. This arrived at 1800 hours, was off-loaded and placed in position. While bolting this on at 1830 hours, gas shelling occurred, and helmets had to be worn for half an hour. Work recommenced at 1900 hours, but before the cross bracing could be fixed, another gas shelling took place, and work was stopped for half an hour. At 2400 hours the bridge was completed and ready for launching. Launching was completed by 0030 and the girders resting on the final off-shore sets. Hostile harrassing fire then commenced. Work was then begun on lowering the inshore ends of the girders on to its seat. During this operation the jack, which was being used for lifting, gave way, knocking the crib supporting the roller away and

allowing the girder to drop suddenly on to a second set of packing, put in as a safeguard, just as a hostile concentration of shell fire commenced on the locality. By the promptitude and courage of No. 520106 Sapper E. Culling, of the 565th Wilts A.T. Co., R.E., an accident was narrowly averted to Lce.-Corpl. R. Butt, of the same unit. Work had to cease and the men took cover. During this shelling the hauling cable attached to the fore-end of the bridge was nearly severed, and was badly cut in two other places, another shell dropped within 2 ft. of the hauling winch, and still another within 5 ft. of the toolcart. By 0500 hours the enemy shells were falling in the east side of the village and work was recommenced and continued to a successful finish. The bridge was placed on its seats, the cross joists placed, strutted and bolted up, the decking fixed, approaches finished off, the launching gear dismantled and removed, and the bridge opened for traffic by Brig.-General Harvey exactly at 1200 hours, 23. 10. 18, the limiting time stated in the orders issued.

251ST TUNNELLING COMPANY, R.E.

Report of Work, 9th—24th April, 1918.

9th April.—The morning reliefs paraded as usual at 3.45 a.m., No. 1 Section proceeded to Portuguese Corps Area on road demolition work; Nos. 2, 3, and 4 to Givenchy. At 4.15 a.m. enemy commenced shelling back areas very heavily, using gas shells in considerable quantity around Essars. Company stood to arms at 4.45 a.m., and prepared to move off as ordered at half hour's notice. A cyclist orderly was sent to Bethune Signals to expedite transmission of orders. The Infantry (2 officers and 110 other ranks) attached from 164th Infantry Brigade, together with two officers and 53 other ranks of 165th Infantry Brigade, who had lost their way, were sent to report to G.O.C., 164th Infantry Brigade at 2.30 p.m. As the situation was obscure, picquets were posted on bank of La Bassée Canal as a precautionary measure. Capt. Auret was sent in direction of Cambrin to round up the morning reliefs which had been unable to reach Givenchy, and had been manning the Sailly-Labourse-Tuning Fork line. This was done and men returned to billets about 6 p.m. Capt. Walker, M.C., was sent to C.E., XI. Corps to explain situation and await orders. About 5.40 p.m. Capt. Evans, M.C., 5 officers and 179 other ranks proceeded to man Essars defences, being placed under G.O.C., 166th Infantry Brigade. As men came back to billets from outlying work they were given a small meal and sent to join Capt. Evans' detachment at Essars until, at 10 p.m., 9. 4. 18, its strength was 6 officers, 1 M.O., and 215 other ranks. Lieut. Landrey and 2 other ranks proceeded to Tuning Fork X Roads, to stand by the road demolition, keep-

ing in touch with G.O.C., 165th Infantry Brigade. Capt. Auret was sent up to Givenchy to take charge of the Company detachment in the mines and dugout systems—total strength 4 officers and 40 other ranks, R.E., 1 officer and 25 other ranks attached infantry.

10th April.—For keeping in touch with Corps an officer was sent to C.E., with report every four hours, and cyclist orderly was maintained at 55th Divisional Headquarters; Company Headquarters was moved to Lannoy, and the attached 1st Portuguese Mining Co. to Gonnehem. One officer was withdrawn from Givenchy to assist in demolition work.

11th April.—An attempt was made to mine cross roads at Locon, owing to heavy shelling it was decided to put in bore holes from a convenient cellar. Lieut. Rees, with assistance of Lieut. Morgan and 9 other ranks, withdrawn from detachment working with 166th Infantry Brigade, was in charge of this work, and persisted until the cellar, in which they were working, was totally wrecked by a heavy shell. The " nature " of the ground was so shattered by the shell fire that they were unable to get in a bore hole. Consequently the work was abandoned, and party returned to billets. Headquarters was moved 300 yards at request of R.G.A. An officer was sent to C.E., XI. Corps twice in 24 hours instead of every four hours as previously

12th April.—1st Portuguese Mining Co. were employed in clearing old trenches along La Bassee Canal, until their occupation by British troops about 11 a.m. Lieut. Rees and 9 other ranks proceeded to Rue de Bois, mined the roadway and blew a charge of 250 lbs. blasting the resulting crater 38 ft. deep, effectually blocking the road. This was done within 300 yards of the enemy.

13th April.—The 1st Portuguese Mining Co., together with 1 R.E. officer from 185th Tunnelling Co. and 6 N.C.O. from 1st Army Mine School attached for supervision, was attached to 230th A.T. Co.

14th April.—The Gorre-Loisne road was successfully prepared for demolition by means of two bore holes. Charges were prepared, and 2 other ranks left in charge with full instructions as to demolition if necessary. The 166th Infantry Brigade detachment, under Capt. Evans, M.C., returned to billets having been five days in the Le Hamel-Locon area, during which time they had dug three positions, totalling 1,600 yards of trench, and a line of rifle pits, and improved shell holes over a front of 700 yards, one in neighbourhood of Essars, a second on the Le Hamel-Lawe River Switch, and a third from the latter to Mesplaux Farm. The work necessitated constant and severe digging, in addition to which they were required to man trench subjected to heavy shell fire. Casualties between 9th and 14th April: Killed, 2 other ranks; wounded, 1 officer and 8 other ranks;

missing, 6 other ranks (from Portuguese Corps area). The 166th Brigade detachment was given 48 hours rest, and 3 officers (Capt. Walker, and Lieuts. Rees and Marsland) and 39 other ranks proceeded to Givenchy on April 17th, to relieve the detachment there, which had been in the mines since April 8th without any rest. The detachment in the Mines had taken active part in the fighting on April 9th, and had suffered three casualties (three other ranks wounded).

16th April.—Company came under administration of I. Corps.

17th April.—Company was divided into two detachments, viz. :—6 officers and 75 other ranks for work in two reliefs in Givenchy Mines, and the remainder, less Headquarters, for work on trenches under direction of C.E., I. Corps. This detachment worked until 19th April (three days) on a line E.8.d. to E.1.c., completing 1,638 yards of 1st task work.

18th April.—Enemy attacked Givenchy in force and overran the Bunny Hutch Subway and Caledonian dugout systems, taking the garrison prisoners after a severe fight lasting from 7 a.m. to 1 p.m. (A separate report, my C.61 d/d 22. 4. 18, on this affair, has been sent you.) Casualties to the detachment were :—Killed, 4 other ranks ; wounded, 1 officer (Capt. Walker, M.C.) and 2 other ranks ; wounded and missing, 5 other ranks ; missing, 2 officers (Lieuts. Rees and Marsland) and 20 other ranks. In addition to this, of the *personnel* Australian Electrical and Mechanical Mining and Boring Co. attached for operation for power plant at Pont Fixe, the casualties are :—Wounded, 1 other ranks, 251st Tunnelling Co., and 1 other ranks, Australians ; missing, 5 other ranks, Australians. Four casualties, 2 other ranks killed, and 2 other ranks wounded, occurred in the successful defence of Givenchy Keep, the O.C. of which reported that the Tunnellers (five in number) put up an excellent fight.

19th April.—Coventry Shaft bottom was visited, access from Wolffe Road exit, and found to be full to the roof with water.

20th April.— 1 N.C.O. and 4 other ranks volunteered as guides to accompany two Companies of 1st Northamptonshire Regiment in counter-attack to recover line at Givenchy occupied by enemy on 18th inst. Counter-attack succeeded. Casualties :—2 other ranks missing, and of another party working on the same front, 1 other rank wounded ; 1 officer and 10 other ranks started pumping out Givenchy Keep dugout system with hand pumps.

21st April.—Camouflet of 250 lbs. ammonal was blown cutting connection between mining system and Caledonian dugout system, and blocking off Piccadilly Exit from both. Casualties :—Killed, Lieut. Landrey ; wounded, 1 other ranks. The mining system Bunny Hutch Subway and Caledonian Subway systems were definitely abandoned and allowed to flood.

Total casualties from 9th to 24th April :—

		Officers.	*Other ranks.*
251st Co.	Killed	1	6
	Wounded	2	17
	Wounded and Missing ...	—	5
	Missing	2	28
		5	56
Aus. E. & M. Co.	Wounded	—	1
	Missing	—	5
			6

(To be continued).

THE FUTURE OF PERMANENT FORTIFICATION.

By LIEUT.-COLONEL H. E. G. CLAYTON, R.E.

SINCE the late Colonel J. F. Lewis, one of the ablest and best English writers on Fortification, ceased writing on this subject, his mantle does not seem to have fallen on any other R.E. officer. A revision of his *Permanent Fortification for English Engineers* and his edition of the second volume of the *Text Book of Fortification and Military Engineering* is much to be desired, and the present war must have made most R.E. officers speculate as to the future of Land Fortification. It is true that the matter is almost of only academic interest to the English military engineer, Coast Fortification being his normal occupation in peace time; it is obviously not desirable to discuss Coast Fortification, but the subject of Land Fortification will always be one of interest to the military engineer, and as will be shown later on in one case, Land and Coast Fortification have so much in common that the discussion of the one will throw considerable light on the other, and now that the art of permanent fortification merges so gradually into that of field fortification, in discussing the former we are, practically, discussing a good many points of the latter.

The most promising method of arriving at the necessary premises from which to argue is probably a process of elimination, for, if we ask the question "What it will not be?" we may by induction arrive at "What it will be." We will therefore, as a preliminary, reply categorically to the former question.

It will not include :—

(*a*). A continuous system or line of fortification along a frontier.
(*b*). Closed works on summits.
(*c*). Ditches deeper than about 15 ft.
(*d*). Masses of concrete or armour similar to those at Namur or Liège.
(*e*). Visible permanent emplacement for guns.
(*f*). As far as possible, surface indications of position that firing, support, reserve line, etc., will occupy.

Before proceeding to state what it must include, we must give here the reasons for the above.

No General who wished to gain a decisive victory would adopt (*a*) nor could any nation, however rich, afford to erect and maintain (*a*) or still more alter it from time to time to bring it into line with improvements in weapons.

(*b*). Will not be adopted, as they merely become shell traps as at Liège and Namur, and therefore would not be worth the expense of construction.

(*c*). Will not be required, as concealed belts of wire entanglements are a much more efficient obstacle, though ditches with steep sides of a certain height may be necessary to protect the obstacle against tanks and similar engines.

(*d*). The objections to this form of structure are self-evident. This is necessary in order not to give away (*e*) the positions of guns before war is declared; possibly some might be constructed and afterwards covered with earth so as to be invisible during peace time.

(*f*). Similarly trenches might be dug, and concrete revetments run in, then the whole thing buried to be excavated in war time as required.

We must now consider what is necessary.

(*a*). As the position is not continuous, it must have protected flanks, *i.e.*, its flanks must rest on natural obstacles, such as rivers or the sea, or it must be circular, but we all know the viciousness of the latter, and it can be forescen that few, if any, such positions would be required in modern warfare so that they can be omitted from any future discussion.

(*b*). The most important tactical points will be fortified in the manner indicated in (*e*) and (*f*) preceding, but it is conceivable that on the continent and on the east coast of England, very large wireless systems with anti-aircraft guns and searchlights may be kept permanently installed in order to prevent air raids immediately on or before the outbreak of war. These fixed anti-aircraft defences will be all the more necessary on account of the fact that rapid travelling anti-aircraft guns are very light and wanting in shell powers, and that from the very nature of things they must probably remain so. The arrangements adopted inland and those on a sea coast will be somewhat dissimilar. We will first discuss those to be adopted inland.

The anti-aircraft guns will require casemated barracks for their crews, and also in the case of land frontiers for protective troops, whose *rôle* will be to prevent the anti-aircraft guns being silenced by an "earth" force moving in concert with the enemy's air forces; in fact it looks as if in the future fortified positions will grow up round or in front of fixed anti-aircraft defences. As these fixed anti-aircraft defences cannot be without gaps between them, they will be supplemented by large numbers of mobile wireless sets, anti-aircraft guns and searchlights, whose *rôle* will be to occupy gaps, thicken the barrage, extend to the flanks or to take up reserve or supporting positions. This mobile equipment with their *personnel* will also be kept in bombproof and camouflaged casemates. Together with all these, though naturally not all grouped in one lump, will be the mobile and semi-mobile artillery of the "earth" defence

with its casemates. Amongst all these casemates may grow up a large system of communicating tunnels or passages, since in addition to any permanent trenches for covering troops, concealed communication will be required between all these scattered units.

We are now able to forecast to some extent of what future fortified positions will consist, viz. :—

(1). Anti-tank ditches with obstacles (the construction of which is explained below).
(2). Positions for covering troops.
(3). Fixed anti-aircraft defences including wireless stations, searchlights, etc.
(4). Camouflaged casemates for aircraft, anti-aircraft, mobile and semi-mobile artillery, and Ordnance and A.S.C. Stores.
(5). Communications for traffic and everything included in the word "signals."

All these defences will primarily be located on the enemy's side of big towns, as it will inevitably be necessary to protect these centres of communication from air raids on the outbreak of war, the more particularly as regards towns situated near the frontier or sea coast.

(*c*). If anti-tank ditches are constructed their use will be limited to the most important tactical points, their trace will not follow the line of the intended fieldworks, they must have their own independent flanking arrangements which must be of a heavier nature than machine guns. They will serve as a useful site for and cover to such obstacles as high wire entanglement, they could conveniently be mined, as nothing would interfere more effectually with the movement of tanks than a mined ditch.

(*d*). Here and there, small concrete works must be used, emplacements for anti-aircraft and machine guns at the most important point, and observation posts for artillery, etc. In addition to these will be bombproof and completely concealed or camouflaged blindages for reserves, aviation hangars, artillery parks, stores, *et hoc genus omne*.

(*e*). Communications must now be considered.* As regards telephones. Only the trunk lines would be laid in peace, *i.e.*, up to the Section Commanders' positions, and these would be buried cable at least 6 ft. under ground. As regards railways and roads, it is a very difficult matter to lay down what should and what should not be constructed. A largely developed network of roads and railways in tracts of country in which they had not commercial object would at once reveal the main outlines of the defensive policy of the Government concerned. Only a very careful study of the local conditions

* (Here the writer is obliged to depart from the lettering which has denoted corresponding matter in the sub-paras. of succeeding paragraphs).

would decide what should be done. For instance, in the accompanying plate the light railway or tramway might be constructed in peace time to serve the villages and farmsteads and bring their produce into the town, the small additions and diversions to make it useful for war time as indicated by the letters AA being constructed on the outbreak of hostilities, the necessary materials being kept in store in those bombproofs for the garrison which would not be otherwise utilized in peace time. In very easy country where the earthwork would be comparatively trivial the work might be left till war time, only the abutments of bridges and culverts being constructed, the erection of the girders being omitted until they are required. For instance, in the plate, the railway being constructed as far as "A," the remainder to "B" would be left to the outbreak of hostilities.

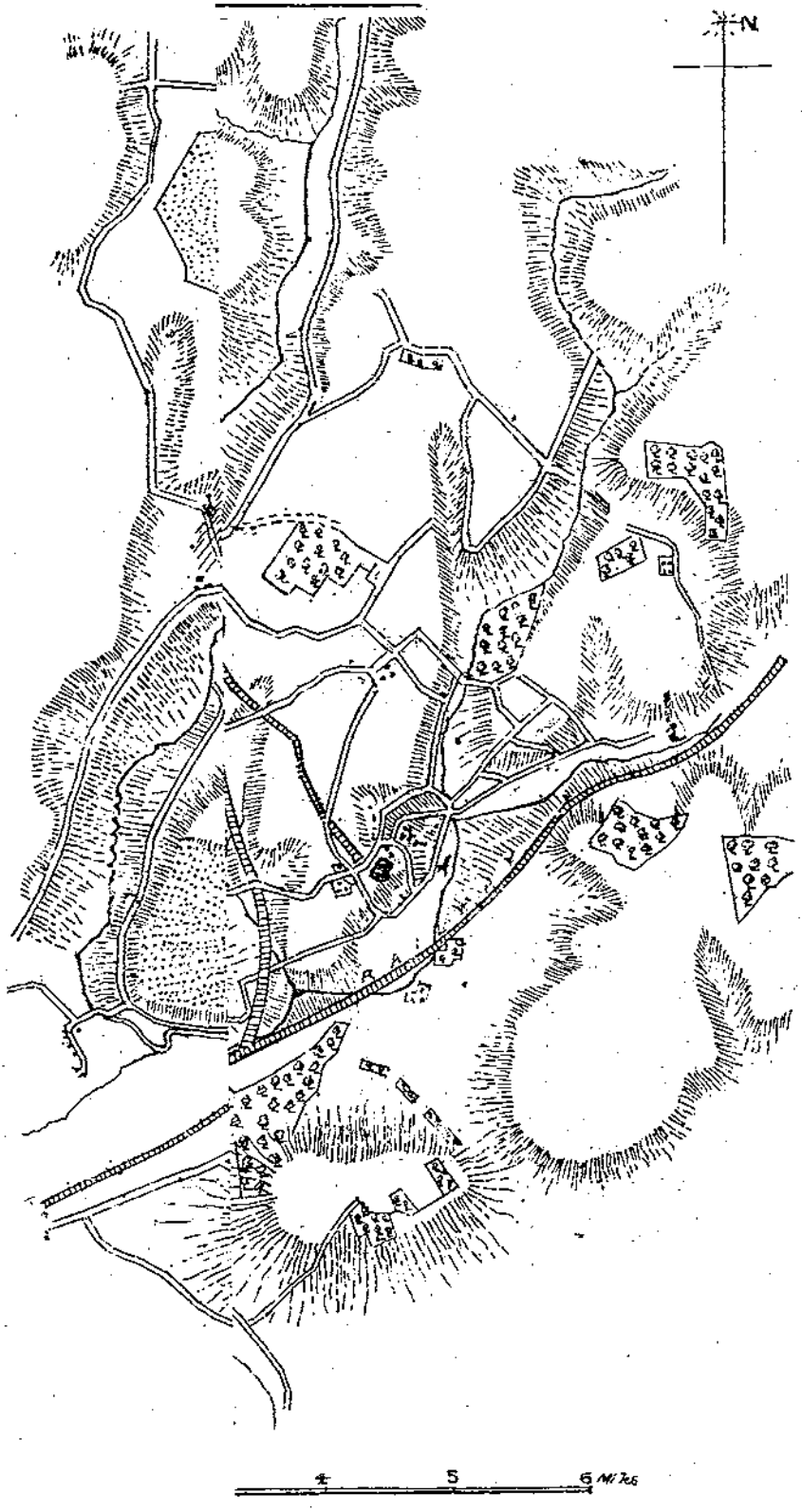
(*f*). If it is contemplated to move very heavy guns, such that they would require broad-gauge railways for their transport, it might in peace time be wise to lay out double lines of light railway, ripping these up in war time and laying single broad-gauge railways required on the earthworks of the double light railways in war time, the bridges being suitably constructed for this purpose and the heavy weights contemplated.

The principal difference in the defences constructed near the coast and those constructed inland would be the omission of the anti-tank ditches, their place being taken by broad belts of wire entanglement swept by machine guns so sited as to be invisible from the sea, or if visible at extreme ranges only. These items of the anti-air defence may have to be worked in with the general coast defences of the place, and as the discussion would now touch on coast defence, further reference to this portion of the subject will be omitted.

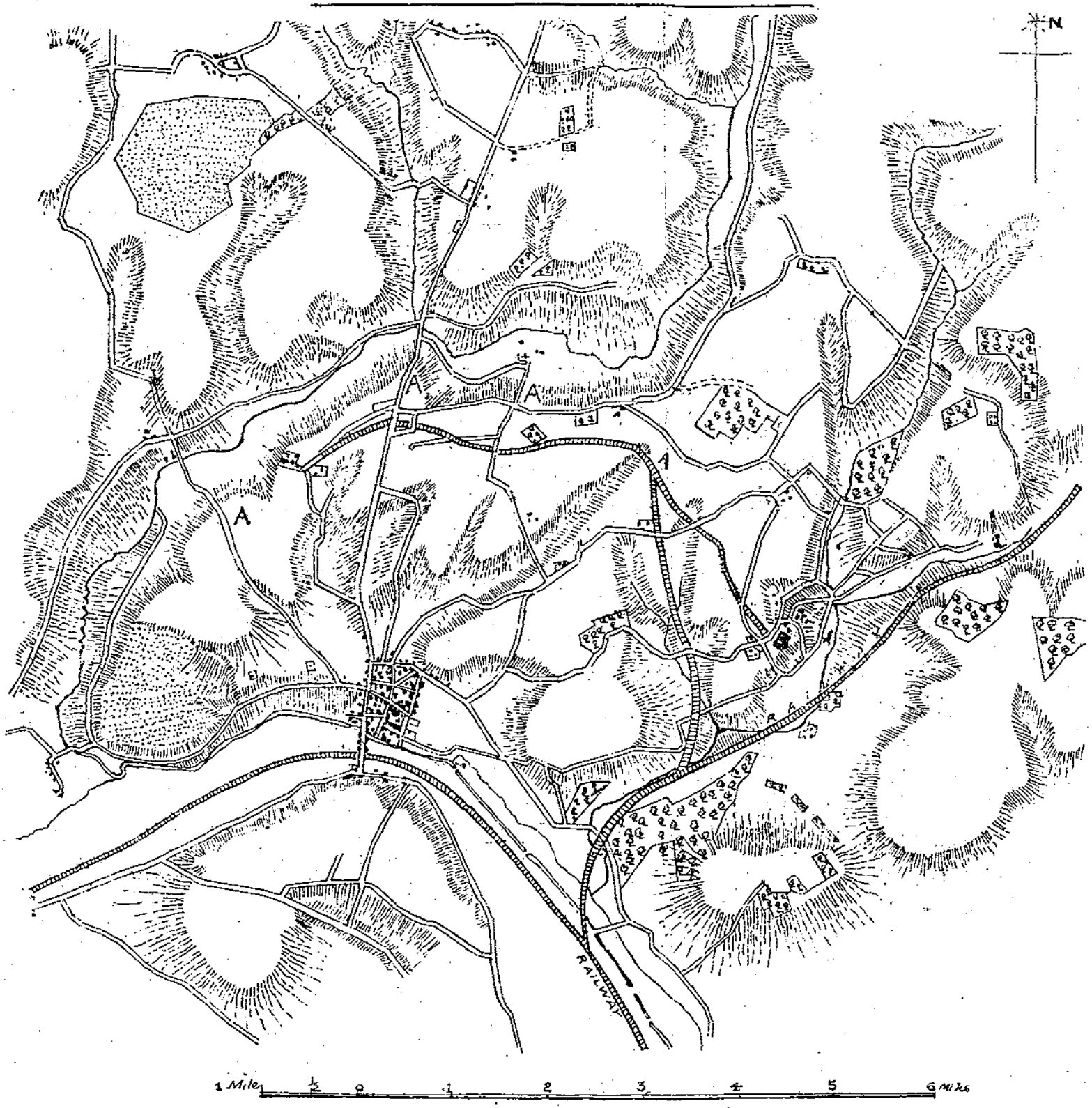
It will be seen from the above that any fixed system of anti-air defence will be very expensive both in men and money, and that only in the case of very important places can it be adopted, and that in almost all cases an efficient air service will be a better defence than anything else, a parallel between the air and the sea is here evident, which parallel however must not be pushed too far, in that there is no coast defence so efficient as an efficient navy, though in no case can coast defences be omitted altogether.

It is not proposed to here go into any details of construction, this short paper being written more in the hope of raising a discussion than with any other object.

ORTIFICATION.



THE FUTURE OF PERMANENT FORTIFICATION.



CONCEALMENT IN FIELDWORKS.

By MAJOR F. D. NAPIER-CLAVERING, M.C., R.E. (S.R.).

IN the article on the above subject in the October *R.E.J.* the writer complains that the average R.E. officer does not make any attempt to adhere to the principle of concealment. He then proceeds to say that concealment is attained by studying the surroundings, by common sense, making careful plans before you start, and by discipline. Assimilate the surroundings by natural cover and if that is impossible use artificial camouflage. All this no doubt is very excellent as far as it goes, but even the arm-chair critic let alone the R.E. officer, who has been on active service for say a fortnight, knows as much. When the R.E. officer actually starts on a job of work, he finds that it is a mere council of perfection—hollow verbiage of no practical value. He is forced to the conclusion that nine times out of ten concealment is impossible. This conclusion under present conditions as a matter of hard fact is right.

One cannot hide from the enemy the fact that one is defending an area, and at present it must be considered impossible. It is possible however to retain surprise by concealing from him the *way in which it is defended*. This is done by (1), actually concealing important items in the defence; (2), employing what is known colloquially as the second degree of concealment, that is, filling up the map with alternatives and dummies. The second degree is really a confession of weakness, requires a lot of labour, and is only possible in deliberate defence. In this paper the writer will confine himself to the consideration of the first method.

Now, if we want to advise young officers on concealment in fieldworks we had better start by considering what he can conceal, and what he cannot hope to conceal, and some of the more important difficulties he encounters on the ground. It is only by this means that we shall get a proper grasp of his difficulties and have any chance of assisting him.

Concealment from view is divided into two branches:—(*a*), ground observation; (*b*), air observation.

(*a*). The former can be dismissed at once, because our officer can test his camouflage with his own eyes. It is quite definite whether he can conceal or not, and he can see for himself the result of his efforts.

(*b*). He has also to conceal from the air, and more particularly the air photograph. Now the expert readers of air photograph in the British Army in France maintain that nothing can be hidden from them, and that whatever camouflage is attempted they are not deceived. 999 times out of 1,000 the R.E. officer on the job has not got an air photograph of his job. He knows practically nothing about reading them for the simple reason that he has never been taught. Probably he has never been up in an aeroplane. No wonder he thinks that concealment is impossible.

Camouflage Material.—When concealment from air photograph is attempted, experience shows that in the majority of cases natural camouflage is useless, and some artificial material is essential. More often than not this material is not available. To provide enough for all the defences constructed in modern war is an undertaking quite outside the region of practical politics. There is not enough even to conceal the guns in a modern defence sector, let alone any other works. For example, for a single headquarter dugout our sapper officer has to camouflage :—(1), at least four entrances ; (2), a dump of material ; (3), a huge dump of spoil, generally of the most dazzling colour and texture. He will be very lucky if he gets enough for this ; actually he hardly ever does.

The Time Factor.—All the time he is working on the job his superiors are continually urging him to get on with it, and show more progress. To conceal a work always adds very appreciably to the total time to complete. Very often therefore concealment is sacrificed to cover in the shortest possible time, and at any cost. Thus in order to have any prospect at all of effectually hiding a work, we see that the means of attaining concealment are primarily :—

1. Knowing what to conceal against (*i.e.*, having an air photograph and knowing how to read it).
2. Having enough *material* to do 1.
3. Having enough *time* to do 1.

Now the present ideas on the construction of fieldworks, held by the average officer, do not take the question of the air photograph into consideration at *all*. He designs his work, and then tries to conceal it, and usually finds that it is impossible owing to the excessive size and height. If concealment is essential it should be taken into account in the design, or it has no chance of being effected. The design must be modified :—

1. By study of the air photograph.
2. By camouflage material available.
3. Time available.

If this is done the sapper will have some chance of competing with the enemy Intelligence Department who, at present, are undoubtedly in a very strong position.

Surprise has always been, and will always remain one of the most important principles of war. Next to the delivery of fire, concealment, by which alone surprise is effected, is therefore the most essential condition of fieldworks whether in attack or defence. The design must, therefore, be modified by it.

Fieldworks in defence can be divided roughly into fire positions and protection positions. The first includes all positions occupied by immobile defence weapons, automatic arms, rifles, T.Ms., and guns and their personnel. The second includes positions occupied by mobile defence (*i.e.* counter-attack troops), and by H.Qs.

Except where the infantry can retain surprise by movement, it has been found impossible up to the present to conceal their positions, and it is only waste of time to try. In the same way, T.Ms. and guns must rely very largely on movement or silent positions. On the other hand the M.G. and the H.Q. are necessarily incapable of movement. The M.G. because there is only a very limited area from which it can *best* deliver fire on a defined area. The H.Q. because of communications. Let us, therefore, consider how we may attempt to conceal in these two cases, which are definite examples of positions which *can* and must be concealed.

The Machine Gun Positions.—These form the framework of the defence in a battle zone, and constitute the one factor which modern war has proved to be essential in defence. It has almost always been the M.G. which has held up attack, not the rifle or the gun.

The first thing to guard against is a track to the position. This can be got over by having the position either on a road, or if no road exists, on a track. This latter *will* exist if there is no road. If the track is in the wrong place it must be diverted by wire fences over the right place, the diversion being made to extend well forward and well back.

Work should only be done when it is impossible to photograph from the air (*i.e.*, at night or on dull days) if camouflage material is lacking. Spoil must be moved down the track for at least 200 yards by barrow, hand-cart or waggon. In addition to concealment from the air, care must be taken to conceal from the advancing enemy infantry. Design of cover must be absolutely subordinated to concealment in the case of the M.G. positions. The idea of cover is to keep the machine gunner alive and effective after the enemy's guns have lifted for an attack. This is *not* achieved by making an obvious pill-box in open country. It will merely be neutralized by gas, smoke, and heavy guns before the attack commences. The more we depart from our essential tactical conditions of concealment by erecting obvious cover, wire, etc., the more fire we draw, and the more useless does the position become. The more we conceal the less fire we draw. It has then, only to endure searching and area fire. We must conceal

therefore, not only to ensure surprise tactically, but also to obtain protection by avoiding fire.

The most difficult case is in absolutely open country. Here the cover must be not higher than ground level, but if it is splinter-proof and invisible it will be better than if it is shell-proof and obvious. It is a great mistake to let the wire indicate the presence of a concealed machine gun by placing the wire for exact enfilade. To sacrifice a few degrees of enfilade for the sake of concealment is very obviously worth while.

The H.Q. Dugout.—As in the case of the M.G. position, these are generally located by tracks in the first instance. The tracks to a H.Q. are converging. Tracks can be eliminated firstly, by building your H.Q. on a road or main track, and, secondly, by wiring off approaching tracks so not to give any clue as to the exact site of the work. It requires a lot of hard work and energy, as well as common sense and discipline to make success of the job, and it is a very difficult thing to do. It is always worth while and subject to the time factor possible. Figures 1 and 2 show a typical example of the anti-track fences needed before work is commenced. There are two alternatives of design, concrete or deep dugout.

Concrete implies heavy transport to the site, probably light railway siding, and consequent risk of observation, and is not possible under fire in the registered zone.

The Deep Dugout implies spoil, and is possible under the heaviest fire. Hiding the spoil may entail more work than the construction of the dugout itself. So far as concealment is concerned in the design, we have to decide for a particular case which of the two it is most easy to conceal.

1. The fact that we are taking several hundreds of tons of concrete to the site.

2. A large dump of spoil.

It depends on circumstances which is the best to use, but in both cases the problem is very much eased by arranging the site on a road or main track, on which to move the concrete or spoil without being detected.

To sum up. In order to conceal fieldworks we must first of all learn to read air photographs and study the effects which light and shade produce on the photographic plate.

Secondly, we must decide what it is possible to conceal, and what is impossible, and this decision must be modified by material and time available.

Lastly, having decided to conceal we must site and design so that it is possible.

Then, bearing these principles in mind we send out the young

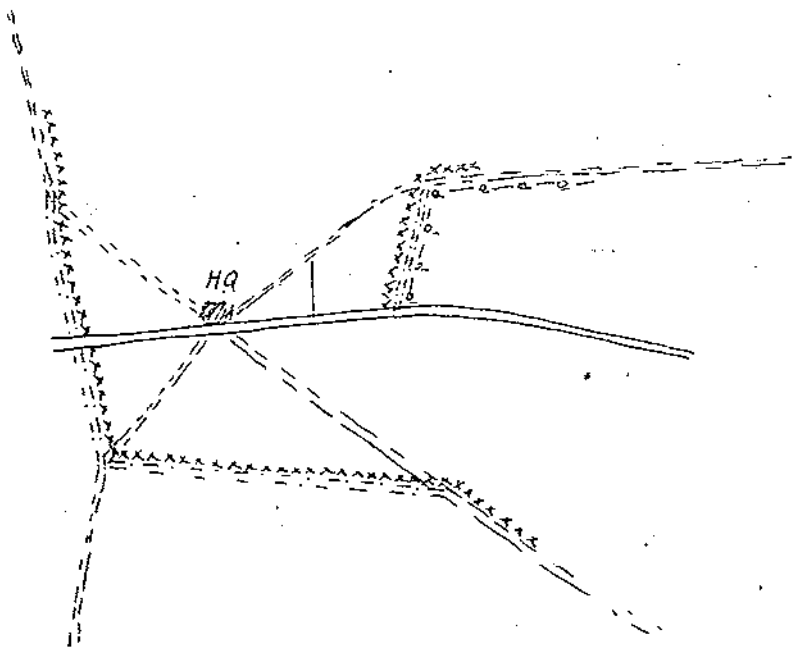


FIG. 1.—*Showing probable tracks to a H.Q. and wire to avoid them.*

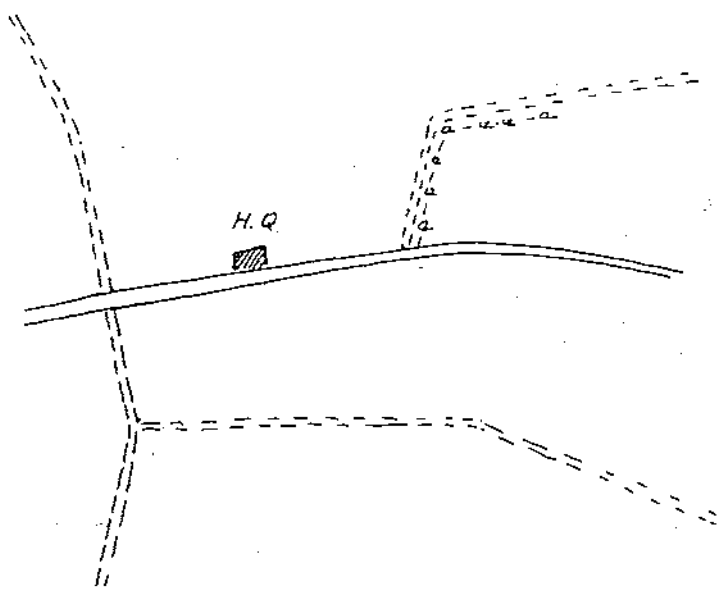


FIG. 2.—*Tracks as they appear on air photographs.*

officer to do the job (with the air photograph in his hand). He will come back when it is finished not forced to the conclusion that nine times out of ten concealment is impossible, but eager to see the report as to whether the Intelligence can see anything on the air photograph of his job. He will understand that, *within very definite and narrow limits* concealment of particular, important works is possible, and essential. He will understand also that that oft-repeated phrase "Concealment of Fieldworks is *essential*" means—nothing at all.

ARMY PIGEON SERVICE IN THE FUTURE.

By CAPT. E. E. JACKSON (Officer i/c Carrier Pigeon Service, Ireland).

THE useful work done by the Pigeon Service during the War is well-known, and it would seem probable that the military authorities must contemplate the formation of a *post bellum* nucleus pigeon service capable of rapid expansion to meet the requirements of our armies should they have to take the field again. I propose in this paper to discuss the requirements of such a service, the main considerations falling under the following heads, viz. :—

(1). The training of special classes of pigeons for the different uses for which they are required.
(2). Ensuring that a good supply of pigeons of the right kind are available at short notice.
(3). Ensuring a supply of experienced pigeon men to take charge of the pigeons at short notice.
(4). Training the army in the use of pigeons.
(5). Training of regular army men as experts in the management of pigeons.
(6). Arranging a supply of food baskets, message holders, message books, mobile lofts, general equipment.
(7). Carrying out experiments both in breeding of the best pigeons for the uses to which they are to be put, and with a view to improving the designs of the various articles of equipment of the pigeon service.

As regards (1) three distinct classes of pigeons are required :—

(*a*). Pigeons which will fly fast up to five miles in daylight, *and in dark and through thick fog*.
(*b*). Pigeons which will fly fast up to 25 miles.
(*c*). Pigeons which will fly fast up to 100 miles.

To get pigeons which will do this work in a satisfactory manner they must be bred from birds which have done this work for two generations back.

Class (*a*) pigeons should be not less than 16 ozs. in weight, with broad shoulders, rather a deep keel and tapering off to a fine point on the tail. The flight feathers should not be very wide, so that they do not over-lap one another. This class of pigeon should be trained to cover the distance both at night and in the day-time at the greatest

speed possible. To get good results from this class of pigeon the utmost care will have to be taken both in their training and breeding, and special trouble will have to be taken to discover and select suitable pigeons for breeding this class.

Class (*b*).—The pigeons for this class ought to be not more than 17 ozs. in weight; bred much on the same lines as in class (*a*), but not so deep in the keel. These birds ought to be bred from parents which show a great aptitude for covering this distance at a great speed.

Class (*c*).—This class of pigeons should weigh from 15 to 18 ozs. with good shoulders, plenty of feathers, not very deep in the keel, short legs and wide back.

All the above classes (*a*), (*b*), (*c*), should be bred from parents which show great aptitude to cover the respective distances in the least possible time, but they must also be trained to do the distances themselves, and must on no account be trained beyond the distance allotted to them, otherwise bad results will occur.

It is of the utmost importance that the greatest care should be taken in the selection of the birds to breed from, as many pigeons will fly fast, but will not enter the loft on arriving home for various reasons. Many pigeons are troubled with nervousness, and on arriving at their loft rush about outside in place of, going into the loft; these are of no use from a military point of view and ought not to be used for breeding purposes, as the same trait passes on to the offspring for several generations.

(2). To ensure a good supply of pigeons of the classes required at short notice, lofts ought to be established at military centres for the breeding and training of class (*a*) birds. As this class will be much the most difficult to breed, the birds ought to be under the direct supervision of an officer who is an expert in the breeding and training of pigeons.

To procure pigeons suitable for stocking military lofts with (*a*) class birds, a fixed sum of money should be offered to any pigeon fancier who produces a pigeon fulfilling the requirements of this class, and willing to hand it over to the Government after it has been tested and found suitable by an officer appointed for the purpose. Authority should be given to the officer who carries out the tests to buy at a fixed price the parents of any birds which come up to the requirements. As a rule, any man who has kept and bred pigeons for a good number of years can almost always tell from the general characteristics of the parents what the offspring will be like. This class of pigeon will be most difficult to produce until they have been bred from two or three generations of birds which will do what is required; therefore every encouragement should be given to pigeon fanciers to breed enough in order to stock the military

lofts, so that experiments can be carried out; and a good quantity of this class of bird bred for use for the particular work they have to do.

(3). To ensure a supply of men capable of taking charge of a carrier pigeon loft, young men owning lofts of racing pigeons ought to be selected, and paid a retaining fee, so that they could be called up for service at very short notice should they be required. In selecting these men, care should be taken that they not only understand pigeons, but that they are physically fit; a good amount of sickness occurred amongst the pigeon men during the present War, owing, no doubt, to a lot of the men being over military age. Men owning a good number of pigeons and willing to place them at the disposal of the Government should they be required, should be selected if possible, providing they are men who race their birds in a club where records of flights are kept, so that the officer i/c of Carrier Pigeon Service could see from the records, if the pigeons were being trained in a proper manner. The officer i/c Carrier Pigeon Service should have the right to inspect the lofts of men selected at any time, so that he may see if they are being kept in a proper manner.

(4). By keeping lofts at military centres and at the Signal Service and Regimental Signalling schools, birds would always be available for work with troops doing training schemes. It would be part of the duty of the officer in charge of the Carrier Pigeon Service to see that full advantage was taken of this, and that the army in general made proper use of pigeons during training and manœuvres. In this way, it could be ensured that the possibilities and limitations of the Carrier Pigeon became widely known throughout the peace army, and that the requisite peace practice was obtained in order to get the full value of the service in war time.

(5). Advantage could also be taken of these lofts to train a suitable number of serving soldiers as loft men. A month's actual work at the loft under the N.C.O. in charge should suffice for the instruction of any man who has a natural aptitude for the work and who is willing to learn. The O.C., C.P.S. would examine these men during and after their training, and successful men would then be registered by Records as pigeoneers and become available if required.

(6). An officer i/c Pigeon Service should be appointed and located at the War Office, his duties being as follows:—

(1). Supervising the military lofts and the training of military pigeon *personnel*.

(2). Acting as technical adviser on the use of the carrier pigeons in active operations.

(3). Responsibility for the scheme whereby civilian *personnel* are registered and paid retaining fees.

(4). Selection and buying of suitable birds from which class (*a*) birds can eventually be bred at the military lofts.

(5). Responsibility for encouraging the breeding by civilians of birds suitable for classes (*b*) and (*c*), and arranging that sufficient suitable birds may be made available for the War Office at short notice.

(6). Experimenting and advising as regards the pigeon equipment, viz., baskets, books, moving lofts, etc., and seeing that the requisite reserves of the same are available and in good condition.

Brigadier-General E. W. Cox, D.S.O., R.E.

MEMOIR.

BRIGADIER-GENERAL E. W. COX, D.S.O., R.E.

Born 9th May, 1882, *2nd Lieut., R.E.*, 1900, *drowned in France 26th August*, 1918.

I AM very glad to have been given the opportunity of paying a last tribute to the memory of an officer whom I have considered for many years as one of the best, if not the best, that I have ever met.

My acquaintance with Edgar Cox dates from January, 1901, when I was Brigade Major, S.M.E., and he joined there from the "Shop" on passing out, first of his batch, into the Sappers at the early age of eighteen and a-half. Even then I was much struck by his ability, power of work and, above all, by his strength of character. This impression never weakened, and, during the four years of the war, during which I was brought into the most intimate relations with him, it developed into the highest admiration for his qualities of mind and heart. Few men had a higher devotion to duty, few so great a love of their work, few a more sterling common sense and few a stronger aversion for the mean and petty. His influence was always for the good and not many men have been so generally respected by their seniors and so loved and looked up to by their subordinates as he was. This was due to the fact that he knew his subject from A to Z and that he could always be relied on to give a sound and rapid judgment on any point connected with it. He never spared himself, and though he exacted the maximum of work from the officers under his orders, they always gave it him gladly as they knew that though he might ask much from them he exacted far more from himself.

Cox's great strength lay in his grasp of detail, combined with an unusual breadth of view. He was the author of *The German Army in the Field*, a book which has become the Bible of all Intelligence officers, not merely of the British Army, but of the Armies of all our Allies. That book contains every necessary detail connected with the composition and organization of the German field armies, and the appearance of its first edition in the early days of 1915 threw a flood of light on to many hitherto obscure problems It was the first and most essential step towards placing the British Intelligence Service on a scientific footing, and lifted that service at once into the high position

which it has since maintained throughout the war. The amount of labour and research which it involved was only equalled by the rapidity and accuracy with which it was compiled. The preparation of this book and of its numerous editions, rendered necessary by the frequent changes in the organization of the German Army, together with the compilation of a similar work on the Austrian Army in the Field formed the main part of Cox's work during the year and a-half he was at G.H.Q. France and during his first year at the War Office. In the junior appointments he then held he became saturated with detail, but when in January, 1917, he took over the appointment G.S.O.1 of the section of the M.I. Directorate dealing with Germany and Austria, he at once devoted himself to a study of the political conditions in those countries and displayed a foresight and a width of vision of a remarkable kind. It was therefore with no misgivings that I was able to recommend him in January of last year for the very important appointment of Brigadier-General, Intelligence, on the staff of Sir Douglas Haig, as I was confident that there was no officer in the British Army so well qualified for the post. His success was instantaneous, and his appreciations of the situation, given at the Army Commanders Meetings in February and March last, marked him out as an officer of the highest ability, with an unrivalled knowledge of the German Army, of the mentality of the German Commanders and of the feelings and condition of the German people.

His merits met with the recognition they deserved and, even in these days of rapid promotion, few rose as rapidly as he. A Captain at the outbreak of war, he was given a brevet majority in June, 1916, a brevet Lieutenant-Colonelcy in January, 1917, and in January, 1918, at the age of 35, he became the youngest Brevet-Colonel in the Army, followed three weeks later by promotion to Brigadier-General. None who knew him could be surprised at or grudge him his success, and if he had lived he might well have reached the highest position in the Army. The Corps, of which he himself was so proud, may well be proud of him.

It was with a heavy heart that I walked beside him to the grave in which he was laid in the Military Cemetery at Etaples, but with me and with all those with whom he was brought in contact his memory will ever remain bright and unsullied as of one who left the world the better for his having lived in it. A good officer, a brilliant thinker, an untiring worker, a clean-living gentleman, and a staunch friend, it will be long before we see his like again.

G. M. W. MACDONOGH.

The following obituary notice from *South Africa* of the 12th October last, which we are permitted to print by the courtesy of the Editor of that Journal, gives the salient features of General Cox's career.

The late Brigadier-General E. W. Cox, whose sad death by drowning we have already announced, was born on May 9, 1882, and was educated at Christ's Hospital, of which he subsequently was appointed a Governor. He received a commission in the Royal Engineers in December, 1900, and was promoted Captain 10 years later. From December, 1902, to October, 1903, he was employed on the Sierra Leone and Liberia Boundary Commission, and from 1904 to 1906 on the Anglo-Portuguese Boundary Commission. From 1906 to 1909 he was employed on survey duty in the East Africa Protectorate. From 1912 to the outbreak of war he served in the War Office as a General Staff Officer, third grade, and from August, 1914, to January, 1916, he served on Lord French's staff in France, where he gained the D.S.O. and Legion of Honour, and was four times mentioned in despatches. In January, 1916, he returned to the War Office as a G.S.O (2) with Sir George Macdonogh, Director of Military Intelligence. For services in the field he was promoted Brevet-Major in the Birthday Honours List, June, 1916, and for services at the War Office, Brevet Lieutenant-Colonel in the New Year Honours of January, 1917, and Brevet Colonel in the New Year Honours of January, 1918. He also received the Belgian Order of the Crown and the Russian Order of Saint Stanislas. In January, 1918, he went out to France as head of the Intelligence on Sir Douglas Haig's Staff with the rank of Brigadier-General, when Sir Herbert Lawrence was appointed Chief of Staff, and Lieutenant-General Travers-Clark Quartermaster-General. The late General married a daughter of Mr. and Mrs. P. Davis, of Morningside, Maritzburg, in March, 1912. The Rev. Richard Lee, formerly headmaster of Christ's Hospital, writes of Brigadier-General Cox: "May I be allowed to say something as to that young officer, whose early death (he was but 36 years old) has frustrated so many hopes and saddened so many hearts? For nearly nine years he was with me at Christ's Hospital. Special considerations caused me from the first to know more of him than of most, and I was in touch with him to the end. He rapidly passed up the school, taking prizes all round, and was just as keen at games and all outdoor life. At a very early age he came on to the Headmaster's classes, and in due course became senior 'Grecian' and an excellent captain of the school. Until 1891 its valuable exhibitions were tenable only at Oxford or Cambridge. Now, under the present scheme, they may be held also at any other place of advanced education approved by the Council of Almoners; and it was my privilege to recommend the first exercise of this new power in the granting of an exhibition to Edgar Cox, tenable at Woolwich, where he had gained admission (12th on the list of successful competitors) direct from the school. His career at the Royal Military Academy was the prelude to his brilliant career in the Army after obtaining his commission in the Royal Engineers. . . . On the school's long Roll of Honour

no name will be more, or more deservedly, honoured than that of Edgar Cox. Strong, straight, clean, keen, selfless, humble-minded, loyal, true, he leaves a bright example of a character always prized as a moral asset in English life, never more valued or valuable than to-day, the character of an officer and a gentleman. 'A man greatly beloved.' *Nemo non parum amabat etiam qui non plus amare poterat.*"

In the *Geographical Journal* Colonel W. C. Hedley pays a tribute to the deceased officer. At the Royal Military Academy he was head of his batch, and won the Queen Victoria Gold Medal and the Pollock Memorial Medal. At the School of Military Engineering he was awarded the Haynes Memorial Medal. On his return to England in 1909 he was employed on military duties at Aldershot till May, 1912, when he joined the Geographical Section of the General Staff at the War Office, and he was so employed on the outbreak of the war in August, 1914. During these busy years he had found time to perfect his knowledge of French and German, and was an interpreter in both those languages. On the outbreak of war he was at once selected for work on the Intelligence Staff, and went to France in that capacity with the first expeditionary force. It had been his intention to go to the Staff College had not the war intervened, but it was soon evident that the lack of the Staff College training was no drawback in his case. He was soon noted as one of the most brilliant officers on the staff, and his rise was rapid. In the course of the present war the nation has had to mourn many young and brilliant men, but it may safely be said that it has suffered no more grievous loss than in the death of General Cox. He was a man of untiring energy, both physically and mentally, and being a very quick worker he got through an immense amount of work, and his work was of the highest quality. He was equally efficient at survey work of all kinds, or staff work, or at the ordinary work of an engineer officer. He was one of those men, and there are very few, of whom nothing but praise was ever heard. His name was a byword for efficiency. He had great confidence in himself, but was most unassuming. He was full of enthusiasm for the job in hand, whether it was a heavy piece of work or a football match. He never wasted time. He had a most cheerful and lovable disposition. It is a matter for infinite regret that he should have met with an accidental death when he had just reached, at a very early age, a position which gave full scope for his abilities. If his life had been spared he would surely have attained the highest positions. He leaves a widow and two children.

The *Geographical Journal* says: To Colonel Hedley's tribute to General Cox's ability as a soldier we should like to add some expression of the loss to geography which his tragic death has occasioned. General Cox was one of the British representatives at the International Map Conference held at Paris in December, 1913, and his colleagues will remember with admiration the extraordinary ability, energy,

and tact with which he carried through the work especially allotted to him, the discussion of the conventional signs sheet. Unhappily, by reason of the war, this work is still unpublished.

General Cox had been a Fellow of the Society for sixteen years, and for several years a member of our Diploma Committee. He was largely responsible for the second and much enlarged edition of Colonel Close's well-known *Textbook of Topographical Surveying*, and in this, as on his boundary work, he displayed all the talents of a first-rate scientific geographer. Those who have been associated with him in this Society share with his colleagues on the general staff the sense of sorrow at the loss of one of those rare men who may truly be called irreplaceable.

REVIEW.

PAGES D'HISTOIRE, 1914—1918.

(Published by the Librairie Militaire Berger-Levrault, 5—7, Rue des Beaux-Arts, Paris).

(*Continued from R.E. Journal for September*, 1918).

The 150th number of the above series is a Diary of the War covering the events of the half year, 1st July to 31st December, 1917; it is the 7th volume dealing with such matters.

The 151st number is entitled *Les Conquêtes Africaines des Belges;* it is from the pen of M. Pierre Daye and contains seven chapters which deal with German ambitions in Africa. In an appendix to the volume are contained copies of proclamations, extracts from diplomatic correspondence, etc.; a sketch map of German East Africa is also provided.

Chapter I. is headed *Le Problème des Colonies Africaines et les Ambitions Allemandes;* therein the story is told of German covetousness. Towards the end of March, 1914, von Jagow, at that time Secretary of State for Foreign Affairs, met M. Cambon, the French Ambassador at Berlin, at a private dinner and referring to the Belgian Congo, put the question to the latter: "Don't you think that King Leopold has placed a burden on Belgium's shoulders too heavy for her to bear?" The German Foreign Secretary appears to have dined well that evening, and to have been little reticent; he went the length of suggesting that France and Germany, possibly Great Britain also, might do a deal in relation to Belgium's African Colony. Needless to say M. Cambon was somewhat taken aback at the proposal made to him by the German Foreign Secretary.

The conversation recalled above was characteristic of German mentality. Germany, for many years past, had cherished vast and illegitimate ambitions in relation to Equatorial Africa. She had not hesitated to proclaim that she was inherently superior to all her rivals; further, it had been openly asserted in the official journal of the German Colonial party that "Germany had nothing to learn from Great Britain or any other colonizing nation, since she had a method of her own for solving social problems, a method which was peculiar to German mentality."

A people, so modest of their own achievements and so scrupulous as the disciples of Fichte are known to be, it is hardly necessary to say, were not satisfied with the slice of territory which their slimness and the complaisance of Great Britain had allowed them to acquire in Africa. The German pretensions regarding the Belgian Congo were no secret. Germany's three colonies on the African continent, the Cameroons,

South West and East Africa, were cut off from one another by Belgian and Portuguese possessions, and such separation was a hindrance to her *Mittel-Afrika* scheme. Hence, she coveted both the Belgian Congo and Angola.

The cession to Germany in 1911, by the Caillaux Government, of the strips of French Congo along the rivers Sanga and Lobe provided an indication that German eyes were turned towards the central plains of Africa. The German railway connecting the Eastern frontier of Belgian Congo to the Indian Ocean, the *Tanganykabahn*, was a commercial, and even a strategic, menace so far as Belgian Congo was concerned. But other evidence exists of Germany's designs against her little neighbour's possessions. The strenuous campaign conducted some ten years ago against the Belgian Administration of the Congo, under the ægis of the *Congo Reform Association*, was instigated, supported and financed by Germany. Edmund D. Morel and Sir Roger Casement were two of the most violent critics of King Leopold's *régime* in Africa. Both these individuals acquired further notoriety during the Great War ; the former was arrested in England on the 31st August, 1917, and sentenced to a term of imprisonment for attempting to convey documents secretly to Switzerland. Casement fomented the rebellion of 1916 in Ireland, and has paid the penalty which could alone atone for the heinousness of his latest crime.

In France, too, the names are familiar of defeatists and of suspect Frenchmen, who also lent their support to the pseudo-humanitarian campaign against King Leopold. Belgium also had within her own borders citizens who played the part of detractors of their own countrymen.

Much evidence is available concerning Germany's schemes for the conquest of the Belgian Congo. After the outbreak of the War, a paper, published in German East Africa, a copy whereof fell into the hands of Belgian troops operating in that territory contained the following statement ; " Moreover, we would draw attention to the fact that, after all, these Conventions (the Treaty of Berlin establishing the neutrality of the Belgian Congo) are but ' a scrap of paper ' (*nur ein Stück Papier sind*). We are just now engaged in a struggle for existence and cannot pay any regard to the conventions of international law ; we must alone consider the interests of the Fatherland. . . ." (*Die Kongo-Akte, vide Deutsch-Ostafrikanische Zeitung* of 22nd August, 1914.)

In September, 1914, Friederich Nauman coolly proposed, in *Der deutsche Krieg*, to France that an understanding might be arrived at concerning the " former Belgian territory of the Congo." Finally, shortly afterwards, under the pretext that the Boers were of Low German origin (*Niederdeutsch*), the ex-Kaiser's agents attempted to foment a rebellion on the southern frontiers of the Belgian Colony.

Belgium has long done her best to maintain the neutral character of the basin of the Congo, as provided for by Treaty. The Germans, on the other, did not hesitate to make use of the first opportunity which presented itself for the purpose of realizing their schemes. The German cruiser *Königsberg* made her appearance on the East African coast on

the 1st August, 1914, and on the 9th *idem* treacherously fired on the British cruiser *Pegasus*, then lying off Zanzibar. At that time, and for several weeks afterwards, the Belgian Government continued its efforts to prevent its African Colony becoming embroiled in the War. In spite of the violation of the neutrality of Belgium by Germany, the Belgian Governor-General of the Congo, refused to fight the Germans on his borders. However, after the bombardment of Lukuga (Tanganyka) by the Germans on the 22nd *idem*, the Belgian defensive attitude came to an end and preparations were made for war. On the 29th *idem*, the Governor-General of the Belgian Congo was in express terms authorized by his Government to inform the German Governor-General in E. Africa that he had received instructions to make reprisals.

At the time that M. Daye was penning the story of the problem of the African Colonies, Germany had already lost her magnificent position in the great Southern Continent; Belgians had overflowed the frontiers of the Colonies of which the Teuton had been so proud in recent years: the situation therefore must afford von Jagow, and his ilk, much food for reflection.

Chapter II. is entitled *Bref rappel de l'histoire du Congo belge* and contains a short history of the territory which King Leopold had the foresight to secure for his country in the latter half of the 19th century.

In 1597, some three and a-half centuries ago, at a time when Belgium was struggling against the tyranny of Phillip II. of Spain and of the Duke of Alba, much in the same way that she has recently been resisting the oppression of William II. of Germany and General von Bissing, a group of Flemings, prefering exile to existence in a state of slavery, embarked on board-ship and sailed for the *terræ incognitæ* of the southern hemisphere. The vessel in which they journeyed made land somewhat to the southward of the estuary of the Congo, near St. Paul-de Loanda. Their lot was a hard one; the last of them died in the Azores. Again, about a century later, in 1652, Father Erasmus, of Furnes, set out from the Flanders coast with a party of 45 Capuchins for the same southern regions, in order to undertake mission work among the natives. History does not relate what became of this party, except that they reached the Congo.

It was, however, only during the past century that any systematic effort was made to reconnoitre and to occupy the great continent lying to the S. of Europe. Captain Tuckey ascended the Congo in 1816; an account of his journey up the Congo was published by a M. Douville in 1831. Livingstone marched across Africa from east to west in 1852; he discovered L. Tanganyka in 1869 and reached the banks of the Congo in 1871. An expedition was sent in 1874 in search of Stanley; he struck the Congo near its mouth and reached Boma about three years later, in 1877.

At the instigation of King Leopold II., a geographical Conference was held at Brussels in 1876; its outcome was the formation of the *Association Internationale Africaine*. A Commission, under the King's own presidency, and also an executive and a number of National Committees were formed by this Association.

The International Commission met in 1877 and decided to send an expedition to Central Africa. The Belgian National Committee, in particular, was also extremely active and, during the period 1876 to 1884, sent six expeditions to Africa for the purpose of carrying out studies of various kinds; this was the beginning of the pacific conquest of the Equatorial region of the great continent.

On the advice of Stanley, Banana and Boma, situated on the Atlantic seaboard, were made the bases for the International Commission's Expedition. On the great explorer's return to Europe in 1878, King Leopold sought his aid for the purpose of entering into alliances with the native chiefs and the King, at the same time, founded the *Comité d'Études du Haut-Congo*. In 1879, an expedition led by Stanley founded Vivi and Leopoldville and ascended the great river.

The members of the Belgian National Committee entered at this time, into a large number of treaties, with native chiefs. The Association Internationale Africaine had only met once, and in 1882 gave place to the *Association Internationale du Congo;* the latter was recognized by the United States of America in 1884, and, in the same year, entered into a convention with France, whereby its suzerainty was duly recognized.

At this period, the representatives of King Leopold were in occupation of the whole region traversed by the Congo; however, the Portuguese Government laid claim to the estuary of the river. After a hot and lively discussion on the subject matters were smoothed over.

Bismarck recognized the Association Internationale du Congo, defending the New State, and, in 1884, called an International Conference at Berlin, in order to settle its future. About the same time, Dr. Karl Peters and his three companions, *in disguise*, concluded treaties with the native chiefs on the mainland opposite Zanzibar, whereby they secured German East Africa for their Fatherland.

The Conference held in Berlin in November, 1884, had three main objects in view: (*i.*) the establishment of the "open door" policy in the Congo basin, (*ii.*) the securing of the free navigation of this river and of the Niger, and (*iii.*) the framing of regulations to provide for the effective occupation of the Congo territories. The resolutions passed on this occasion are together known as the *Acte général de la Conférence de Berlin*. In February, 1885, the Powers represented (14 in all) recognized the Association Internationale du Congo as an "Independent Sovereign State;" it was further decided that the whole of Equatorial Africa should, under the name of *bassin conventionnel du Congo*, be declared a *neutral* region.

On the 1st July, 1885, the new state was proclaimed at Banana, and on the 1st August following, the Belgian Chamber, on the understanding that the union was strictly personal to the King, authorized Leopold II. to assume the title of Sovereign of the Congo State.

Thus King Leopold acquired vast territories without shedding a drop of blood or employing a single soldier to fight for him. However, his troubles were to come. In 1886, the Arab Chief Rachid began to set up extravagant claims in Central Africa. As a counter-stroke, King Leopold, in 1889, called an Anti-Slavery Confefence together in Brussels—he had made his will in this year devising the Congo territory to Belgium.

An expedition was now organized, and two years later hostilities broke out against Saïd-Ben-Abedi, Séfu and Rumaliza. The campaign lasted for three years, but the Belgians succeeded, in 1894, in crushing the revolt of the natives.

In the year last mentioned, the King's agents began to organize suitable administrative machinery for the government of these territories and to exploit its natural resources; regular taxes were instituted, railway and telegraph lines constructed, law courts set up, etc.

In 1896, a Belgian Army was sent up towards the White Nile, under the command of Dhanis, to collaborate with Kitchener against the Mahdists. Revolts, however, broke out which hampered the advance of this Belgian force. In 1897, a Belgian force under Chaltin defeated the Dervishes, who retired in a northerly direction.

The frontiers of the Congo State were delimited about this time; the negotiations relating thereto between the British, Belgian and German representatives on the Boundary Commission were extremely protracted, great difficulty being experienced in arriving at an agreement.

Revolts amongst the natives continued to take place down to 1908; in the last of them, Batetelas men, who had been enrolled in a constabulary, called the "Force Publique," for the policing of the Congo State took part. They have since then proved exceedingly loyal to Belgium.

The attacks on the Administration of the Congo State made by the *Congo Reform Association* resulted in the despatch, by Leopold II., of a *Commission d'enquêtes* to this territory in July, 1904. Certain reforms were recommended by this Commission, which, at the same time, made a handsome reference to the work of the King in relation to his African possessions.

The Belgian Chamber of Deputies nominated a "Commission" in 1906 to deal with the question of the annexation of the Congo State to Belgium. Two years later, excited debates took place on the subject in the Belgian Legislature; finally, an Act was passed in August, 1908, annexing the Congo State to Belgium, and on the 15th November following it became a Belgian Colony.

In 1909, Prince Albert, as he then was, paid a visit to Belgium's African domain; this domain has proved of very great value and of much strength to her during the period of trial, when an oppressive enemy was in occupation of a large part of King Albert's kingdom.

Chapter III. is entitled *L'Œuvre Militaires des Belges au Congo, de 1914 à 1918. Ceux qui la conçurent et qui l'exécutèrent;* it contains a brief account of the wartime events in the Belgian Colony.

M. Daye is of opinion that perhaps, after all, it was a good thing that the Germans violated the neutrality of the *bassin conventionnel du Congo* in August, 1914; the result has been that the German colonies now lie in ruins, whilst the Belgian Colony has been revitalized. The Belgian Colonial Government was carrying out a reorganization at the time that it was taken by surprise by the German aggression; it has, in consequence, had a prodigious task on hand in making arrangements for frontier defence and in organizing the forces which have been employed in the various colonial theatres of operations. Belgian troops have co-operated with the French in the Cameroons and against the Sultan

of Mopoi; they have been operating in Rhodesia with British forces at Abercorn and Saisi; they have also taken part in the victorious campaign in German East Africa.

The Belgian Congolese Army, at peace strength, consisted, in 1914, of 18,000 black troops approximately; it was recruited by annual levies, voluntary enlistment and re-engagements. The annual contingents provided for under Article 16 of the Colonial Charter, normally varied between 3,375 and 3,750 men, but in 1916 the annual contingent was raised to 5,000 men. The terms of engagement are seven years with the Colours and five years in the reserve. In August 1914, there were 5,000 men in the reserve liable for service; therefore, on mobilization at the beginning of the War, the Congolese Army was made up to 23,000 men.

The great difficulty which the Colonial authorities of Belgian Congo have had to face has been in connection with the equipping, arming and feeding of the local troops and with the enrolling of the white population.

Although the Belgian Army in the Congo was a *purely colonial* one, it had to some extent to be supplied from Europe; two bases were formed for this purpose, one at Boma on the Atlantic seaboard, and the other at Mombasa on the Indian Ocean. In 1916, the Belgian forces in Africa numbered 20,000 men; two *colonnes d'invasions* (containing 12,000 men) each consisting of a brigade (two infantry regiments), a company of engineers, two batteries of howitzers and one battery of mortars, were formed under General Tombeur and were known as the *troupes de l'Est*. This General had also under his command the *Détachment des lacs* under Colonel Moulaert. The *troupes d'attaque* were supported by a *corps d'occupation*. General Tombeur's force co-operated with the British troops in the campaign for the conquest of German East Africa. Other Belgian detachments took part in the operations in the Cameroons and in Rhodesia; they were attached to the "Force Publique," and were controlled by the Headquarters at Boma.

Belgium owes a debt of gratitude to M. Renkin, her Colonial Minister, to whom is due much of the credit in connection with the preliminary steps taken to organize the African expeditions; he has been ably seconded in this task by M. Pierre Orts, Minister Plenipotentiary, and Major Auguste Couche. At one time there was a tendency to disparage the work of these three public servants, as often happens where men are more far-sighted than their fellows. The thanks of the Belgian nation are also due to General Tombeur, and all the responsible officers serving under him, for the skilful leading of the troops whereby Germany's military effort in Africa was brought to nought.

Short biographical sketches of M. Renkin and General Tombeur are contained in the volume under notice. The former is 56 years of age and began his career, in Brussels, as a barrister in 1884; he later took up journalism and politics, and was one of those who ardently advocated the annexation of the Congo State to Belgium. General Tombeur was born in 1867, and began his career in the 11th Regiment of the Line. He has graduated at the *Ecole de guerre*; he first went to Africa in 1902. In 1914, when the war broke out, Tombeur held the rank of Major and

was Vice-Governor General of Katanga; he was promoted General in 1916.

Chapter IV. is entitled *La Coopération belge au Kamerun et en Rhodésie* and deals with the part played by Belgian troops in the conquest of the Cameroons and in the support of the British forces defending Rhodesia against the Germans.

The Cameroons, acquired by Germany in 1884, owing to the initiative of Nachtigall and enlarged in 1911 by the incorporation of a part of the French Congo, covers approximately 202,000 square miles.

When hostilities began in 1914, the French troops on the Cameroons frontier endeavoured to establish themselves in the Lobe and Sanga valleys—the territories ceded to Germany in 1911—but not being strong enough for the purpose, the aid of Belgian troops was sought. In September 1914, the Belgian Government authorized the Governor-General of Belgian Congo to support the French troops operating against the Cameroons. This German Colony was almost entirely surrounded on land by territories belonging to the Allies, and British cruisers effectively blockaded its coast-line. The Germans had a large native army in this territory, with a nucleus of 2,000 white troops.

A description is given in the volume under notice of the part played by the Belgian troops, in support of the French forces, which attacked and captured N'zimu and Molundu (the former town fell on the 29th October, 1914 and the latter on the 22nd December, 1914). Later, these troops took part in the operations which resulted in the capture of Yaundé, on the 1st January, 1916, and in the final conquest of the German Colony, which was cleared of enemy troops by the 1st March, 1916—. 900 Germans crossed into Spanish territory and were interned. Shortly after the date last mentioned, namely on the 15th April, 1916, the Belgian troops returned to Boma and were given an enthusiastic reception—distance from Yaundé to the Congo=622 miles.

Whilst the campaign was being fought in the Cameroons, the enemy was also active in the S.E. region of the Belgian Colony. On the 5th September, 1914, a German force from German East Africa attacked the British at Abercorn. Belgian aid had been asked for and was immediately forthcoming. At the Sieges both of Abercorn and of Saisi, Belgian soldiers stood side by side with the British forces engaged in the defence of the two towns named, which are about 22 miles apart. The conquest of German South West Africa finally relieved the pressure in this neighbourhood.

Chapter V. is entitled *Le Conquête de l'Est-Africain allemand (du Congo à Tabora)* and deals with the events down to the 19th September, 1916, on which date the Germans evacuated Tabora (about 220 miles from L. Tanganyka) a former important slave trade centre (pop. 40,000) on the railway connecting the Lake with the coast at Dar-Es-Salam.

German East Africa and the Belgian Congo have a co-terminous frontier some 560 miles long; L. Kivu, the river Ruzizi and L. Tanganyka form the natural boundaries between these two territories.

The railway, known as the *Tanganykabahn*, running east or west, occupies an almost central position in the German Colony; it had not

been completed when hostilities began. The main objective of the Anglo-Belgian troops was to obtain and retain control of this railway and the important centre of Tabora. The British forces numbered 42,000 men.

It is estimated that the German force in this territory numbered, in the autumn of 1914, some 36,000 men, of whom 3,000 were white troops; this force was well armed and had been reinforced by guns and sailors from the Königsberg, which had succeeded in eluding the British Navy and had taken shelter in the Estuary of the Rufiji River.

It appears to have been the intention of the Germans to invade the Belgian Congo and to march on Stanleyville. Between August 1914 and April 1916, a continuous series of minor engagements were taking place at different points. Both the Belgians and the Germans had armed vessels on L. Tanganyka, and these engaged one another at various dates: the German vessel *Kingani* was destroyed on the 26th December, 1915; the *Hedwig von Wisseman*, on the 19th February, 1916; finally, the *Wami* was sunk, by the British and Belgians, on the 28th July, 1916.

The Belgian preparations for the great offensive movement against the Germans E. of L. Tanganyka were completed in April, 1916, and the general offensive began on the 18th *idem*. The main force was divided, as stated earlier, into two columns, the North Brigade and the South Brigade.

The operations which led to the capture of Tabora are given in some detail, so far as the movements of the Belgian Brigades are concerned, in the volume under notice. During the short space of six months, the Germans were driven out of some 7,000 square miles of territory—an area six times as great as that of Belgium. In accomplishing its task the North Brigade marched some 930 miles, *i.e.*, on an average 155 miles per mensem, in a country inhabited by savage tribes; it had to fight the enemy continually as it moved forward.

Chapter VI. is entitled *La Conquête de l'Est-Africain allemand (de Tabora à l'Océan Indien)*, and completes the story of the defeat of the German East African Army.

After the capture of Tabora, the Belgians moved to the south of the railway and occupied the strip of country from the railway as far south as a line drawn from Karema on L. Tanganyka, to Sikonge, about 30 miles S. of Tabora. The German force which had been driven out of this region joined up with their compatriots on the Rufiji River, at that time, fighting against the British.

The Belgians, thinking that their task was at an end, had begun to demobilize and had started organizing civil government in the conquered territory; news then arrived that a force of 600 Germans with artillery, under the elusive Captain Wintgens, had arrive at a point near Neu-Langenburg, S.E. of L. Tanganyka, occupied by Rhodesians. At this time other German detachments had got away from the main force, being hustled in the south of the Colony by the British, and had invaded Portuguese territory, in the neighbourhood of L. Nyassa. General von Lettow-Vorbeck, who was in command of the Germans, could not hope to hold out for any length of time against the British; but an early peace would have enabled him to put forward the claim that there had

never been an effective occupation of German East Africa. There can be little doubt that Wintgens adopted the course which he followed in order, if possible, to bring about a dispersion of the Allied forces, and thus to weaken the Allies' hold over the natives, some of whom still remained loyal to the Germans.

General Smuts' army, which had been severely tried by the climate, had just been sent back to South Africa and General Hoskins had recently succeeded to the command of a contingent much reduced in numbers. It was under such circumstances that, in agreement with the British Government, the Belgian Government ordered a remobilization of the force which had captured Tabora. General Tombeur had already returned to Europe and the command of the Belgians was, in consequence, entrusted to Lieut.-Colonel Huyghe; he acted in close co-operation with General van Deventer, who had taken General Hoskins' place, the latter having proceeded to another important command.

A two-fold task lay before the Anglo-Belgian forces in East Africa: (*a*) the pursuit of Wintgens' column, and (*b*) the capture of the Germans in the Mozambique region and on the Rufiji.

Wintgens had, in April 1917, succeeded in shaking himself free from his British pursuers and had proceeded northwards by forced marches. A small Belgian force, consisting of three battalions under Major Bataille, occupied Sikonge and Ipole, on the 22nd May, in order to cover Tabora, which was immediately threatened by the German raiders. On the night of the 22nd-23rd May, a Belgian patrol captured Wintgens, who had been isolated, at a spot some 60 miles S. of Tabora. However, his men, now under Naumann, made good their escape and, continuing their march northwards, cut the railway 50 miles E. of Tabora. Two Belgian columns were in pursuit of Naumann, who proceeded in all haste towards L. Victoria. One of the Belgian columns overtook the German rear-guard, about 145 miles N.E. of Tabora, and attacked it on the 7th June. Naumann, however, succeeded in getting away and reached Tumbiri (about 40 miles E. of Muanza) after a most daring march through a region in the occupation of the Allies. The Belgians continued their pursuit of the Germans, who retreated in an easterly direction. A violent engagement took place between the Belgians and the Germans on the 29th June, but Naumann got away again, and it was not till October, 1917 that he surrendered with his command to the British.

Fighting took place, during 1917, also in the region of the Rufiji River and of Mahenge. The Germans had laid waste the territory in the southern part of their East African Colony so completely that the inhabitants had had to withdraw in rear of the German lines owing to lack of sustenance. A small Belgian force was sent south from Uleia on the 11th August; it was at first under the command of Major Bataille, later Lieut.-Colonel Huyghe personally assumed control of the operations in this region. The Germans were driven further and further south towards the frontiers of the Portuguese territory; they halted on the 9th September and entrenched themselves, and attacks and counter-attacks took place over a period of several days. On the 16th *idem*, the Germans at last retreated, but on the 22nd *idem* they again made a stand

a day's march N. of Mahenge, being severely defeated. Mahenge is the headquarters of a richly cultivated district.

The Germans now concentrated a force of 2,000 natives and 350 Europeans with artillery and machine-guns, under the command of Tafel, on strong positions in the neighbourhood of Mahenge. They were attacked by Colonel Huyghe on the 7th October, fighting continued till the 9th *idem ;* on the latter date, Mahenge was entered, many Europeans being captured and also much war material. Tafel, however, managed to escape in a southerly direction ; he was pursued by a Belgian force, which reached Liganga on the 16th *idem* and there effected a junction with the British troops under Colonel Fair.

Tafel endeavoured to join up with von Lettow-Vorbeck's command, but his force was hemmed in by the British and he surrendered on the 17th November, 1917, with the whole of the men under him. In the month of November alone, he lost 1,115 Europeans, 3,382 black troops, 6 guns and 73 machine-guns.

By the 1st December, 1917, not a single German remained in East Africa.

Chapter VII. is entitled *Les résultats. L'avenir ;* therein the events of the past are summed up and the prospects of the future discussed.

At the time that the volume under notice went to press, Germany was in occupation of about 1,125 square miles of Belgian territory in Europe, whilst Belgium held about 77,000 square miles of German territory in Africa. Under all the circumstances, the Belgians have reason to be satisfied with the achievements of their Colonial troops during the four years of the Great War. On the 28th July, 1914—four days only before Europe was in the throes of a violent convulsion—a decree had been signed in Brussels authorizing a decentralization of administration and an extension of local autonomy in the Belgian Congo. In spite of the War, the reorganization authorized by the decree has been completed, and the Congo is to-day divided into four Provinces : Kasaï, Equator, Katanga and the Eastern Province.

In addition to the financial and administrative reforms introduced, certain modifications have also been carried out in relation to fiscal, commercial and political matters.

During the War the Belgian railway system has been extended from the Lualaba to Albertville, on L. Tanganyka ; the custom revenue has increased from 8 million francs in 1914 to 13 million francs in 1916 ; the output of the mines has increased from a value of 7 million francs in 1914 to one of 14½ million francs in 1916 ; the export of copper has increased from 14,000 to 25,000 tons, etc. In every direction there are signs of increasing prosperity in the Belgian Colony, and to this fact the Colonial Budget amply testifies ; whereas the receipts were 32 million francs in 1915 and reached 43 million francs in 1917, the revenue of the Colony is estimated at 50 million francs for 1918.

The Belgian Congo has a great future before it ; it is rich in gold, diamonds, ivory, rubber, coal, copper, tin, iron, timber and agricultural produce. It is, however, still lacking in means of transport and requires an inflow of capital for the construction of railways and in order that its natural resources may be fully developed. A river flotilla is also neces-

sary to make the most of its great waterway; something is already being done to meet this requirement.

Belgians are warned to be on their guard as to the future, and to see to it that on the day of reckoning with their octopus-like enemy, suitable measures are taken firmly to close all approaches: otherwise, it is conceivable that *peaceful penetration* may succeed in restoring the situation lost to Germany in war.

It has been suggested that the German African Empire shall be divided between France, Great Britain and Belgium, and that, for the torments which they have suffered, the Belgian people should receive the *largest compensation* in Africa. It is the desire of many Belgians that by this means Antwerp may once more become a *grand entrepôt Africain*.

The Appendix to this volume contains *inter alia*, an extract from the "Acte Générale de Berlin" of the 26th February, 1885, wherein is set out the declaration relating to the neutrality of the territories comprised in the *bassin conventionnel du Congo*; a copy of the letter, dated Berlin, 2nd April, 1914, wherein the Belgian Ambassador to the German Court communicated to the Belgian Foreign Minister the proposals of von Jagow with regard to the robbing of Belgium of her possessions in Africa; copies of a number of the despatches from the Belgian Grey Book containing diplomatic correspondence—these despatches deal with the situation in Equatorial Africa after the outbreak of war; a copy of General Aymerich's "Ordre du Jour" relating to the operations in the Cameroons; copies of proclamations issued by General Tombeur in 1916; copy of General Tombeur's "Ordre du Jour" issued after the occupation of Tabora; copy of King Albert's congratulations to his Colonial troops, who took part in the capture of Tabora, etc.

The 152nd number is entitled *La Magistrature Belge contre le Despotisme Allemand*. M. Fernand Passelecq is the author of the volume: he gives in nine chapters an account of the long struggle of the magistracy of Belgium with the German military authorities in connection with the attempt made by the latter to exploit the Flemish Home Rule movement and to restrict the exercise by the Courts of their jurisdiction in criminal matters, as provided for under the Belgian Constitution.

Chapter I. is entitled *Le plan de l'Allemagne pour diviser la Belgique et assujetir la Flandre à l'Empire*; it deals with methods employed by Germany to bring Belgium under its vassalage by acting on the despot's maxim: *Divide et impera*. The German authorities endeavoured to exploit the duality of language of the Belgian people to accomplish their purpose.

The total population of Belgium is 8 millions; the mother tongue of slightly more than half of these people is Flemish and of the remainder French. This linguistic division of the Belgians is very old; it had its origin in the Latino-Frank civilization of Western Europe. For more than a thousand years Belgium has been divided geographically into a Flemish and a Walloon region. After long vicissitudes these two regions were brought, in 1830, into political union, a union whereby Belgium acquired its independence. The inhabitants of these two regions have, however, each continued to exercise the right to use its own original language in all official transactions. Administrative difficul-

ties have been caused thereby in many ways, and not the least owing to the necessity of printing all official documents in the two tongues. Before the Great War, political capital was being made in some quarters of Belgium on the "question des langues," the principal manifestation in connection with which consisted in a complex movement called the "mouvement flamingant." This movement was in no way an irredentist agitation, but a matter which concerned internal politics alone.

The Machiavellian scheme of the Germans consisted in taking advantage of and in systematically exploiting the administrative difficulty arising from the language question, in order to convert it into a problem having importance in the field of international politics.

After the occupation of Belgium by the Germans, the embers of the old linguistic quarrel, which had almost died out, were fanned into flames. A few traitors were bribed, some wasters and knaves were got at by the invaders, and egged on to form a Flemish party, which became known as the "activiste" party; the object thereof was to take active steps to bring about, with German assistance, considerable administrative and political changes in the country. Newspapers were started for the purpose of encouraging this movement, and hirelings were engaged to promote the propaganda in relation thereto. The movement resulted in the suspension of the constitutional guarantees in Belgium; liberty of speech, the liberty of the Press, the right of public meeting were vouchsafed alone to the "*activistes*," the accomplices of Germany. The "mouvement flamand" was used by Germany as a cloak for making radical changes in the institutions of Belgium in order to fit the situation into her scheme for world hegemony.

Extracts are given by M. Passelecq from a speech of von Bethmann-Hollweg, delivered in the Reichstag on the 5th April, 1916, from the "political testament" of von Bissing and from a letter addressed by the latter to Deputy Streseman, on the 14th January, 1917, which throw a flood of light on the true character of the projects Germany had set her hand to in Belgium. Under the pretext of liberating "her German brothers from the yoke of the Belgian State," Germany was but intending to bring her dupes under her immediate domination.

Chapter II. is entitled *La réalisation du plan allemand. L'Université pseudo-flamande de Gand et la séparation administrative de la Flandre et de la Wallonie*; therein are briefly described the three stages by which the German authorities brought their scheme into operation:—(1) On the 31st December, 1915, the University of Ghent was transformed into a pseudo-Flemish University; (2) on the 21st March, 1917, the administrative separation of Flanders and the Walloon region was effected; and (3) on the 19th January, 1918, a proclamation announced the grant of political autonomy to Flanders.

Germany was not sparing in her use of either money or of lies in connection with the deception which she attempted to practice on residents in foreign countries in relation to her schemes.

On the 4th February, 1917, the Belgian people read in the papers published by the "Kommandanturen" that a so-called "Diet of Flandres" (*Landdag van Vlaanderen*) had been summoned to meet at

Brussels. It was gathered that some 200 to 250 individuals were members of this enigmatical assembly, the names of eleven of them had been mentioned in the German Press—these were persons of no weight in the country—whilst the names of the others remained practically unknown. How the members of the Diet had been elected, what electoral areas they represented, etc., were all matters concerning which the public remained ignorant.

Later, it was learnt (through the German Press) that this handful of insignificant personages had arrogated to themselves the title of "hommes de confiance du peuple flamand" and that they had constituted themselves the *Raad van Vlaanderen* (the Council of Flanders), and had signed a manifesto claiming representation at the Peace Conference on behalf of "oppressed Flanders"; seven members were, it was stated, proceeding to Berlin immediately to secure this object.

Von Bethmann-Hollweg received these seven pilgrims on the 3rd March, 1917, and promised, in the name of the Emperor, immediately to separate Belgium into two administrative provinces or "circonscriptions" (the line of demarcation being based on the linguistic divisions of the country). Effect was given to the preceding announcement in a decree issued by von Bissing on the 21st March, 1917—his last important governmental act.

But before this step was taken loud protests against the adoption of any such separation had already been raised in Flanders, which clearly demonstrated the *loyalisme flamand*. On the 10th March, 1917, exactly one week from the date of the reception of the delegates from the Council of Flanders at Berlin, Louis Franck, the Deputy for Antwerp, caused a letter, signed by 77 notables of the Flemish region, to be handed to the Imperial Chancellor; therein the artificial representations of the Council of Flanders were categorically disavowed in the name of the whole of the Flemish population, and the German Administration was challenged to seek a reply to the "administrative separation" question by a referendum to the whole country. This protest was followed by many others in which people of all social classes, without distinction as to residence or language, joined in large numbers.

Chapter III. is entitled *La tentative de démembrement politique de la Belgique*, and describes the steps taken by the German authorities to carry their scheme for the "administrative separation" through to completion in spite of the general and spontaneous remonstrances of the public.

Flemish and Walloon Belgium had, however, succeeded in getting its voice heard outside the limits of the invaded territories; the German Administration attempted, in consequence, to bind its victim more tightly and to thicken the prison walls, whilst it speeded up the execution of its scheme for the political dismemberment of King Albert's kingdom.

The German precipitation was probably due to the fact that her statesmen were "counting the chickens before they were hatched." The collapse of Russia had removed, for the time being, the menace on the eastern borders of the German Empire; the Wilhelmstrasse seems to have cherished the idea of repeating on the Western Front "the coup of Brest-Litovsk" by *ukrainising* Flanders. She hoped, by dividing the

Belgian people, to create in the West a situation analogous to that which she had created in the East by the setting up of the semblance of popular governments in Poland and in Lithuania; the German rulers probably anticipated that, once "administrative separation" was an accomplished fact in Belgium, they could openly enter into peace negotiations with the "activiste" group and obtain whatever moral advantage was to be derived from the successful issue of such a step. Whatever the reason, the Comedy was played, and on the 11th November, 1917, a meeting took place in the Alhambra Theatre, Brussels, of the "activiste" group; not more than 1,200 persons were present (and of these one third were Dutch and one third Germans), every one of whom had been provided with invitation cards—under the circumstances there was nothing of the nature of a *popular movement* in the situation. At this meeting a resolution was passed abolishing the Belgian Government and its abolition was proclaimed by the frothy orators who had been demanding Flemish Home Rule in Belgium. On the conclusion of this meeting, the separatists were attacked in the Grand Place, whither they had proceeded, and were dispersed by angry patriots.

On the 11th December, 1917, two ordinances were published by the German Governor-General of Belgium in the *Gesetz und Verordnungsblatt*; in one of them it was provided that, in cases where the German censorship had given its approval to any document, the jurisdiction of the Belgian Courts in relation thereto was ousted, and no action, civil or criminal, in relation thereto could lie. In the second of these ordinances the burgomasters in Belgium were deprived of their authority in relation to public meetings and their responsibilities in this matter were transferred to the German "Kreischief" (District Officer). Thus was impunity assured to the calumniators and the artisans of discord among the Belgian people; at the same time, the reputation of patriots and of honest men was put at the mercy of all the Press agents of the "Kommandturen" throughout the invaded regions.

Under the shelter of the foregoing precautionary measures of the German authorities, the "activistes" were given free play to carry out their nefarious designs on the integrity of Belgium.

On the 20th January, 1918, announcements appeared in the German newspapers, and in the Teutonized Flemish Press, stating that the "Council of Flanders" had addressed a request to the Kaiser asking for the grant of autonomy to Flanders, and had resigned in a body so that the "Flemish people" might be given the opportunity to ratify this decision by "re-electing" the "hommes de confiance." The communiqués added that von Wallraf, the Secretary of State, had personally visited Brussels on the 15th January, 1918, in order to communicate, to the authors of the "separation scheme," the Kaiser's approval and that in consequence, the "Council of Flanders" had proclaimed the complete political autonomy of the Flemish region of Belgium; the Flemish people were thereupon invited to make known their views on the whole subject at the "new elections."

Before the country had time to recover from the surprise, a handful of "activistes" met surreptitiously at the Alhambra Theatre, Brussels at 10 a.m. on the 20th January, 1918, and proceeded to hold a mock elec-

tion. Owing to the vigilance of patriotic Belgians every detail in connection with this "electoral operation" was known; exactly 607 persons were present in the theatre; the meeting began at 10 a.m. and terminated at midday; no steps were taken at the entrance of the theatre to verify the identity of the voters, there was no scrutiny of any sort; the preliminary steps usually taken in connection with the candidature of individuals were ignored. The shouts of a few hundred riff-raff proved sufficient to "elect" 52 provincial councillors and permanent deputies for the province of Brabant and 22 deputies for the Belgian capital and district—normally, there are 200,000 electors in the Brussels district (population 1,000,000).

The manœuvre of the 20th January, 1918, was a mere piece of buffoonery; it was followed subsequently by similar grotesque "consultations electorales" in other towns. All these elections were carried through under the protection of German soldiers and police. It was thus that the "re-election" of the "Council of Flanders" was secured.

Chapter IV. is entitled *Le soulèvement du patriotisme belge*; it deals with the movement of the Belgian patriots to counter the "activistes."

The German authorities had given the "activistes" of Antwerp, Louvain, Malines, Tirlemont and a number of other towns permission to hold meetings and have processions, during various dates in February, 1918; similar privileges were denied to other sections of the Belgian people.

At Antwerp an "activiste" procession, consisting of 600 to 700 persons, met with a most hostile reception. Some 30,000 inhabitants turned out to hoot and jeer at the "activistes"; their banners and musical instruments were snatched from them and the procession was broken up, in spite of the German soldiers, who charged to disperse the loyalists. At the other centres named, the "activiste" processions were similarly attacked by the loyalists.

The Provincial and Communal Authorities of Belgium had hitherto remained at their posts and had continued to carry out their administrative duties, thus reducing the friction between the invaders and the Belgian people to a minimum. But the intrusion of the "activistes" into the political life of Belgium, and the strong support which they were receiving from the Imperial Authorities, was something that could not be tolerated by any Belgian institution owing its existence to the popular will. Communal Councils; Provincial Councils; Deputies and Senators; the Judicial Authorities; the Universities; Workmen's Associations; Chambers of Commerce; etc., etc., entered most powerful protests against the traitors and usurpers composing the "Council of Flanders"; and all these bodies addressed collective letters to the Imperial Chancellor on the "activiste" situation. The German authorities took alarm and endeavoured to intimidate the Belgian officials who had had the courage to enter a remonstrance against the abuse of their powers by the invaders; letters were addressed by the Presidents of the German Civil Administration in the Provinces of Limburg and Brabant to the burgomasters and aldermen in these provinces forbidding them to involve themselves in political questions.

Chapter V. is entitled *Le coup de Maître de la Magistrature belge*,

and deals with the bold step taken by the judicial authorities of Belgium against the "activistes."

The Belgian magistrates and judges had, on the occupation of their country in 1914, come to the decision that they could best serve the interests of their countrymen by continuing in office rather by resigning in a body. Consequently, the Courts had continued to administer justice in accordance with Belgian law without interruption, and had arrived at a *modus vivendi* with the invaders. The Belgians had scrupulously carried out their part of the agreement; not so the Germans; in consequence, during 1916, 1917 and 1918 Belgian officials, one after the other, resigned their positions.

Justice continued to be dispensed in Belgium in the name of King Albert and the laws of the land remained in force, save in the cases of the exceptions contained in the ordinances of the German military and civil authorities. The Belgian penal code, however, continued in full force, so far as concerned crimes and misdemeanours committed by Belgians in Belgium.

The "activistes" seem to have overlooked the fact last mentioned, or were, perhaps, prepared to defy the Courts. On the 31st January, 1918, a group of Senators and Deputies took the bold step of denouncing to the "Cour d'Appel" of Brussels, the members of the "Council of Flanders" by name. In cases of denunciation of this nature the "Cour d'Appel" has a right to deal with the matters brought to its attention; its prerogative, known as the *droit d'injonction*, is based on the Criminal Code of 1810.

The "Cour d'Appel" met, on the 7th February, 1918, to deal with the matter to which its attention had been called; 46 out of the 48 members composing this Court were present (the absence of two members was due to sickness). A formal and precise charge against the offending citizens was duly laid before the Court, which ordered the Attorney-General to proceed in due form of law against the parties denounced and their accomplices.

To understand the gravity of the step taken by the "*Cour d'Appel*" it has to be borne in mind that the majority of the members of the Court belonged to the Flemish region.

In order that effect might be given to the "injonction" of the "Cour d'Appel," the Attorney-General appointed M. Bilaut examining magistrate to enquire into the charges; the latter issued summonses on the 7th February against all the signatories of the "activiste" handbills. The summonses against Tack, the President of the "Council of Flanders," and Borms, the Minister for National Defence, were served on the day following; delay took place in serving the other summonses as the persons named therein resided in the provinces.

Borms and Tack were arrested and conveyed to the Palais de Justice early on the morning of the 8th February and arrived there at 6.30 a.m.; the proceedings began the same day at 9 a.m.

Borms on his arrival at the Palais de Justice seized an opportunity which offered to instruct the German sentry on duty there to convey to the officer in command of the guard a warning that two ministers

of the "Flemish State" had been arrested. The German authorities were dumbfounded by the steps taken by the Belgian judicial authorities; this exhibition of independence towards the all-powerful invaders appeared in the eyes of the German officials brought up in servile subjection to Prussian militarism to be an act of insolence. The Governor-General was some hours in coming to a decision as to his next move; finally, he decided to intervene on behalf of the "activistes" and to suspend the operation of Belgian criminal law.

Chapter VI. is entitled *Le gouverneur allemand arrache de force les meneurs activistes à la justice belge. Arrestation et déportation de hauts magistrats. Suspension de la Cour d'Appel de Bruxelles*; it deals with the high-handed action taken by the German authorities to secure the release of the "activiste" leaders and also with the reprisals that they carried out against the prominent members of the Cour d'Appel.

On the 8th February, between 10 and 11 a.m., one Schauer, a Justizrat, arrived at the Palais de Justice and proceeded direct to the Chambers of the Attorney-General; setting him aside, Schauer sent for the King's Attorney and the Examining Magistrate and demanded the immediate release of the "activistes" in custody, but he met with a firm refusal. A scene of great violence followed; Schauer, finally, by resorting to force, secured his ends; he seized the *dossier* relating to the case and compelled the surrender to him of the persons of Tack and Borms.

Having once started on this crooked path, the German authorities proceeded to extremes; on the evening of the 9th February, the Premier President of the "Cour d'Appel" and three Presidents of the Chamber were arrested. One of the Presidents of the Chamber was released, but the remaining three high officers of State were sent off to Germany to be imprisoned in the same gaol in which Burgomaster Max had been incarcerated since his deportation in September, 1914. Not yet satisfied with the mischief already done to the administration of justice, Schaible, the Chief of the German Administration in Flanders, issued an order on the 10th February, forbidding the members of the "Cour d'Appel" of Brussels to exercise their judicial functions. Thus, at one blow the independance of the judiciary of Belgium was completely destroyed.

Chapter VII. is entitled *Magnifique attitude de la cour de cassation et de tous les corps judiciares*; therein is described the measures taken by the Belgian judges further to outwit the Germans.

German officialdom has, as is well recognized, a poor instinct for psychology. Schaible's order was not many hours old before the Appellate Court was officially apprised, by the Attorney-General, of the arbitrary measures taken by the German authorities. This Court was requested to meet without delay to consider what steps should be taken in relation to the seizure of the *dossier* connected with the "injonction" of the "Cour d'Appel," and in the matter of the illegal release of Borms and Tack.

The Appellate Court accordingly met at 2 p.m. on the 11th February, 1918, when the Attorney-General read a report wherein he set out the whole of the facts connected with the denunciation of the members of the "Council of Flanders," the intervention of the German authorities,

the arrest of high officials of the magistracy, etc. This Court thereupon passed a resolution declaring that the interference of the German Authorities with judicial proceedings in Belgium was not compatible with the absolute independence of the judiciary and that it was also illegal. It further pointed out that the arrest of some of the members of the " Cour d'Appel," and the suspension of the remaining members from the exercise of their duties was contrary to the fundamental rules of law and to the solemn promises made on the 22nd March, 1916, to the magistracy by the government of the invaders. The acts of the German authorities having deprived the judiciary of their liberty and independence, the Appellate Court, " without abdicating its functions," decided to hear no more appeals.

The Attorney-General was ordered to communicate the Court's resolution to the German Governor-General in Belgium.

On the following day, the 12th February, the Court of First Instance and the Commercial Court at Brussels unanimously decided to follow the example of the Appellate Court. The barristers also ceased to do professional work. Judicial bodies in all the important centres of Belgium passed resolutions similar to those passed by the Courts in Brussels, and by the 19th February, the work of all the Courts of Law in Belgium was at a complete standstill.

The judicial authorities had in every case taken care explicitly to declare that they had suspended the sittings of their Court " without abdicating their functions." Under the circumstances, the Germans could not introduce another system of justice into Belgium without a further breach of International Law.

Chapter VIII. is entitled *Le dépit du gouverneur général allemand. Un arrêt de réplique de la cour de cassation*, and deals with the attitude taken up by the German authorities in view of the difficulties in which they had placed themselves by their interference in the internal affairs of Belgium.

The German authorities in Belgium, taking their cue from Berlin decided to rely on the doctrine of force to see them through in their quarrel with the Belgian judiciary.

On the 10th February, 1918, there appeared an Official Bulletin of laws and ordinances for Flanders (*Gesetz und Verordnungsblatt für Flandern*) investing the " activiste " agents of Germany with official status, in order no doubt to protect them against a repetition of proceedings similar to those instituted before the " Cour d'Appel " of Brussels. Nevertheless, it became evident to the German authorities that their scheme for the " administrative separation " of the Flemish region was stillborn.

At a Cabinet meeting of Belgian Ministers held at Sainte Addresse, on the 15th February, 1918, a unanimous vote was passed approving of the measures adopted by the judicial authorities in connection with the " activiste " affair. Von Falkenhausen, the German Governor-General, on the other hand, could no longer contain his rage ; he made the mistake of acknowledging his discomfiture by replying, in bitter and pitiable terms, to the Appellate Court's resolution of the 19th February, 1918.

Von Falkenhausen expressed the opinion that the "Cour d'Appel" had acted *politically* in taking cognizance of the denunciation of the "activiste," and that it had no right to take any action in the matter without first consulting the Chief of the German Administration in Flanders, who for the time being was in the position of Minister of Justice in Belgium. The Appellate Court had, said von Falkenhausen, failed in its duty to the Belgian people by having pushed its sentiment of solidarity with the "Cour d'Appel" to the length of suspending its sittings. The Appellate Court would have acted with greater wisdom and greater patriotism, continued the German Governor-General, had it continued to exercise its mission as the Supreme Court and confined its attention to the problems connected with the administration of justice under the conditions as they existed.

It is evident from the terms of von Falkenhausen's reply that he was confusing the situation created by the *occupation* of enemy country, one involving conditions that were temporary, with the situation arising from the *annexation* of an enemy's territories.

The Appellate Court met again on the 25th February, 1918, to consider von Falkenhausen's lecture to it; a further resolution was prepared, which the Attorney-General was ordered to transmit to the German Governor-General in Belgium. In this resolution the Court stated that the Governor-General, in stating that the Belgian tribunals were exercising their functions *under the authority of the invader*, had made a mistake as to the law in the subject and proceeded to show that, by the rules of International Law, when an invader retains the national judicial system in force in any occupied territory, he is bound to maintain it in the form in which it is constituted and composed under the constitution of the invaded territory; it is so provided under Article 43 of the Fourth Hague Convention of 1907. The opinions of German jurists were also quoted in support of the foregoing views; finally, the Court decided to adhere to the terms of the resolution passed on the 11th February, 1918.

The German Governor-General did not attempt to reply to the arguments of the Appellate Court, but an endeavour was made to persuade the judges to withdraw their decision; however, they had no confidence in the German Administration and felt that it was no longer possible to carry on any administration of justice which would be worthy of the name.

The German authorities were now left to their own devices, and on the 26th March, 1916, von Falkenhausen signed a notice substituting German tribunals for the Belgian Courts. The people in the occupied territory submitted to this last arbitrary act of oppression without entering any official protest. However, M. Carton de Wiart, the Belgian Minister of Justice, published a statement on the 16th April, 1918, wherein he dealt at length with von Falkenhausen's notice of the 28th March, 1918, and showed that the measures adopted by the German authorities were wholly contrary to the provisions of International Law.

Chapter IX. is entitled *Conclusion*; it sums up the results of the conflict between the Belgian judges and the German Administrators in the occupied territories.

Germany's Armies, by reason of their great superiority in numbers, won many a victory on Belgian soil during the early days of the Great War; however, after the occupation of King Albert's kingdom, the invaders were held in check by the unconquerable spirit of Belgian citizens. Morally, the German Administrators met with defeat at the hands of officials in every department of State, and of every class of the people.

Germany has learnt during the past four years that the spirit of the people of Flanders and of Wallonia is as untameable to-day as it was in the time of the " grands communiers " ; the historian of these years of iron, fire and blood will, in all truth, be able to write: *the Belgian Nation has, once more, saved itself and its independence.*

The full texts of the several protests referred to in the volume and of the decrees creating German tribunals in Belgium are set out in a series of appendices.

W. A. J. O'MEARA.

NOTICE OF MAGAZINE.

REVUE MILITAIRE SUISSE.

No. 12.—December, 1918.

The first article in the number of the *Revue* under notice is entitled *En l'année militaire dix-neuf cent dix-neuf;* it is a communication addressed to the annual subscribers by the Editor. It is pointed out that the year 1919 will be a critical period for the *Revue* and one of reconstitution. Costs of production are still rising; the increase in costs has already reached a level 500 per cent. above pre-war rates in some cases, whilst the lowest increase is 130 per cent. The *Société fédérale des officiers* and the *Section vaudoise des officiers* are thanked for their contributions of 1,500 and 400 francs respectively.

It is felt by the Editor that at the present juncture, *i.e.*, now that a return to peace conditions is so near at hand, the *Revue* must greatly extend its sphere of activity. The Swiss Army must, of necessity, enter upon an era of reform in consequence of the lessons taught by the War, and by its own experiences during its long mobilization, by reason of the new economic conditions within the Confederation and of the internal and external political situation. Reforms in training, reforms in organization, financial reforms, the home duties of the army, the duties of the Army in relation to world politics are subjects, should attention be confined to them alone, which, it is pointed out, will require much space for their discussion.

The subject of reforms in training has already been under discussion in the numbers of the *Revue* published in 1918; and the question of reforms in organization has also been touched upon. The Federal Chambers have recently instituted an enquiry on the subject of financial reforms; and the recent revolutionary occurrences, for which the so-called Soviet of Olten were responsible, imposed upon the authorities the necessity of employing the Swiss Army for the maintenance of internal order. The Revolutionary Committee has published its programme since the date of the *coup*; one of the planks therein consists of a demand for reform of the army and of a demand for its "popularization." Others also, including the *Revue*, put forward a demand for a reform of the army in almost identical terms, but the interpretation of the language used by the latter must be sought in a dictionary other than that used by the revolutionaries. What effect, it is asked, is the establishment of a "League of Nations" likely to have on the Swiss Army? The form that the League will take and the question as to what Nations will constitute its membership are matters of considerable interest and importance to Switzerland.

Apart from the above matters, the *Revue* will, it is pointed out, have to devote considerable attention to technical matters, the range whereof seems to-day to possess no limits.

The instruction of the Swiss officer, it is suggested, will have to be organized on a broader basis than in the past; there has been, in the past, too great a tendency on the part of military professors to adopt the German views in relation to the lessons of the 1870 campaign as alone affording guidance of value to the Swiss Army. The Great War with its multiplicity of battles and theatres of operations should have a considerable influence in altering the education scheme for Swiss officers; officers must be taught, says the Editor of the *Revue*, that the success, or want of success, of particular operations is not necessarily the determining factor in assessing the value, *i.e.*, the soundness, or unsoundness, of the military measures conceived and put into execution in connection with such operations; the methods of execution must also be examined.

A strong appeal is made for support of the *Revue* in the hard times through which the world is now passing.

Military Training and Morale of the Swiss Soldier.

The article on the above subject begun in the October number of the *Revue* (*vide R.E. Journal* for December, 1918) is continued and concluded in the number under notice.

The author of the original article points out that the example set by the "Chiefs" is one of the surest means of inculcating disciplinary ideas in the rank and file. The Nation has confided a twofold task to the Chiefs; that of training the men for war and that of leading them in war. For this purpose, officers have been armed with authority and have had well defined powers assigned them under statutory sanction. But, in the same way that the wearing of a cowl does not necessarily make a man a monk, similarly the donning of uniform with the distinguishing badges of officer's rank does not necessarily make the wearer a military leader.

The *prestige* of a Chief depends on his personality, that is to say, the sum of his good qualities and of his defects. The most important quality in a Chief is love of his profession; the Swiss Regulations lay stress on this point.

An extract is given in the original article from a work by Colonel Ch. Sarasin entitled "*Le rôle de l'officier subalterne*," wherein he states:—

"I have always observed that the officers who are most devoted to their troops are those who exercise their command with the greatest zeal, energy and authority, and who, at the same time, cherish, in the highest degree, the ambition of having things in good order, the men well-disciplined and the training in the highest state of perfection, whilst the officers who are careless about their men are likewise indifferent and slack with the regard to the performance of their duties."

The existence of mutual regard and confidence between the Chiefs and their subordinates, it is pointed out, always promote good discipline and produce the happiest of results. The art of exercising command is summed up as consisting of few orders, those orders given in precise terms, clearly formulated and complete in every detail.

The qualities of an ideal Chief are examined fairly fully in the original article. The opinion is expressed that these qualities can be acquired by a process of self-education, though much labour and patience must be expended for the purpose. However, the trouble taken in qualifying for leadership will bring its reward, since it is by this means that the maintenance of discipline is, as a rule, most easily secured. The task of a Chief is a complex, delicate and difficult one. The expenditure of much effort is required in accomplishing it; thereby alone can victory be achieved.

In dealing with the means for enforcing discipline, the author of the original article points out that the best of the punishments, it has been claimed, can hardly be called good. But since armies are not composed of supermen, existing punishments, such as they are, must remain a necessary evil. In every army, unfortunately, there are found a certain number of evilly-disposed individuals, who possess no "better side" to their nature to which an appeal can be made. Even in the case of troops who are most highly disciplined, there will, on occasions, arise infractions of the military code meriting severe punishment. Nevertheless, it would be a very serious mistake on the part of a Chief, it is pointed out, to suppose that discipline can be secured by resort to a system of punishments alone; such might have been the case in the days of mercenary armies, the members composing which feared neither the Creator nor the devil. To-day, a reliance on such methods would, in the case of a national army, be worse than a criminal expedient. The time has arrived for definitely abandoning systems of discipline which rely on "terror" for their enforcement.

Collective punishments are naturally condemned; they are nearly always unjust and place the well-behaved and the ill-conducted soldier on the same footing, thus creating a mischievous sense of solidarity throughout the ranks in the matter of grievances. The effect of such punishments is to lower the confidence of men in the spirit of equity expected in their Chief.

Punishment should always be certain; that is to say, should the offence be serious, the nature of the punishment awarded should be severe and determined in relation to the gravity of the offence; it should be enforced with firmness. On the other hand, the infliction of punishment should be a rare occurrence; this does not mean that wrong-doing should ever be overlooked. It may be taken for granted that, should the circumstances be such as to necessitate the frequent awards of severe punishment, the situation should be considered as having become abnormal and should consequently be carefully enquired into with the object of ascertaining what has gone wrong in the unit.

The Swiss Regulations lay down the nature of the punishments which officers are authorized to inflict on soldiers. During the past four years experiments have been made with all "possible and imaginable" kinds of punishment. Recently an order was issued by the Commander of the II. Division forbidding punishments "other than those sanctioned by the law." An Army Order on the subject goes even further; it directs that certain punishments, although recognized by the Swiss Regulations, are prohibited as they have become obsolete.

The author of the original article is of opinion that since Guard Mounting is a "service of honour," it is a mistake to award "extra guards," as a form of punishment; he thinks that one of the best punishments for minor offences is a reprimand, either in public or in the orderly-room, according to the gravity, or otherwise, of the wrong-doing. Of course, in the case of serious offences detention must be resorted to. It is pointed out that when it said of a Chief: "He is severe, but just," he really receives high praise indeed. Regret is expressed in the original article that the Swiss Regulations do not mention "rewards"; at the same time, it is admitted that the highest form of reward consists in the *satisfaction* of having performed one's duties. However, there are, in Switzerland as elsewhere, those whose efforts would be stimulated by the prospect of some material reward. The author of the original article states that he is not raising the question of reviving the distribution of "ribbons, crosses, medals and other honorific distinctions of which our neighbours make bountiful use," but rather the question of discovering some means for increasing the soldier's pride in his uniform, in reviews and ceremonial matters, etc.

Certain distinctive badges have already been introduced into the Swiss Army, and the question is asked whether it would not be possible to reward good and faithful long service by an increase of pay, by some special record in the soldier's service book, or by the grant of some other distinction?

Examples are given in the original article of the directions in which new forms of reward may be sought for the Swiss Army.

The Browning Machine Gun and the Browning Machine Rifle.

Short descriptions are given in the original article of the Browning Heavy Machine Gun and the Browning Machine Rifle adopted by the American Army.

The Heavy Machine Gun (model, 1918) is of the water-cooled type and is mounted on a tripod. It is of extremely simple design; the breech piece consists of five separate parts only. During certain trials, 39,500 rounds were fired from one of these pieces without a hitch; on another occasion 20,000 rounds were fired in 48 min. 16 secs., with three miss-fires only (due to defective cartridges). The ammunition is fed to the gun by bands each carrying 250 rounds. Eight men normally form the gun-team, but it can be served by two men and even by a single man in an emergency.

The total weight of the gun (without tripod) with filled water-jacket, is 34½ lbs.

The Machine Rifle (model, 1918) is air-cooled. It can be used either as a semi-automatic or an automatic weapon. It weighs about 15 lbs.

The Machine Rifle can be fired either from the hip or from the shoulder. When used as an automatic weapon, it can fire 20 rounds in 2½ seconds; and 350 rounds can be continuously fired before the barrel becomes so hot as to necessitate a rest.

The Machine Rifle can be rapidly manufactured in very large numbers.

NOTES AND NEWS.

Switzerland.—The contributor of the original Notes states that the year 1918 ended sadly but nobly for the Swiss Army. Before being demobilized, on the termination of hostilities on the borders of Switzerland, the Swiss Army paid its toll; it was called upon to make sacrifices, which might have been avoided had those, who are demanding Helvetic liberty, properly understood their duty towards liberty. The general strike was a sorry spectacle, being a callous exhibition of ignorance and unreasoning hatred on the part of the ring-leaders of the Soviet movement.

It is customary for promotions in the Swiss Army to be gazetted at this period of the year. It is announced that Divisional-Colonel L. H. Bornand, has been promoted a Corps Commander and has taken over the I. Army Corps from Colonel Audeoud; Colonel Ed. de Meuron has succeeded, in consequence, to the command of the I. Division. Divisional Colonels F. Brugger and R. Weber have also been promoted to the rank of Corps Commander.

General Wille has retired from the Command-in-Chief of the Federal Army and, in consequence, the Federal Council has resumed control of the Headquarter Administration of the Swiss Army.

The Budget proposals for 1919 prepared by the military authorities provided for war conditions; it has been remitted by the National Council to the Executive for revision, so that it may be reduced to comply with the requirements of peace service.

Attention is called to the announcements which have appeared in the British Press that the British Government was contemplating the abandonment of Compulsory Service. The question is put: Does this imply that we are within measurable reach of the date when all armies will be abolished? If so, the members of the future "League of Nations" will find themselves (the author of the original Notes points out) in a somewhat helpless position should one of their number suddenly decide to settle its quarrels with another by an improvised armed force. It is not in pacifism that the danger of belligerency lies, but in the pacifists; they are "the most redoubtable artisans of War."

It is stated that in consequence of the publication of the Report of Count Lerchenfeld, the Bavarian Minister at Berlin, showing the part played by Germany in the ultimatum of 23rd July, 1914, sent by Austria-Hungary to Serbia, Lieut.-Colonel Frey sent a postscript to his letter of November last (*vide R.E. Journal* for January, 1919, p. 31), which arrived too late to be acted upon. In this postscript Colonel Frey appears to have made the request that his letter to the Editor should not be published; he further expressed the opinion that "When the contents of the archives of the *two camps* are made public, it will come to be recognized that the World War *must* have broken out sooner or later. The responsibility for its outbreak rests on the shoulders of all those Statesmen who pursued the aims of the so-called *Realpolitik* in accordance with historical traditions, as opposed to the course adopted by Wilson, who has realised his pacifist ideas by the sword."

The sophism of the "preventive war" to which Germany had recourse for the purpose of excusing her responsibility as the agressor,

when it became impossible for her to deny that she took the initiative, will be readily recognized in the above extract. The evidence which has been produced as to the intentions of Germany so clearly indicate her designs that it is now useless to fall back on this sophism for an excuse. The unconvincing tenour of Colonel Frey's communication and its inconsistencies are fully dealt with in the original Notes.

International Notes.—The final phases of the Great War are briefly touched upon under this heading; the events between the 1st September and the 28th October last, when the German resistance between the Aisne and Oise was definitely broke down, are recorded in outline.

Franchet d'Esperey's offensive in the Balkans, resulting in the capitulation of Bulgaria in September last, and the retreat of the Austro-Germans in October last are referred to as also the British successes in Palestine in the same months. The events in Italy and in France leading to the armistices with Austria-Hungary and Germany in November last are also mentioned.

Portugal.—A special correspondent deals in a short contribution, with the situation arising in consequence of the Armistice with Germany. The Portuguese seem to think that the former German Empire will be replaced by an agglomeration of small independent States. They desire to see Poland reconstituted as a European State.

Some doubt seems to exist, in the mind of the contributor of the original Notes, as to whether Alsace-Lorraine will become an integral part of France, or whether it also may not form a new State, taking its place, in the future, as an independent Member of a "League of Nations."

It is recognized, in Portugal, that the *Mittel-Europa* scheme is now completely dead. It is expected that the killing of this monstrosity will render it possible for some of the smaller States to acquire a "window by the sea."

The question of dealing with Germany's lost colonies presents difficulties; an *International Confederation* of these Colonies under a mixed Government nominated by the "League of Nations" is suggested as a possible solution of the problem.

Since Germany had kept the rest of Europe on tenter-hooks for the past 40 years, considerable relief is felt in Portugal at her crushing defeat. And the Portuguese, in view of the barbarous and cruel methods used by the Germans in waging war, are not in favour of a peace based on the formula, "No compensation, no indemnities"; further they wish to see the utmost penalty permitted under the *lex talionis* inflicted on all who may be convicted before a legally constituted International Tribunal for crimes committed by them against the usages and customs of civilized war.

United States of America.—A special correspondent writes that the soldierly spirit, the bravery (bordering on rashness) and the discipline shown by the young American troops have created a most favourable impression in Allied circles. There should have been no cause for surprise in the matter, as a reference to the history of the American Army clearly proves that American soldiers have at all times exhibited the characteristics whereof mention is made above. That the Germans

experienced an unpleasant surprise, in relation to the value of the new American Army, can be accounted for by the fact that, in spite of their much vaunted knowledge, they are poor students of history and of psychology and, in consequence, failed completely to appreciate the inner meaning of the forbearance of their neighbours in the face of their overbearing and arrogant manners in the years preceding the Great War.

The Teutonic military sagacity may have been able to assess the value of the Russian Army at its true worth and to discount the helpless position of Roumania. It may even have correctly forecasted that Italy would eventually throw in her lot with the Western Allies, but it is quite evident that it was woefully wrong in its estimate of the value and extent of the American effort; the three fatal errors in the German calculations consisted in the assumption that:—

1. America had neither the means nor the time to raise a sufficiently large Army. It was expected further that the German U-boats and the deficiency of transport would prevent any part of the American Army reaching Europe.

2. The insufficiency in numbers and the lack of training in the American Army would be so great that, even if a part of it were to be successfully landed in Europe, this Army would have to be kept in reserve for so long a time as to have no appreciable influence on the military situation on the Western Front; and

3. Lastly, owing to the opposition of the American people to conscription, the Government of the United States of America would not be able to raise an Army having any practical value.

The Great War has taught the German people a great many lessons, but perhaps none of them excites more bitter resentment than the knowledge that they totally misunderstood the American nation and its rulers.

INFORMATION.

Attention is called to an official communication (in French) issued from the Adjutant General's Department, Berne, relating to soldier's boots, wherein errors in spelling occur, as well as in the expressions used.

A letter on military aviation from M. Schleppy, a former Commandant of the Aviation Group, is published in the *Revue* under notice; it deals with certain matters connected with the design of aeroplanes referred to in the article on "The Re-organization of the Swiss Aviation Service" which appeared in the number of the *Revue* for October, 1918 (*vide R.E. Journal* for December, 1918).

This number of the *Revue* concludes with a *Bulletin Bibliographique*; notices relating to several works dealing with various aspects of the Great War appear therein.

W. A. J. O'MEARA.