
PROBLEMS
IN
APPLIED TACTICS
WITH
SOLUTIONS

J. BÜRDE

THIRD EDITION ENLARGED

5/-

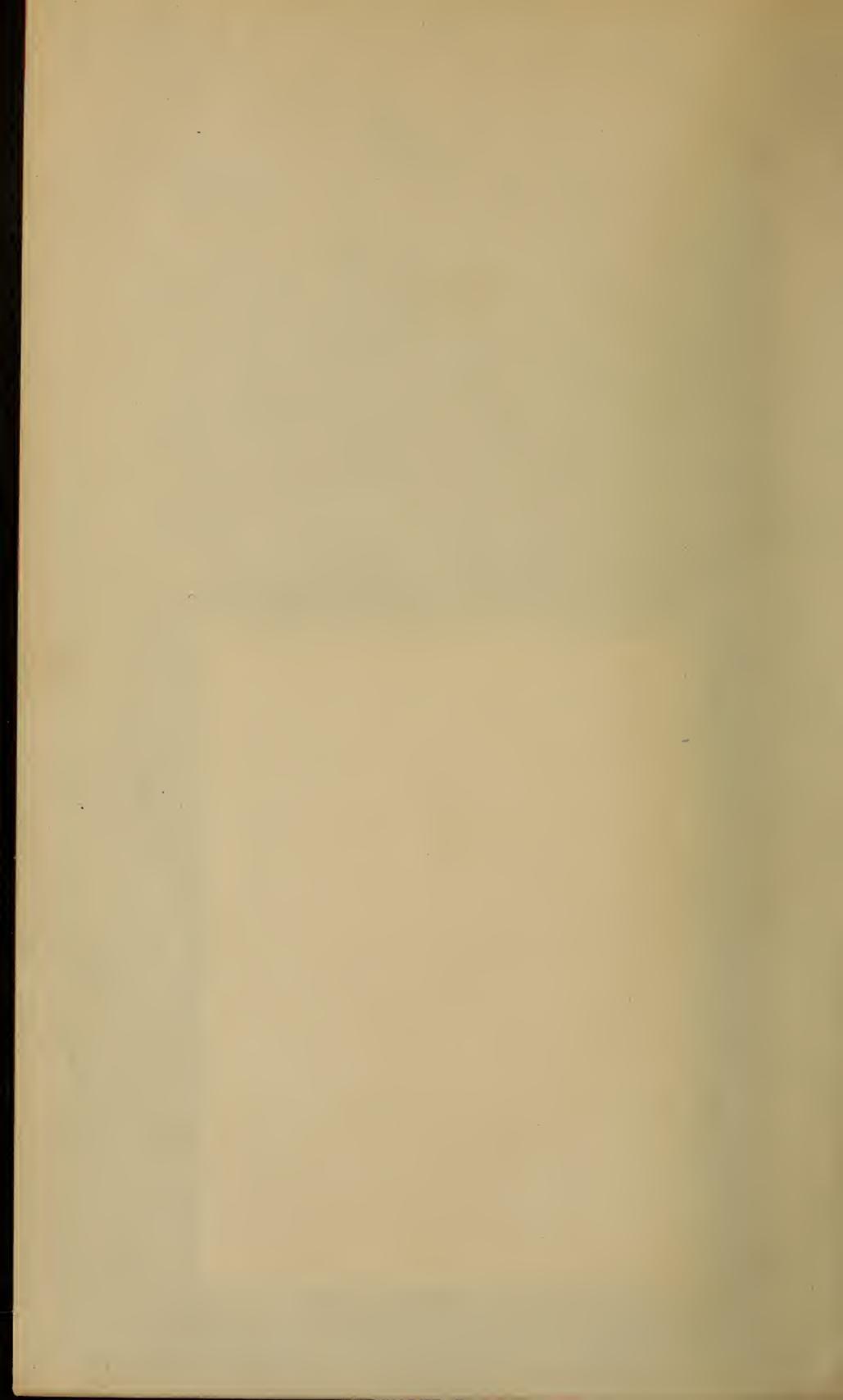
\$ 20.00



MARINE CORPS UNIVERSITY LIBRARY
MARINE CORPS RESEARCH CENTER
QUANTICO, VIRGINIA

Presented by

BRUCE GUDMUNDSSON



J. H. Maitland

PROBLEMS
IN
APPLIED TACTICS
WITH
SOLUTIONS

HUGH REES, Ltd.,

Successors to the Bookselling and Stationery Business
carried on by Edward Stanford.

*Military and Naval Booksellers
and Stationers,*

124, PALL MALL, LONDON, S.W.

Opposite the Carlton Hotel.

Military and Naval Books of all descriptions are kept
in Stock and can be supplied without delay.

Field Message Books, Mathematical Instruments,
Clinometers, Compasses, Sketching Boards, and
Military Stationery of all kinds.

Catalogues Post Free.

PROBLEMS
IN
APPLIED TACTICS

WITH SOLUTIONS

BY

J. BÜRDE

LATE LIEUTENANT 51ST PRUSSIAN INFANTRY
INSTRUCTOR IN TACTICS AT 12 EARL'S COURT SQUARE, S.W.

Third Edition

REVISED AND ENLARGED

LONDON: EDWARD STANFORD
26 & 27 COCKSPUR STREET, CHARING CROSS, S.W.

1899

HUGH REES, LTD.,
124, PALL MALL, LONDON, S.W.



P R E F A C E.

THIS small pamphlet is written with the object of assisting officers preparing for military examinations in the solution of problems in Applied Tactics.

To give students an opportunity of testing their capabilities, I have added a few simple questions to the solutions, while in the latter I have abstained from entering into too many details, being of opinion that a student reads a book with more interest if it leaves some margin for his own mental work.

I am certain the intelligent reader will have no difficulty in finding for himself the reasons for any of the measures adopted which are not explained in the text.

I wish to repudiate the widespread fallacy, which is often alleged as an excuse for careless work, that Tactical arrangements are merely matters of individual opinion or caprice.

This idea results in two practical evils: (1) Candidates have not the necessary esteem for their drill books which the latter doubtless deserve, as they contain the views of the most competent authorities, not only of their own country, but of every nation that has secured a military reputation. (2) Candidates are inclined to think that unless they happen to hit upon the examiner's view, there is no chance of scoring high marks.

I may assure the student that the application of Tactics is entirely a matter of knowledge and logic. A logically developed

answer will be gladly accepted by the examiner, while a chaos of ill-arranged statements renders it absolutely impossible for him to make a fair estimate of the candidate's abilities and learning.

The questions set in recent examinations were generally quite fair, and presented no stumbling-block to anyone who had carefully studied the subject.

J. BÜRDE.

12 EARL'S COURT SQUARE,
LONDON, S.W.
March 5th, 1894.

PREFACE TO THIRD EDITION.

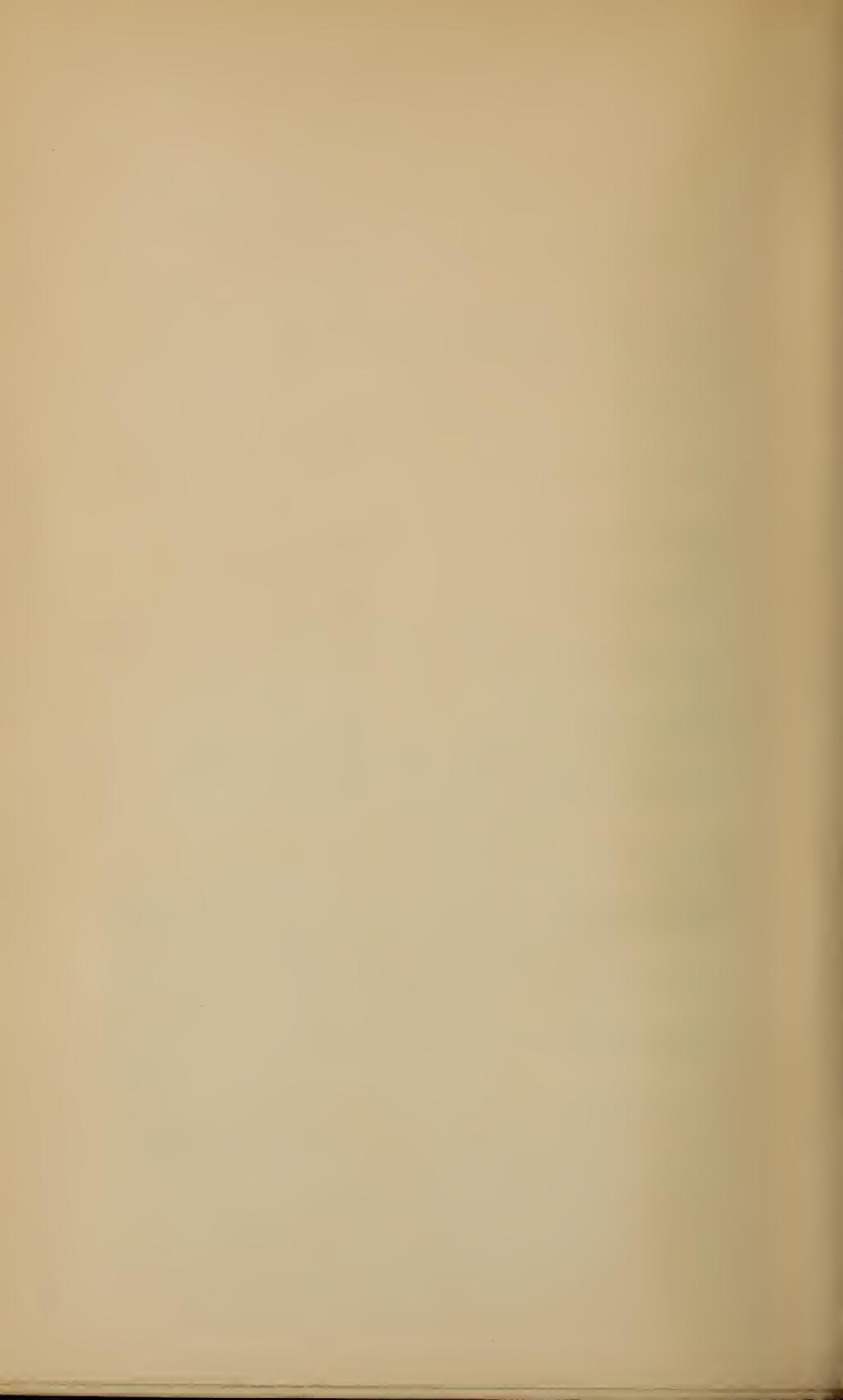
THE success which the First and Second Editions secured has induced me to issue a new and enlarged edition. Several important details have been added, and it is hoped that this little work may be found useful, not only by our own pupils, but also by officers of all branches of the Army at home and abroad.

J. BÜRDE.

12 EARL'S COURT SQUARE,
LONDON, S.W.
April, 1899.

CONTENTS.

| | PAGE | |
|--------------------------|------|------------------|
| PROBLEM NO. 1 | I | MAP A. |
| PROBLEM NO. 2 | II | ” |
| PROBLEM NO. 3 | 21 | ” |
| PROBLEM NO. 4 | 27 | ” |
| PROBLEM NO. 5 | 31 | ” |
| PROBLEM NO. 6 | 37 | ” |
| PROBLEM NO. 7 | 48 | ” |
| PROBLEM NO. 8 | 56 | MAP B. |
| PROBLEM NO. 9 | 62 | ” |
| PROBLEM NO. 10 | 64 | ” |



PROBLEMS IN TACTICS.



PROBLEM No. 1.

(MAP A.)

A NORTHERN ARMY having completed a long march, arrives late in the afternoon of the 5th of June at Maltby, a village lying 3 miles north of Ighton, on the road leading from the latter place towards north, where it prepares for encampment, covering itself by an outpost line placed roughly along Warling River, and facing south.

A Southern Army of the enemy is known to be some distance south of Huyton River.

At 9.30 in the evening of the same day the General commanding the northern army sends for Colonel A. and issues the following order to him :—

I have just received the report that a small force of the enemy, consisting of about one squadron and some mounted infantry, has taken possession of the bridge over Huyton River south of Small Farm.

From information received from headquarters I gather that in all probability the enemy's main force is more than 20 miles distant from Huyton River.

You, Colonel A., will take over the command of 1st and half of 2nd Battalion, Royal Fusiliers, 6th Battery Field Artillery, 2 Squadrons 10th Hussars.

You will march off to-morrow, the 6th of June, at 6 A.M., and proceed to the bridge leading south of Small Farm over Huyton River.

You will endeavour to drive the enemy from his position, and then take possession of the bridge, which you will hold until you receive further orders. Your cavalry will, in the meantime, endeavour to obtain as much information regarding the enemy as possible.

The bridges south of Sale over Huyton River will be held by another detachment under command of Colonel B., who will march off this evening. Above the bridge, south of Small Farm, the River Huyton possesses no means of crossing for a distance of 14 miles.

I will remain here, and I expect to receive from you ordinary reports every second hour ; if the enemy is met with, every hour. Important information is to be transmitted at once.

QUESTION.

Give the orders Colonel A. would issue for the march of his troops, stating reasons.

SOLUTION.

Colonel A. is in command of $1\frac{1}{2}$ battalions, 1 battery, and 2 squadrons. He is ordered to proceed the next morning at 6 o'clock to the bridge south of Small Farm, over Huyton River, to drive the enemy from the bridge, to take possession of it and remain there until he receives further orders ; his cavalry, in the meantime, endeavouring to obtain as much information regarding the enemy as possible. From the orders of the General commanding, Colonel A. also knows that little danger threatens his flanks, as the bridges south of Sale are held by another detachment, while above the bridge he is going to take possession of there are no means of crossing Huyton River for a distance of 14 miles.

There can be, of course, no doubt that the river itself is quite unfordable, having a breadth of about 100 yards.

Colonel A. will now frame an opinion as to the situation with regard to the enemy's detachment, against which he has been ordered to march next morning.

The fact that a squadron of the enemy, accompanied by some mounted infantry, has seized the bridge in the evening of the 5th, seems to indicate the enemy's intention to reconnoitre next morning with his cavalry the northern bank of Huyton River, while the mounted infantry covers their line of retreat by holding the bridge. But it seems more than doubtful that this small detachment of the enemy should be in direct communication with the main body. In the opinion of the General commanding, the enemy is still some 20 miles south of Huyton River. Should this conjecture be a

mistake, and should the enemy have moved his army closer to the river, then it is difficult to understand why he advanced only so few troops towards the bridge. Therefore, what seems more likely is that these troops belong to an advanced detachment of the adversary. It is, of course, utterly impossible to judge, even approximately, of its strength, or of the distance it could be south of the bridge, but the mere possibility of its existence will oblige Colonel A. to prepare for meeting the following morning more troops than a single squadron supported by some mounted infantry. The General commanding evidently took the same view; how could it otherwise be explained that he ordered 12 companies and 1 battery to perform a task for which 2 companies would have been ample? Taking into consideration the possibility of meeting next morning a complete detachment of the enemy, Colonel A. will now issue his orders. No. 1 of these will contain information about the enemy, as far as it is necessary to communicate such to subordinates.

Colonel A. will not state that, according to the General's view, the enemy's main force is still 20 miles distant from Huyton River, because such detailed order may impart to his officers the opinion that no other force of the enemy can be met with than the small detachment of mounted arms holding the bridge. But such a view of the situation may have the result that the next day's work is taken too easily by Colonel A.'s troops, and that one or the other of the necessary precautions is omitted. Colonel A., therefore, will mention the presence of an enemy's force south of Huyton River, without giving any particulars. The possibility that the enemy during the night reinforces his mounted troops at the bridge is thereby sufficiently indicated, while, by omitting to embody his personal conjectures in his orders, the free judgment of his officers is in no way interfered with. This point is of great importance, as it is well known that the mere allusion to a possibility by a commander is likely to gradually assume the character of an accomplished fact by passing through the different channels of communication of orders.

In the next order Colonel A. will communicate his intentions. The better his inferiors are informed on this point, the more they will be able to act in his sense. On the other hand, Colonel A. will take care to state only such of his intentions as can really be executed. As he is not certain where and in what strength the

enemy will be met with, he can, of course, not state that his intentions are to drive the adversary across the bridge, and to take possession of the latter. Supposing, for instance, an enemy's force superior to that of the Colonel's, occupying a position on the northern bank of Huyton River, were met with, then probably Colonel A. would not attack it; but should he have stated in his orders that he intended to drive in the adversary, he now would find himself in the disagreeable position of being obliged to counter-order his orders. Such counter-orders will naturally give Colonel A.'s troops the impression that their leader was not prepared to meet the enemy in force. They will feel uneasy, and no matter what further orders Colonel A. may issue, the feeling will remain amongst the troops that the adversary's force came upon their commander as a surprise. Order—counter-order—disorder is a saying as old as it is true. Consequently, the only order Colonel A. can give is that he intends to advance next morning on the Ighton-Barton Road. When the enemy is met with, and sufficient information about him has been obtained, the Colonel can then issue new orders without being forced to contradict his old ones.

Before issuing the next orders, which will specify the duties to be performed by his troops, Colonel A. will at first decide on the subdivision of his troops. In case of smaller bodies, such as detachments, it is advisable to give such subdivision—i.e. independent cavalry, advanced guard, main body, &c.—on the left margin of the orders. The main body usually will be named in its order of march, while the detailed disposition of advanced guard and rearguard is, of course, left to the officers commanding the same. Such arrangements will greatly simplify the orders, which, the composition of the different bodies being settled, can now be confined to the purely tactical matters. We will assume that Colonel A. adopts the recommended course. The subdivision of the troops being given later on, we now proceed with the orders.

Under No. 3 of these Colonel A. will specify the work of his cavalry, in case he uses it as independent cavalry. Should he prefer to use it as cavalry of the advanced guard, No. 3 would contain special instructions for the latter. If Colonel A. uses his squadrons as independent cavalry he obtains the advantage that the cavalry, reconnoitring wider to the front, supplies him with earlier information about the enemy; secondly, that the cavalry leader reports to him, and not to the officer in command of the advanced

guard, who will only be informed of the situation in front; therefore Colonel A. receives more direct reports, and consequently he will be better acquainted with what is going on in front.

On the other hand, should Colonel A. use his squadrons as cavalry of the advanced guard, he keeps his cavalry closer in front of his troops, as the cavalry is bound to keep certain distances. Such employment of cavalry has, under certain conditions, its distinct advantages, and may be used when cavalry is likely to require infantry support, or if it is desirable that the character of an operation should more or less be that of a surprise, when independent cavalry may draw the enemy's attention too early towards his opponent's approach.

It cannot be Colonel A.'s intention to use his cavalry in the latter way. It is more than probable that the enemy will push forward his cavalry early next morning, in order to reconnoitre the northern bank of Huyton River; the earlier, therefore, his patrols are opposed the better. Consequently Colonel A. will use his squadrons as independent cavalry.

In case of longer marches, and if the enemy is known to be at a distance, independent cavalry of small detachments may start simultaneously with the advanced guard, gaining its proper distances by its quicker rate of movement; but as in our case the distance to be traversed is only 9 miles, and as a probability exists that the enemy's mounted patrols will be already some distance north of Huyton River next morning at 6 o'clock, the squadrons should be from the outset ahead of the advanced guard. On the other hand, not too early an hour should be fixed for the start of the cavalry, lest their rest should be unduly curtailed. This consideration is always of great importance in case of cavalry, and is especially applicable to Colonel A.'s detachment, as his troops had already completed a long day's march when he received his orders from the General commanding.

Colonel A. will find it sufficient if his cavalry starts 25 minutes before the advanced guard moves off, thus being from the outset about 2 miles in front of the latter. The squadrons will be ordered to reconnoitre as far as Huyton River along the Palt-Barton road, the Ighton-Barton road, and the Formby-Millbrook-Weaste-Worsley Wood-Worsley road. Colonel A. will of course retain a few troopers for his own disposal to act as orderlies, while a few others will be added to the advanced guard.

A statement to this effect need not appear in his orders, as the number and object of the detached troopers will be apparent from the subdivision of troops as given on the margin.

As the distance the cavalry has to go is comparatively a short one, and therefore they will never be far ahead of their own infantry, Colonel A. can expect more frequent information from his squadrons than would usually be the case. He will order ordinary reports to be sent every half-hour; if the enemy is once met with, every 15 minutes; while important information has to be transmitted at once.

The fourth of Colonel A.'s orders will refer to the advanced guard. As no special duty is required from the latter, only the time for its departure and the road to be followed will be stated. The length of the column of the main body gives the distance between the latter and the advanced guard, and therefore settles for the advanced guard the hour of starting. The time thus found will of course refer to the mainguard only, the officer commanding the advanced guard deciding for himself on the time of departure of the vanguard, as well as its strength and composition. Colonel A. will now issue orders regarding the main body itself. Though he marches ahead of it, he will find it convenient to entrust its command to another officer. By doing so he can direct the whole of his attention towards the enemy, and he is at liberty to leave the column should his presence in front be required. The officer in command of the main body will receive instructions as to the distance to be kept up between advanced guard and main body.

The baggage of the detachment will follow the main body at a distance of, say, 1 mile, but as at present it is quite uncertain where and in what strength the enemy may be met with, it will not proceed beyond Ighton until specially ordered to do so. A cavalry officer and a few troopers will be detailed as escort, merely for the object of keeping order amongst the column.

In his last order Colonel A. will state that he marches ahead of the infantry of the advanced guard.

What still remains to be considered is the time when Colonel A.'s orders will be finished, and the mode of communicating them to the officers of his detachment. It will be ample to allow 1 hour for completing the orders, which will be copied three times, one copy being sent the same night to the cavalry

leader, another to the officer commanding the advanced guard, while the third will be handed over to the officer in charge of the main body.

Having thus considered the question, the candidate will now proceed to write down his orders.

As reasons for the same are required as well, the student will find it advisable to state his reasons after the orders, giving them under the same numbers as the orders to which they refer.

The answer would be as follows :—

DETACHMENT ORDERS BY COLONEL A.

MALTBY, 5th June, 1893.

10.30 P.M.

SUBDIVISION OF TROOPS.

Independent Cavalry.

Major X.

1st and 2nd Squadron (less 1 troop)
10th Hussars.

Advanced Guard.

Major Y.

$\frac{1}{2}$ troop 2nd Squadron 10th Hussars.
1st and 2nd Company 2nd Battalion
Royal Fusiliers.

Main Body (in order of march).

Lieut.-Col. M.

$\frac{1}{2}$ troop 2nd Squadron 10th Hussars.
3rd and 4th Company 2nd Battalion
Royal Fusiliers.
6th Battery Field Artillery.
1st Battalion Royal Fusiliers.

(1) A strong hostile force is south of Huyton River. A hostile detachment of about 1 squadron and some mounted infantry has taken possession of the bridge south of Small Farm over Huyton River.

Sale is held by a detachment of our troops. Huyton River possesses no means of crossing for a distance of 14 miles east of the bridge south of Small Farm.

(2) To-morrow morning our detachment will advance by the Maltby-Ighton-Barton Road.

(3) The independent cavalry will start from the south entrance of Maltby by 5.30 A.M., and will reconnoitre towards the bridge south of Small Farm on the front Worsley-Wood-Barton.

Colonel A. expects ordinary reports every half-hour; if the enemy is once met with, every 15 minutes; while important information is to be transmitted at once.

(4) The advanced guard will start from the south entrance of Maltby at 5.50 A.M.

(5) The main body will start from the south entrance of Maltby at 6 A.M., and follow the advanced guard at a distance of $\frac{1}{2}$ mile.

(6) The baggage, escorted by 1 officer and a few troopers 2nd Squadron, will follow 1 mile in rear of the main body. Having reached the northern entrance of Ighton, the baggage will halt until it receives further orders.

(7) The O.C. will march ahead of the infantry of the advanced guard.

By order,
X., *Adjutant.*

In writing to O.C.
Cavalry, Advanced Guard
Main Body.

REASONS FOR THE ABOVE ORDERS.

(1) No particulars are given as to the distance the enemy is expected to be south of Huyton River, in order to draw the attention of Colonel A.'s officers to the possibility of meeting the next morning more troops of the enemy on the northern bank of the river.

(2) As Colonel A. cannot be certain of meeting the next morning the enemy in the same strength and in the same position, he cannot issue any orders referring to it. The smallness of the enemy's force now in occupation of the bridge makes its direct detachment from the enemy's main body doubtful. The more plausible theory is that it belongs to some advanced troops of the enemy, and then, of course, the possibility exists that these troops may have crossed the river next morning.

(3) The fact that cavalry, supported by some mounted infantry, has taken possession of the bridge, naturally leads to the conclusion that their object is that of reconnaissance. Colonel A., therefore, must expect to meet the enemy's patrols on his way to the bridge. As his intentions necessarily must be to drive in the latter before they have been able to ascertain anything about the Northern Army, and also to obtain, as early as possible, information regarding the strength of the enemy's troops north of Huyton River, he will use his squadrons as independent cavalry. But as the troops of the Northern Army have performed a long day's march on the 5th, it is not advisable to make the cavalry start too early, lest its proper rest should be unduly curtailed. The cavalry, therefore, starts only one half-hour in advance of the main body, thus being about 2 miles in front of the advanced guard when the latter moves off.

(4) The approximate length of the main body will be :—

| | | |
|-----------------------------|-------|------------------------------------|
| 2 companies | .. | 88 yards |
| Interval | | 25 " |
| 1 battery | | 240 " |
| Interval | | 25 " |
| 1 battalion | | 350 " |
| | | 728 yards |
| 20 per cent. for straggling | | 145 " |
| | | 873 yards—say, $\frac{1}{2}$ mile. |

The length of the column corresponds with the interval between advanced guard and main body. Therefore the former must start 10 minutes earlier than the latter, or at 5.50 A.M.

(5) Colonel A. will appoint a special commander for the main body, in order to be able to direct his unimpaired attention towards the situation in front.

(6) For the present the baggage can only proceed to Ighton, as Colonel A., not knowing where and in what strength the enemy will be met with, cannot decide on the exact route to be followed by it.

(7) Requires no reason.

N.B.—The candidate must bear in mind that the above orders, as well as the reasons, hold good for this one particular case; other problems require other solutions.

An attempt to deduce from the above anything like an abstract rule would be a mistake.

PROBLEMS TO BE SOLVED BY THE STUDENT.

Each of the following questions should be treated separately, and the answer for each should be complete by itself.

(1) Draw on map a diagram showing in detail what the disposition of the troops of Colonel A.'s detachment would be on the 6th of June at 7.10 A.M., in case no enemy was met with sufficiently strong to delay the advance.

(2) During the advance of Colonel A.'s detachment his cavalry meets small mounted patrols of the enemy, which it drives back. But when the main body, marching on the Ighton-Barton road, reaches a point due east of Fleet Wood, the Colonel receives information to the effect that a considerable force of the enemy is engaged in crossing the bridge south of Small Farm, moving towards hill No. 375.

Later reports establish the fact that an enemy's force, consisting of about 2 battalions and 2 batteries, occupies hill 375, where it throws up entrenchments, while a small detachment of the enemy, 1 or 2 companies strong, holds Barton. The enemy being superior, Colonel A. decides not to attack him, but to occupy a position, and to remain in observation of the enemy until reinforcements arrive.

Show on map the position Colonel A. would occupy, and explain fully by what considerations he would be guided when selecting it.

Show on map the detailed distribution of Colonel A.'s troops, and explain shortly the use he would make of his cavalry.

Draw out the report Colonel A. would send to the General commanding the Northerly Army.

(3) Having informed Colonel B. (the commander of the detachment in Sale) of the presence of a superior enemy, Colonel A. receives from this officer a message stating that 1 battalion and 1 battery, marching on the Sale-Weaste road, have been despatched to reinforce Colonel A.'s detachment.

Colonel A. now decides to drive the enemy from his position. Explain what plan of attack he would adopt, giving reasons for the same.

Show on map, in detail, how Colonel A.'s troops probably would be disposed when the firing line has arrived at a distance of, roughly, 1000 yards from the enemy's position.

PROBLEM No. 2.

(MAP A).

A STRONG force marches on the 15th of July, 1893, along the northern bank of Huyton River, in the direction from south-east to north-west, its object being to dislodge an inferior force of the enemy, known to hold important defiles about 5 miles north-west of Sale. General N. is in command of the advanced guard of this force, consisting of—

2nd and 3rd Battalions Royal Fusiliers,
3rd and 4th Battalions King's Royal Rifle Corps,
6th Dragoons,
12th and 13th Field Battery,
17th Company Royal Engineers.

On the march to Ordsale, but being still $1\frac{1}{2}$ miles south-east of this village, General N., after having completed a march of 11 miles, receives at 12.45 P.M. orders to the effect—

(1) That he will occupy an outpost position roughly along the line Weaste-Fleet Wood-Enfield, the right flank being doubled back towards the Palt-Barton Road.

(2) That the main body is going to encamp around Ordsale.

(3) That the main body will start the next morning at 6.30 A.M., the troops of General N. forming again the advanced guard.

Simultaneously with these orders, General N. receives a report from his cavalry, through which he learns that a few mounted patrols of the enemy were met with on the line, Weaste-Millbrook-Oakley, apparently unsupported by large bodies of cavalry. General N. decides to take the duties of an outpost commander upon himself.

Give the orders he would issue to his troops.

SOLUTION.

Having received the order to occupy an outpost position, General N. will first endeavour to obtain a clear idea as to the situation with regard to the enemy, and he will consider the possibilities of having to oppose an enemy's force.

Small cavalry patrols of the enemy were met with on the line Weaste-Millbrook, which, however, were apparently unsupported by larger masses of cavalry. These patrols seem to have been sent directly from the enemy's main force, or from his outpost line, consequently there can be little doubt that the outposts can reach the position assigned to them without being opposed by an enemy. But it is clear that these patrols of the opponent will at once report the encounter with General N.'s cavalry, and it is also clear that in all probability the enemy will make some determined efforts to obtain more accurate information of his adversary's force. Consequently, the outposts may be called upon to resist a strong reconnoitring body of the enemy. The question now arises whether an attack by the enemy's main force is probable. It is very improbable. The enemy cannot venture to attack our troops with his entire force until he receives accurate information of the strength and dispositions of our force. Should he be able to obtain such, he would learn that he has to deal with a superior opponent ; the assumption of the offensive on his part is therefore out of the question.

His object, i. e. to hold certain defiles, is of a defensive nature ; the offensive would only be justified in case he is opposed by a force considerably inferior to his own.

Consequently, in all probability the outposts of General N. will not have to withstand an attack of the enemy's main force, but it is most likely that he may attempt a reconnaissance in force. Resistance, therefore, has to be provided for, and the outpost system will be a complete one, i. e. piquets, supports and reserves.

General N. will now take his map and measure the length of the line allotted to his outposts. He finds it to stretch for about 4 miles, which necessitates a subdivision into sections. Examining the ground to be occupied by the outposts, it will be evident that

it contains two distinct tracts of country, namely, the plateau round Oakley, and the ridge extending from it in a south-westerly direction towards Huyton River, marked by hill 449 and 408. It is desirable that the subdivision of the outpost line should correspond with the configuration of the ground. General N. will therefore subdivide his outpost line into two sections, one section running from Huyton River along hill 408—Weaste—hill 449 to the north-east corner of Fleet Wood, while the line of observation to be occupied by the other section will extend from the north-eastern corner of Fleet Wood (Fleet Wood not to be occupied) to the spur 800 yards west of Enfield, then to Enfield, whence it will be doubled back, the right flank being marked by the forked road 1500 yards due east of hill 771. By making the right flank rest on a natural obstacle, which the steep wooded slope of hill 935 doubtless constitutes to a considerable degree, the danger of the flank being turned is sufficiently provided against.

Adhering to the rule that units should be broken up as little as possible, General N. will allot one battalion to each section, each battalion furnishing its own reserve.

As the section extending from Huyton River to Fleet Wood rests on a natural obstacle, and—being nearer to Ordsale and covering the front—will be first taken up, General N. will make it his first section, the other being No. 2.

The extent of front allotted to each section may seem excessive, but we must bear in mind that there will be another body of troops between the outposts and the main body, namely, the remainder of the advanced guard. We must also consider that the troops detailed for outpost duty will have completed a march of about 17 miles, when reaching their respective positions, and that next morning they will again form part of the advanced guard of the main body; such fatiguing duties necessitate economy of troops. For the same reason it is evident that, after the day's march, General N.'s infantry will scarcely be able to occupy at once the line of observation and to remain there on duty for the rest of the day and the whole of the night. Troops exposed to such excessive strain are likely to perform their duties in an inefficient manner. General N. will have to provide some rest for his infantry before it furnishes piquets and sentries, &c. He will therefore order the battalions detailed for outpost duty to furnish reserves and supports only, the latter being sufficiently

strong to throw out piquets at night, while for the rest of the day the piquet line will be occupied by cavalry. At nightfall the cavalry will withdraw and now get their rest, while the supports will send forward the necessary piquets, which, having enjoyed their proper meal and some hours' sleep, will now be fit for their duties. The efficiency of the outpost line is by no means impaired by using this mixed system, as the infantry supports and reserves are at hand to offer resistance when required, while dismounted troopers of the cavalry piquets will have no difficulty in coping with ordinary hostile patrols.

A cavalry piquet usually consists of one troop, and can cover a front of about one mile; consequently, two troops will be sufficient to cover the front of each outpost section at daytime.

On the 15th of July—the day of our operation—we can depend upon having broad daylight up to 8 P.M. This would settle the time for relieving the cavalry piquets by infantry, but since the latter will require some time for making themselves acquainted with their positions and for learning from the cavalry what it has found out about the enemy, the ground, &c., it is necessary that infantry and cavalry should work together for a short time; consequently, the infantry piquets must have taken up their positions at least half an hour before the cavalry retires, i. e. at 7.30. But even at night some cavalry is indispensable for reconnoitring for wider distances, and for doing orderly duties between the different parts of an outpost line; on the average, four troopers should be added to every piquet, and two to three to each support and the reserve; consequently about one troop of 24 men would be required for night duty. Naturally this troop ought not to be taken from the cavalry that furnished the piquets at daytime; consequently, we should have to detail another troop to each section of the outpost line, or three altogether, if we include the day piquets; but cavalry—especially after a long march—is likely to have some horses unfit for immediate further work; it is also possible that circumstances may demand the employment of a strong cavalry patrol, or numerous standing patrols; consequently, it will be advisable not to be too sparing with the cavalry, and instead of three troops we will allot one complete squadron to each section of our outpost line.

General N. will now consider the more detailed orders he has to issue to his section commanders. When doing so he will be

careful not to interfere unduly with the sphere of command of his subordinates. Thus, for instance, it is not his duty to prescribe the exact position of piquets or supports; even the site of the camp or bivouac of the reserve should, as a rule, be left to section commanders; but, on the other hand, he is responsible for the uniform performance of the outpost duties, and his orders must leave no doubt as to the way and manner in which he wishes these duties to be performed. To leave too much to subordinates is practically to transfer one's own responsibility to the shoulders of others. Thus, should there be any point or locality in front or on the flanks of the outpost line, the occupation of which General N. considers of vital importance, while the necessity for its being held is not sufficiently apparent from his general orders, he will issue detailed instructions for its being included in the outpost line; but in this case he will take the full responsibility upon himself, by stating in what manner and by how many troops it is to be occupied.

He will also indicate the roads along which the section commanders should especially patrol, and take precautions that the patrols of one section shall not be too far to the front while the patrols of the other section confine themselves to the ground close to the front of the line of observation.

General N. will, as a matter of course, prescribe to his section commanders how to act in case of attack, as the positions where resistance has to be offered must be chosen with reference to the site of the camp or bivouac of the rest of the advanced guard as well as that of the main body.

With reference to the points just mentioned we will now consider the first outpost section.

There is no necessity to hold any particular point in front, as the ground is open, and can be observed for considerable distances. The left flank of the first section rests on Huyton River, and is therefore perfectly protected against any reconnaissance in force, but, an enemy's patrol having made its way to the western bank of the river, either by using the bridges at Sale, or any other point of passage on the lower river course, will be able to observe from hill 292 or 364 a considerable part of the ground occupied by our outpost. Should the adversary contemplate a reconnaissance of this kind, he evidently will execute it by small patrols only, as the object of such bodies never can be to fight but solely to see.

But there is no doubt that the feeling of being protected by an impassable river line would greatly assist such patrols in calm and accurate observation.

These circumstances point to the advisability of holding Sale, from which the reconnoitring from the western bank of Huyton River by hostile patrols could easily be interfered with.

Hills 292 and 364 will in all probability lose their value to the enemy as soon as they cannot be occupied secretly, because once the enemy's intentions have become known, our outposts could guard against being observed; consequently, an attempt to dislodge the post in Sale would only tend to betray the adversary's object, therefore it is not likely to be undertaken. On the other hand, the weaker our post in Sale the greater the temptation for the enemy to attack us here, therefore it is advisable to give this post a certain amount of fighting power.

An infantry detached post, 12 men strong, to which 4 troopers are attached, answers our purpose best. Apparently the necessity for holding Sale exists for the rest of the day only, therefore at nightfall or, still better, under cover of night, say at 9.30 P.M., the detached post will withdraw.

In case the enemy advances in force against the left flank of General N.'s outpost line, the detached post will fall back along the road Sale—Worsley-Wood.

Taking the second outpost section into consideration, it appears that there is no point or locality, in front of the line of observation, the occupation of which should be specially ordered by General N. Hawley Wood and Hawley House must of course be visited by frequent patrols, the latter may even be held by a detached post, but the necessity of employing one or the other method for securing these advanced positions is so apparent that General N. will leave the mode of meeting it to the section commander.

The right flank of the second outpost section practically closes the entrance of a defile, it is therefore not likely that the enemy will select the Palt-Barton road for pushing forward a reconnoissance in force. The steep northern slope of hill 935, covered by wood, gives considerable protection to the right flank of the outpost system, especially as apparently there are no roads leading into our position.

It must be expected that the enemy, after his mounted patrols

have encountered ours, will despatch considerable bodies of cavalry with a view of obtaining information of our force and of preventing us from reconnoitring his position. It is therefore clear that on the roads leading towards the enemy, i.e. more particularly the roads running from the first outpost section in a north-westerly direction, our patrols will soon come in contact with the enemy, especially as the enemy's position is not more than 7 miles distant. Therefore the cavalry patrols of the first outpost section cannot move for any specified distance, but must be ordered to keep in contact with the enemy. Different conditions exist for the cavalry patrols of the second outpost section, from which the roads lead chiefly in a northerly direction. It is very probable that the enemy may endeavour to move some cavalry against the right flank of General N.'s outposts, but as the time when such patrols will start, and also the distance they will move in front of the outpost line must remain uncertain, the cavalry of the second section evidently cannot be ordered to keep in contact or to establish touch with the enemy, as such orders may result in cavalry patrols being pushed excessively far to the front without attaining any object. General N. will therefore order the patrols of the second outpost section to keep in touch with the enemy in case he is met with north of the outpost line, but that the cavalry, in case no adversary is encountered in that direction, will not proceed further than about two miles beyond the line Ighton-New Copse-Palt.

When deciding on the attitude to be assumed in case of attack, General N. will find by examination of his map that the outposts are separated from the main body by the valley of Barton River, the northern bank of which decidedly commands the southern bank, consequently the outposts will hold their own should they be attacked. Hill 408, Weaste hill 449, form the natural line of resistance for the left, and the plateau of Oakley for the right outpost section. More detailed orders as to the exact position to be held by the outposts cannot be given, as this will depend upon the line of advance chosen by the enemy.

Having dealt with the particular duties of the two outpost sections, General N. will now give such instructions as apply to both.

He will state that the outpost sections have to furnish supports and reserves, that up to 7.40 P.M. cavalry will occupy the line of observation, when it will be relieved by infantry, and he will also

settle the frequency of reports sent to him ; with regard to the last point we must remember that the enemy will do all he can to reconnoitre our position, consequently an almost constant contact will take place between the enemy's patrols and ours. To report every encounter to General N. would lead to no end, therefore it will be sufficient if the respective outpost sections only report when the enemy is first met with, and then send in reports every hour. By such arrangements the section commanders will be able to sift the various news they receive about the enemy, and their report, when sent in, will give a consolidated picture of the situation in front, while at the same time their feeling of responsibility will be increased. Important information, such as the approach of a superior enemy, will of course be reported at once.

It will also, of course, be understood by the section commanders that they have to communicate with each other, and to inform General N. at once of the position they have taken up ; but as experience teaches that such points are frequently forgotten, General N. will do well to include such matters in his orders.

We now have to decide where the rest of the advanced guard will remain.

Whenever possible, cavalry and the horses of artillery should, during the night, seek shelter inside villages, farm-buildings, &c. as horses are not nearly so fit as men to stand the inconveniences of a bivouac. In continental armies the opinion now prevails that the sufferings to which cavalry is notoriously exposed when remaining for the night on open ground are not so much due to the unfitness of cavalry for such work, as to the neglect in training the horses for it. However, we will stick to the old rule until experience has proved the contrary, and we will send our cavalry and artillery to Barton. The senior officer in Barton, probably the Colonel commanding the cavalry regiment, will take his own measures for security, i. e. detailing a guard, fixing the alarm post guarding the bridge south of Small Farm, &c.

General N. will require for his own disposal a few troopers as orderlies, who will at once accompany him to the place where he intends to remain, and who will be relieved at any time the officer commanding the cavalry thinks suitable.

The remaining two battalions of the advanced guard and the company of Royal Engineers will be placed with a view of affording support to the outpost line. They therefore should be in a central

position and near good roads leading into the respective outpost sections.

The best position we can find is north of, and quite close to the forked road about 1000 yards east of hill 446. This site affords the additional advantage of being sheltered by the surrounding hills and of being close to fresh water supply.

General N. will in all probability remain with this portion of the advanced guard. But as occasionally he will have to absent himself in order to inspect the outpost line, and as his mind will be pretty well occupied with the occurrences in front, he will appoint the senior colonel as commander of these troops. This officer will take the same precautions as the cavalry commander in Barton.

One point that still remains to be considered is the disposition General N. will make for the baggage of his force. As the troops have already accomplished a long day's march and are now engaged in fatiguing work, as much comfort as possible should be allowed them, therefore General N. will order the baggage to follow the respective battalions.

General N. will mention that his force will act again next morning as an advanced guard, but no detailed orders will be given referring to next day's work, as the occurrences during the night will in all probability have a considerable effect on it. The orders for the advanced guard will, therefore, be issued separately, and probably only a short time before the troops start. In his last order the General will communicate the countersign.

On the march to Ordsall, being still $1\frac{1}{2}$ miles south-east of it, General N. receives the order to occupy an outpost position. Being then in the capacity of an advanced guard commander he will march with the vanguard, consequently the officer commanding the cavalry regiment will be within easy reach. For this officer General N. will send at once and give him verbal instructions as to how far the cavalry has to cover the posting of the outposts. At the same time he will tell him to leave his adjutant, or to remain himself and to communicate with his squadron leaders by the adjutant so as to be ready to receive the outpost orders. Then, with the aid of his map, he will consider the necessary dispositions, and as soon as he has decided on the number of troops to be employed on outpost duty, he will send an orderly to the officers appointed section commanders,

requesting them to hasten at once to his side. Having finally decided on all points he will now dictate his orders to his staff officer, making any subsequent corrections if necessary. It will be fairly accurate if we assume that by this time he has arrived at Ordsall, where probably he will be met with by the officers he has sent for. To these General N. will give any verbal instructions he considers suitable, while their adjutants will put down the outpost orders, as dictated to them by the General's staff officer.

These orders are :

ADVANCED GUARD ORDERS BY MAJOR-GENERAL N.

ORDSALL, *15th July.*
1.17 P.M.

(1) The enemy occupies the defiles 5 miles north-west of Sale. Our cavalry has met small hostile cavalry patrols on the line Weaste-Millbrook-Oakley. Our main body is going to encamp around Ordsall.

(2) The 3rd and 2nd Battalion Royal Fusiliers and 2 squadrons 6th Dragoons will cover the main body by an outpost line divided into 2 sections.

(3) Lieut.-Colonel A., in command of the 2nd Battalion and 1 squadron, will occupy the 1st section, extending from Huyton River along the river course that runs from east to west through Fish Pond as far as the Ighton-Barton road (exclusive). He will at once occupy Sale by a detached post of 12 infantry and 4 cavalry, which post will reconnoitre along the western bank of the Huyton as far as Bryun; it will be withdrawn at 9.30 P.M. Colonel A.'s cavalry will keep in contact with the enemy. In case of attack Colonel A. will hold the line—hill 408, Weaste hill 449.

(4) Lieut.-Colonel C., in command of the 3rd Battalion and 1 squadron, will occupy the 2nd section of the outpost line, extending from the Ighton-Barton road (inclusive), by Enfield and knoll 567, to the northern issue of the defile between Tanner's Wood and Oakley Wood (inclusive). His cavalry will reconnoitre 2 miles beyond the line Ighton-New Copse, and will keep in contact with the enemy if met within that distance. In case of attack Colonel C. will hold the plateau of Oakley without evacuating the defile.

(5) Both outpost sections will furnish their own reserves.

(6) Up to 8 P.M. the piquet line will be occupied by the cavalry.

(7) Section commanders will send in sketches of their positions as soon as possible, they will make each other acquainted with their dispositions, and will report every hour, and at once if any hostile movements have been observed. Infantry piquets will be posted by 7.30 P.M.

(8) Of the remaining troops of the advanced guard, the cavalry and artillery will billet in Barton, the infantry and engineers will bivouac close north of the forked road 1 mile north of Barton.

(9) Ammunition and baggage will be with their units.

(10) To-morrow the brigade will again form the advanced guard.

(11) The G.O.C. will remain with the infantry of the advanced guard; the cavalry will place 8 orderlies at his disposal.

(12) Countersign

By order,
X., *Staff Officer.*

Dictated to adjutants.
Copy to baggage.

PROBLEM No. 3.

(MAP A.)

CONTINUATION OF No. 2 PROBLEM.

QUESTION.

Give the orders Lieut.-Colonel C. would issue to the outpost of the second section.

SOLUTION.

The orders of General N. must be comprehensive, because the large extent of his outpost line renders communication a matter of time, and therefore of difficulty. Any subsequent corrections of his orders are therefore likely to arrive too late and to interfere with arrangements already completed. It is different with section commanders. Being only a short distance in rear of their front line they can exercise a better control over their troops, and have them better in hand. If comprehensiveness was a point of primary importance for the General's orders, the section commanders will chiefly endeavour to give their orders as quickly as possible to avoid delaying the occupation of their respective positions. Therefore an ample margin will be allowed in their orders for subsequent verbal instructions. The officer commanding the cavalry regiment will, as soon as he has received his orders, select one squadron for each outpost section to furnish the outpost cavalry, and will order the leaders to at once report themselves to the respective section commanders, leaving their troops at any convenient position where they can be easily reached and brought up into the outpost line. This cavalry will not move into the outpost position with the infantry, but will move off as soon as their duties have been specified. Consequently, no detailed orders can be issued as to the exact position occupied by the cavalry piquets; it is not even advisable to fix the number of piquets, that should be left entirely to the officer commanding the

squadron, who will be the best judge on these points. It will be different with infantry; here the number of piquets to be employed for night duty, and their exact positions, will rest with the decision of the officers commanding sections of the piquet line, i. e. a support and the piquets linked to it. Colonel C. will here only decide on the total number of companies to be allotted for each section of the piquet line. His orders are to hold in case of attack the plateau of Oakley and the mouth of the defile east of it. But these positions represent quite different tracts of country, and must therefore be held by different sections of the piquet line. The first of these would extend from the north-east corner of Fleet Wood (the wood itself not being occupied) round the northern slope of the spur about $\frac{1}{2}$ mile west of Enfield to Enfield and knoll 567, the latter inclusive, while the second would have to occupy only the entrance of the defile 1500 yards east of hill 771. To decide on the number of companies required for each section of the front line, Colonel C. will roughly estimate the number of piquets *likely* to be furnished by each.

It is evident that one piquet must be placed on the Oakley-Ighton road, another in Enfield, and a third on the mouth of the defile on the Barton-Palt road; the last piquet is about one mile distant from the piquet in Enfield, consequently, between those two an intermediate piquet must be established, and the more so as Hawley House and also Hawley Wood, both favouring a concealed approach of the enemy, lie just opposite this section of the line of observation. A good position for their intermediate piquet is behind knoll 567, and necessarily it must be connected with the support of the first section of the piquet line, as its situation makes the plateau of Oakley the only natural position on which to fall back in case of attack. The position for the support is easily found. The road system dictates its place, as good communications are of primary importance; the best position, therefore, is Oakley, as by means of roads it connects the support with the piquets on the Oakley-Ighton road, and in Enfield, while the piquet behind hill 567 is also within easy reach, being not more than about 300 yards distant from the bend of the Oakley-Enfield road, from which a path is soon marked out. We thus find that the first section of the piquet line requires three piquets at least. Taking on an average the piquets to be half a company strong, and the supports as equal to the aggregate

of the piquets linked to it, then we find that three companies will be required for the first section of the piquet line.

The second section of the piquet line, closing the northern entrance of the defile constituted by the steep eastern slopes of the plateau of Oakley and the western slope of hill 935, evidently requires only one piquet. It is not likely that an enemy will attempt to force his way through this defile; but, on the other hand, General N.'s orders are explicit—"hold the plateau of Oakley and the mouth of the defile in case of attack." Colonel C. will doubtless hesitate to support on the first alarm the second section of the piquet line with his reserve, thus employing the greater part of his battalion in a narrow valley extremely disadvantageous to the free development of a fight, while at the same time the defence of the extended plateau of Oakley would be left to three companies only.

Therefore the second section of the piquet line should be made strong enough to withstand an enemy's assault without requiring the intervention of the reserve, and we will detail two companies for it, one being intended for the support, the other for a piquet. The reserve will thus consist of three companies only, and since it is meant to assist merely the first section of the piquet line in holding its own, it will be placed close behind Oakley, so that the position of the support at the northern, and that of the reserve at the southern outskirts of Oakley nearly coincide.

We have already seen that the detailed dispositions of the cavalry outposts will be left to the officer commanding the squadron, assuming that the latter places one piquet of one troop behind hill 571, and another of equal strength behind, i. e. south of, the spur about half a mile north-west of Hawley House, then the broad dispositions of our troops might be :

At day-time :

The cavalry piquets observe the front.

Three companies in support at Oakley.

Two companies in support at the southern edge of the wood in the defile 600 yards north-east of Oakley Wood.

At night :

The cavalry piquets are withdrawn.

One and a half company as support in Oakley, with a piquet of three sections on the Ighton-Barton road,

close south of the bridge over the Fish Pond river-course, a second piquet of half a company in the northern outskirts of Enfield, and a third piquet of one section close behind knoll 567.

One company as support on the southern edge of the wood, 600 yards north-east of Oakley Wood, with one company as piquet at the northern border of the same wood, or about 350 yards in front of the support.

At day and night :

Reserve of three companies at the south-eastern corner of Oakley.

Having thus broadly depicted to himself the approximate position of the piquets and supports of his outpost line, Colonel N. will now issue his orders.

It will not be necessary to give the detailed reasons for the following orders ; the student, being now well acquainted with the general situation, will have no difficulty in explaining to himself the necessity of the arrangements adopted.

OUTPOST ORDERS BY LIEUT.-COLONEL C.,
Commanding 2nd Outpost Section.

OAKLEY, 15th July.

1.50 P.M.

(1) The enemy holds the defiles 5 miles north-west of Sale. Small hostile cavalry patrols were met by our cavalry on the line Weaste-Millbrook-Oakley. Our main body is going to encamp around Ordsall. The advanced guard cavalry and artillery will billet in Barton, the infantry and engineers will bivouac close north of the forked road 1 mile north of Barton.

The 2nd and 3rd Battalion Royal Fusiliers and two squadrons will occupy an outpost line on the front Sale-northern issue of the defile east of Oakley.

(2) Our battalion and 1 squadron will occupy the 2nd section of the outpost line, extending from the bridge on the Ighton-Barton road $\frac{1}{2}$ mile north-west of Oakley (inclusive), by Enfield and knoll 567, to the northern issue of the defile between Tanner's Wood and Oakley Wood (inclusive).

(3) The outpost cavalry will at once cover our front, will keep up connection with the outpost section on our left, will patrol 2 miles beyond the line Ighton-New Copse, and will keep in contact with the enemy if met within that distance. At 8 P.M. it will withdraw to Oakley. The cavalry not required for outpost duty will billet at Oakley, and will at once place 3 troopers at the disposal of each infantry support; by 7.30 P.M. the troopers of the left support will be replaced by 16, of the right support by 7 troopers. 4 troopers will remain at the disposal of the O.C. at day and night, and can be relieved at any convenient hour.

(4) Major V., in command of the 1st, 2nd and 3rd Company, will occupy the 1st section of the piquet line, extending from the bridge on the Ighton-Barton road $\frac{1}{2}$ mile north-west of Oakley (inclusive), by Enfield, to knoll 567 (inclusive). In case of attack Major V. will hold Oakley. Support at Oakley.

(5) Major T., in command of the 4th and 5th Company, will furnish the 2nd section of the piquet line, and occupy the northern issue of the defile between Tanner's Wood and Oakley Wood, and hold it in case of attack.

(6) The Ighton-Barton road will be occupied by an examining post at day and at night. None of the inhabitants will be permitted to cross the outpost line.

(7) The cavalry of both sections of the piquet line will patrol at night 2 miles beyond the line Ighton-New Copse, and will keep in contact with the enemy if met within that distance.

(8) Signalling between piquets, supports and reserve will be established at once. Infantry piquets will be posted by 7.30 P.M.

(9) The outpost cavalry and sections of the piquet line will, as soon as possible, send in sketches of their positions, the latter also of their intended dispositions for the night. Reports to be furnished every 45 minutes, and at once if any hostile movements have been observed.

(10) Piquets will be numbered from the left. Piquets can light fires. Their food will be cooked at the supports.

(11) Up to 8 P.M. the baggage is available for the supports. For the night the baggage will park close behind the reserve.

(12) The O.C. will remain with the reserve, consisting of the 6th, 7th and 8th Company, placed at the south-eastern corner of Oakley.

(13) Countersign.

By order,

X., Adjutant.

Verbally to O's.C. section of the piquet line.
In writing to O.C. cavalry and to the baggage.

PROBLEMS TO BE SOLVED BY THE STUDENT.

(1) Give the orders Lieut.-Colonel A. would issue for the troops of his outpost section.

(2) Explain in what manner Colonel N., the commander of the 6th Dragoons, would provide for the security of the troops in Barton.

(3) Give the instructions issued by Major V. or Major T. (the commanders of the sections of the piquet line of the second outpost section) to their troops.

(4) Late in the evening of the 15th of July, General N. receives from the officer commanding orders to the effect—

(i.) That his troops will again form the next morning the advanced guard to the main body, and proceed on the Weaste-Sale road.

(ii.) That the main body will start the next morning at 6.30 A.M. and will, in anticipation of an engagement, follow the advanced guard at a distance of two miles. Give the advanced guard orders of General N.

PROBLEM No. 4.

(MAP A.)

A REAR GUARD, consisting of—

- 2 Battalions Infantry,
- 2 Batteries Royal Artillery,
- 3½ Squadrons,

covers a beaten division retiring on the Palt-Enfield-Fish-pond-Sale road, in the direction from east to west.

You are in command of the rear guard. Upon your arrival at Enfield you receive, on the 6th of May at 3.30 P.M., orders from the officer commanding to occupy the next favourable position, in order to delay the closely pursuing adversary.

Select on the map the position you intend to occupy, and show on it the detailed distribution of your troops.

Give fully the reasons for the arrangements you adopt.

SOLUTION.

The question gives no particulars as to the enemy's force, his probable intentions, the time the rear guard has already been marching, &c., but is couched in general terms. To answer such questions is comparatively easy for the student, as the simple application of general principles is what is chiefly wanted. On the other hand, candidates, especially beginners, are only too likely to lose themselves in vague speculations. They contrive to dispose their troops in a manner calculated to ensure success in any event, with the result that usually the contrary of what is intended is actually attained.

It is impossible to find dispositions which render success a certainty, and even should it be possible it would be of no avail, as no enemy will venture to enter into an engagement without having some chance of success.

When arriving at Enfield, we receive orders to occupy the next favourable ground and to delay the pursuing enemy. There can be no doubt that the spur running west of Oakley, in a

northerly direction, is the best position we can find in our immediate neighbourhood.

The rear guard retires in the direction from Palt to Enfield, consequently the pursuing adversary will in all probability follow the same route. Comparing the position we intend to occupy with the enemy's line of advance, we shall find it to be not quite perpendicular, but a little oblique to the latter, a fact that results in our left flank being somewhat exposed to a turning movement on the enemy's part. Dispositions to guard the left flank by troops therefore become necessary. Our right flank is safe, as the hostile troops will have considerable difficulties in climbing up the steep eastern slopes of the plateau of Oakley. But it is not so much the steepness of these slopes which provides for the safety of our right flank as the fact that the steep western slopes of hill 935, opposite the plateau of Oakley, covered to a considerable extent by a wood through which no roads lead into our position, deprive the enemy of sufficient depth of ground on which to manœuvre his troops.

Small reconnoitring parties of the enemy, of course, cannot be prevented from moving against the right flank of our position, and we must guard against this, as concealment of strength is of vital importance with a rear guard. The ground on the right being very unfavourable for cavalry action, we will detail some infantry to prevent hostile patrols reconnoitring that part of our position.

We now come to the detailed distribution of our troops, and we will begin with the artillery as the principal arm of a rear guard. The object of the batteries will be to open fire on the enemy at the earliest possible moment, with a view to forcing him to deploy when still a considerable distance in front of our position, thus attaining the object of every rear guard, namely, to delay the enemy. The position of the guns should therefore be within the first line of defence, and as the enemy may advance against our front or our left flank, the guns should also be posted well towards the latter. The northern end of the spur running west of Oakley towards north is a suitable position.

The infantry of the rear guard consists of two battalions. There will be an officer in command of the entire force, and this officer must keep back at his own disposal a certain proportion of his infantry, as according to Infantry Drill, p. 115, "A commander can only exercise a direct influence on his command so long as

he retains at his disposal a portion of his force with which to meet the various contingencies of an engagement."

This rule holds good under all circumstances. Therefore we will keep back one half battalion, as "special reserve." To term this half battalion "second line" would not quite coincide with its duties, which, in addition to guarding the flanks and supporting the front line, may be to make counter-attacks in case the officer commanding the rear guard has allowed the enemy to approach too closely to his position, when the withdrawal of the first line could only be effected by holding the enemy to his ground through a counter-stroke. Such counter-attacks should, as a rule, not be resorted to, and when undertaken they are usually a sign that the officer commanding has misjudged the time proper for retirement. It is therefore clear that the term "third line" should not be applied to any portion of a rear guard. The third line constitutes the offensive element of the defence, and the necessity for its existence ceases as soon as a purely defensive attitude is contemplated, as should be the case with a rear guard.

A rear guard, when occupying a position, should show as broad a front as possible; a battalion forming a section of the first line of a rear guard will therefore usually push forward six companies to furnish firing line and support, keeping only two companies back as local reserve; each of the companies of the front line will occupy a space of from 100 to 125 yards. Thus a battalion can occupy a frontage of from 600 to 700 yards.

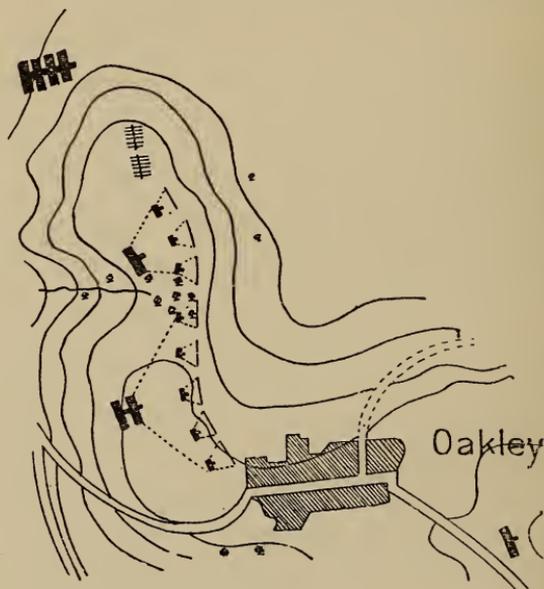
We divided our front line into 2 sections, one occupied by one half battalion, having a frontage of about 350 yards, while the other section, furnished by one battalion, shows a frontage of 600 yards. The latter battalion sends one company to knoll 771, in order to guard against hostile reconnoitring parties moving against our right flank. There can be no doubt that the proper place for our special reserve is on our left or exposed flank. The sketch on the next page shows the detailed distribution of our troops.

To show in detail how our cavalry is disposed is impossible, partly because the area of country the map contains is too limited, and partly because the squadrons are sure to be in contact with the enemy's patrols, therefore their positions and dispositions will vary every moment.

It will suffice to state the general duties of cavalry. These are to give timely information of any attempt on the enemy's

part to push in between our rear guard and the main body. The sphere of action for cavalry will be limited on our right flank by Huyton River, it will therefore suffice if only one squadron is detailed for the protection of that flank, while the remaining $2\frac{1}{2}$ squadrons secure the country on our left flank for a distance of from 5 to 6 miles.

Perhaps the position of Enfield close in front of the line occupied by our rear guard may be considered a disadvantage, but as a matter of fact it is not, because Enfield lies within medium ranges of our position, and a rear guard must withdraw before the enemy reaches medium ranges, lest it should run the risk of becoming too seriously engaged to withdraw without sustaining excessive losses. Consequently Enfield offers no advantages to the enemy, because, when he reaches Enfield our rear guard will have withdrawn in any case. Knoll 567 and the steep ground about 300 yards east of it, is a far more serious disadvantage.



QUESTION TO BE ANSWERED BY THE STUDENT.

Seeing that the enemy threatened his left flank by a turning movement, the officer commanding the rear guard decides to fall back on Sale.

Explain how he would effect his retirement to the latter place.

PROBLEM No. 5.

(MAP A.)

A NORTHERN FORCE is operating against a southern force in friendly country. An advanced detachment of the northern force, consisting of—

- 3 Squadrons 9th Lancers,
- 1 Company Mounted Infantry,
- 1st, 2nd and 3rd Battalion Essex Regiment,
- 2 Machine Guns,
- 4th and 13th Field Battery,
- 6th Company Field Engineers,

has taken up bivouacs immediately east of the Cross roads, 1500 yds. west of hill 448, north of Warling River, late in the afternoon of the 2nd October. Four companies of the 1st battalion and 2 troops, 1st squadron, furnish the outposts on the line southern border of Formbey hill 410, hill 449.

In the evening the outpost cavalry ascertains, partly by its own observations, partly through inhabitants, that Barton is occupied by 1 to 2 hostile battalions with artillery, that hostile cavalry outposts are placed along Barton River, and that the bridges in the centre of Worsley Wood are held by hostile infantry posts. The enemy is said to have requisitioned extensively at Worsley, Barton and Ordsall.

These informations being telegraphed to headquarters, Major-General O., commander of the northern detachment, receives by way of reply an order to advance the next day and to drive the enemy across the Huyton.

Required orders of General O. for the advance of his detachment on the 3rd of October.

SOLUTION.

This problem is more or less only a repetition of the first; it will therefore suffice to discuss only the more important points.

We are at the beginning of October, the sun rises at about 6 A.M., consequently, we march at about 7 A.M., not much earlier, because $1\frac{1}{2}$ hours before starting every trooper must be already

at his work, and every infantry man about an hour before marching off.

General O. will of course cover himself by an advanced guard ; 4 companies will be sufficient. These must not be taken from the 1st battalion, but from the second or third—which of these two is immaterial—because half of the 1st battalion has been on outpost duty ; these troops will therefore join the rear of our column, and must there find the other half of the battalion to re-establish the unit. Of course it would not be an absolute mistake to let the outposts form the advanced guard, but it should be avoided if possible. The outposts, therefore, will be concentrated as soon as the advanced guard has passed through them ; but to avoid unnecessary marching, the point of assembly of the outposts must not lie in rear of the line they have occupied, but somewhat in front : in our case, the cross roads 1 mile north of Sale will suit our purpose.

Avoiding the narrow streets of Sale, the detachment will march by the road $\frac{1}{4}$ mile east of Sale, and can now advance either by the road along Huyton River or by the road leading to Weaste. The latter is preferable, because the troops can deploy on both sides of the road, while the former admits of the deployment on one side only. By what road our troops will advance after having reached Weaste cannot be decided for the present ; that will depend upon the information about the enemy which we shall receive from our cavalry. Consequently Weaste will be the first object of our march. An equally good line of advance is the road Formby-Millbrook, the only objection that may be raised against it being that this road is of an inferior character.

Since to-morrow morning early information about the enemy is essential, the cavalry will be used as independent cavalry ; the troopers necessary for the advanced guard and main body can be conveniently furnished by the half squadron employed on outpost duty.

It goes without saying that the mounted infantry marches with the cavalry ; being intended to form solely an infantry support to the latter arm, it would mean a total misapprehension of its object should we separate the mounted infantry from the cavalry.

In front, our cavalry will have to reconnoitre towards the line Barton-Worsley Wood, that is evident ; but in addition to this we must also direct our attention towards the western bank of Huyton

River, since it is possible that the enemy advances to-morrow another detachment to Sale, which then would strike the flank of our column; but even should this not happen, the necessity of patrolling the western bank of Huyton River would still exist, as from there our cavalry could not only observe with impunity the hostile troops reported to be at Barton, but could also reconnoitre the country further south, and could send in timely information should the enemy receive any reinforcements. Lastly we know that the enemy has requisitioned on the northern bank of Huyton River, consequently probably he will endeavour next morning to bring his convoy in safety on the southern bank of the river; that may possibly give a splendid opportunity of capturing or of destroying the enemy's convoy.

We could find no better employment for our mounted infantry than to order them to Sale to hold the bridges there, with a view of covering the eventual retreat of the cavalry which we have sent across the river.

Our advanced guard of 4 companies is too small a force to add any artillery to it. It is unusual to add any artillery to an advanced guard unless the latter consists at least of 1 battalion; in this special case it would be altogether a mistake, because we know that the strength of the enemy is such that the advanced guard alone has no chance of coping with him. Nor will we add any machine guns to the advanced guard. As a rule, machine guns should accompany advanced guards only if the latter are furnished by units of which machine guns form a component part, i.e. brigades, or still better, divisions. To add machine guns to smaller advanced guards must be considered a mistake. The drill book clearly implies that machine guns are meant to be retained as a kind of a fire reserve, to be employed only at the last phases of the fight, when an undiscovered advance is possible, and when it will have become apparent where their presence is most desirable. If machine guns are marched with small advanced guards they will also be employed with them, and there will be every chance that these fragile weapons will share the same fate that usually befell the French mitrailleuses in the '70-'71 campaign, namely, that of being silenced by the adversary's artillery *before* having entered their proper sphere of action. Consequently the machine guns will march in rear of our column.

The country through which we have to advance being open,

there is no particular reason why the engineers should accompany the advanced guard, but as it might occur that the advanced guard has to delay the enemy's advance by occupying a position, we will add 1 section Royal Engineers to the advanced guard. Under all circumstances, however, 1 engineer officer should accompany the advanced guard, or still better, the vanguard, to make himself acquainted with the ground where eventually the engineers might have to work. The subdivision of troops is now practically settled, viz. :—

Independent cavalry :

- 3 squadrons, less 2 troops.
- 1 company Mounted Infantry.

Advanced guard :

- 2 troops, less 18 troopers.
- 4 companies 2nd Battalion.
- 1 section Engineers.

Main body (in order of march) :

- 8 troopers.
- 4 companies, 2nd Battalion.
- 2 Batteries.
- 3rd Battalion.
- 1st Battalion.
- Machine Guns.
- Engineers.

10 troopers and 1 officer will be left with the baggage. The officer is indispensable, because his authority will alone ensure the maintenance of order amongst the wagon column. If we order the advanced guard to have cleared the bridge over Warling River south of our bivouack by 7 A.M., we must start the independent cavalry sufficiently early to give room to the advanced guard to subdivide itself into vanguard and main guard; 15 minutes would be ample for this purpose, but as the enemy is not far away, it will be advisable to start the cavalry still earlier, in order to make sure that timely information about the enemy is obtained, consequently we will order our cavalry to have crossed Warling River by 6.30 A.M. The main body will follow the advanced guard at a distance equal to its own length, in our case roughly 1 mile. If a collision with the enemy is probable, the distance between the advanced guard and the main body is frequently

shortened, but this rule practically applies to larger forces only ; in case of small detachments like ours, the distances are anyhow so small as to render a difference of $\frac{1}{4}$ mile or so practically immaterial. Our main body will therefore march 1 mile in rear of the advanced guard.

There is, perhaps, one more point requiring consideration, viz. whether General O. issues the final orders for the advance of his detachment in the evening of the 2nd or in the morning of the 3rd, a short time before the troops march off. In the latter case he would be compelled to issue on the 2nd an order for the assembly of his troops previous to their starting, and that would, of course, necessitate that the troops are called under arms somewhat earlier. When he eventually gives his final orders there would be but little time for his officers to make themselves thoroughly acquainted with them, to study the map, &c. It is therefore evident that it adds considerably to the convenience of officers and men, if in the evening they can be made acquainted with their work for the next day. But two separate sets of orders, viz. one for assembly given out in the evening, and one for the actual operation given out next morning, will be necessary when during the night such information of the enemy might be expected as would very materially alter the original plans of the commander. This is very improbable in our case ; the enemy, having requisitioned during the day, will not think of entering into any operation against us at night, and should he make any changes in his dispositions, it would still remain our duty to advance next morning. Consequently our order for the 3rd will be already issued in the evening of the 2nd.

DETACHMENT ORDERS BY GENERAL O.

BIVOUC AT CROSS ROADS 1500 YARDS
WEST OF HILL 448.

2nd October, 10.30 P.M.

SUBDIVISION OF TROOPS.

Independent Cavalry.

Colonel E.

2½ squadrons 9th Lancers.
1 company Mounted Infantry.

Advanced Guard.

Colonel A.

2 troops 1st Squadron (less
18 troopers).
4 companies 2nd Battalion Essex
Regiment.
1 section Engineers.

Main Body (in order of march).

8 troopers 1st Squadron.
4 companies 2nd Battalion Essex
Regiment.
4th and 13th Field Battery.
3rd Battalion Essex Regiment.
1st Battalion Essex Regiment.
Machine guns.
1 company Engineers (less
1 section).

Transmitted in writing to Os.C.
Battalions, Cavalry, Artillery,
Engineers and Outposts.

(1) The outpost cavalry has ascertained that Barton is occupied by 1 to 2 hostile battalions with artillery. A hostile cavalry outpost line is posted along Barton River; the bridge inside Worsley Wood is held by hostile infantry.

(2) To-morrow morning our detachment will advance by the road $\frac{1}{4}$ mile east of Sale and by Weaste.

(3) The independent cavalry will have cleared the bridge over Warling River south of our bivouac by 6.30 A.M., will reconnoitre towards the line Barton—Worsley Wood, and will send 1 squadron across the Huyton River by Sale to observe the hostile detachment at Barton, to give timely information should the enemy receive reinforcements, and look out for an opportunity to intercept the convoy the enemy is likely to have collected. The retreat of this squadron will be covered by the mounted infantry holding the bridges at Sale. This squadron will report to the G.O.C.

(4) The advanced guard will be clear of the bridge over Warling River south of the bivouac by 7 A.M.; 1 engineer officer will march with the vanguard.

(5) The main body, starting from the same bridge at 7.20, will follow 1 mile in rear of the advanced guard.

(6) As soon as the advanced guard has passed through them, the outpost infantry will be concentrated at the cross road 1 mile north of Sale. The outpost infantry will then follow in rear of the main body; the outpost cavalry will place itself ahead of the advanced guard and main body respectively.

(7) The baggage will park at our present bivouac as soon as the troops have left it, waiting for further orders. The 2nd squadron will detail 1 officer and 10 troopers to supervise it.

(8) The G.O.C. will be with the advanced guard.

By order,
X, Staff Officer.

PROBLEM No. 6.

(MAP A.)

CONTINUATION OF No. 5 PROBLEM.

SOON after the advanced guard has set itself in motion, General O., who marches ahead of the infantry of the vanguard, receives on the 3rd of October, the following report from a patrol that has been pushed forward at daybreak by the outpost cavalry :

ROAD JUNCTION, 400 YARDS NORTH OF MILLBROOK,
3rd October, 6.45 A.M.

“Met hostile cavalry patrol about $\frac{1}{3}$ mile north of Millbrook. The patrol retired in the direction of Barton.”

Five minutes later the same patrol reports from hill 446 :

“Two hostile battalions and 1 battery are marching from Barton towards hill 375. I am falling back on Millbrook.”

At 7.12 A.M. the independent cavalry reports from Millbrook :

“Our cavalry met a hostile squadron north of Millbrook. The enemy retired without accepting an engagement, in the direction of Barton.”

A few minutes later another report comes in from the same cavalry, from hill 446 :

“Hostile infantry is throwing up intrenchments on hill 375, extending from a point a couple of 100 yards north of Small Farm for about 600 yards towards Huyton River. Artillery is not visible.”

At 7.30 A.M. the cavalry sent across the Huyton by Sale signals from hill 331 :

“The enemy throws up intrenchments on hill 375 ; a hostile battery and about 1 battalion are visible on the southern slopes of the same hill. The country south and east of hill 331 is quite open for about 4 miles. No enemy is visible within that area on the southern bank of the Huyton.”

What are the decisions of General O ?

What orders does he issue ?

SOLUTION.

The first report will reach General O. about 1000 yards south of the bridge over Warling River. There is nothing extraordinary in the fact that a hostile patrol has been met with, that must have been expected, consequently General O. will simply continue his march, that is all he can do.

Five minutes later, i.e. when the general is approaching the crossing of railway and road 1 mile north of Sale, he receives an information of considerable value. For the first time he learns the exact strength of the enemy and that he is marching towards hill 375. What are the enemy's intentions? Will he occupy their hill or will he occupy a position further to the front? These are questions that cannot be answered for the present.

Even the third report does not clear up the situation on the enemy's side, but by that time General O. in all probability will be trotting ahead of his infantry, and on his way to the front will receive the fourth report, which is as comprehensive as can be expected. The hostile artillery is not visible, also the strength of the enemy is not stated, but that is natural, since the adversary in the desire not to unmask his artillery too early will have placed it behind hill 375 and there he will also have his reserves. General O.'s duty is now to reconnoitre the enemy's position himself, consequently he will gallop to Weaste; perhaps he will also betake himself for a short time to hill 449 and hill 408, and decide on his plan of action; he will frame his orders and issue them as soon as he receives the last report from the cavalry on hill 331, which will reach him in the vicinity of Weaste. At this time the leading infantry of the advanced guard will be about $\frac{1}{2}$ a mile north of the cross roads 400 yards south-east of Sale station, while officer commanding battalions, the artillery, the engineers, and perhaps also the officer commanding the cavalry, will have joined the general, accompanied by their adjutants.

In the first instance the enemy must be tied to the ground by a frontal attack pure and simple; to advance with the whole force against one or the other flank of the enemy would be a mistake, because the enemy would either wheel round and then the contemplated flank attack would again become a frontal one, or the enemy will quit the position altogether without accepting an engagement. For instance, the advance of the whole detachment

towards Barton would compel the enemy to retire speedily across the Huyton unless he expects reinforcements soon ; but in this case the enemy has been manoeuvred out of his position but not defeated : the adoption of such a course is justifiable if the enemy has posted himself behind a strong obstacle, for instance an unfordable river or a deep ravine, but otherwise it shows a limited conception of tactics and the art of war generally, the first and foremost principle of which is to defeat the enemy where he is found. Of course occasions will arise which make it advisable even to a superior force to avoid a fight, but if an almost certain victory presents itself, as in our case, then the moral spirit of the troops alone will necessitate its acceptance. Consequently General O. decides to attack the enemy's front with troops sufficiently strong to hold their own in case of counter-attack, in this case with 1 battalion. Against which flank of the enemy will he drive home the attack? Should he advance against the enemy's right flank he would threaten the enemy's line of retreat most seriously, and success would bring about not only the enemy's defeat but also his capture. But on the other hand the advance against the enemy's right flank leads over very open ground, the losses will be very heavy, a covered approach of the reserves is impossible, consequently success is doubtful ; General O. will therefore decide to make his principal attack against the enemy's left flank. Here the convexity of the western slopes of hill 375, as well as Worsley Wood, will make it possible to advance the troops to about within 500 yards from the enemy's position without being exposed to fire. But the advance against the hostile left flank has one decided drawback, i.e. the close proximity of Huyton River in rear of the right flank of the attacking infantry. A successful counter-attack on the adversary's part would threaten our troops with being driven into the river.

This disadvantage can be overcome by making the flank attack sufficiently strong, but in addition to this our engineers will find sufficient scope for their work. A few intrenchments or a small field work constructed near the salient of the southern border of Worsley Wood, about 200 yards east of the point where the railway leaves the wood, would be of greatest value in case the enemy should succeed in temporarily driving back our troops. This can be done by the engineers, since they will be under cover. The exact site and nature of this work depends so much upon

the actual conditions of the spot that detailed orders cannot be issued. Also the railway might be formed into a suitable line of resistance. Anyhow such details should not be forgotten, they may turn out to be of utmost importance.

We have now to consider the details of the infantry attack.

Between the frontal attack and the flank attack a small gap may be left, but not so large that any considerable body of the hostile troops are not fired at, because that would invite them to make a counter-attack. In theory such counter-attacks would be exposed to the cross fire of the attacking troops, but not in reality, since troops have the tendency to fire straight against such parts of the enemy's lines from where they are fired at. It is the best when front and flank attacks are started convergent in such manner that they meet at the enemy's position. Consequently, the officer commanding the frontal attack will receive orders to direct his right flank along the line Wood Farm summit of hill 375, and so avoid undue extension ; it will be well to give also for the left flank a point of direction, viz. the easternmost of the trees 200 yards north of Small Farm. The left of the flank attack will be advanced along the line south-eastern corner of Worsley Wood hill 375. It is hardly advisable to give a point of direction for the right flank of this attack, because here the law will be dictated by the enemy, who naturally will use his reserves to double back and to prolong his own left flank. For the flank attack we will also detail 1 battalion, that leaves 1 battalion for the reserve ; the latter follows the flank attack, but in such a manner that it overlaps the former's right flank, consequently the reserve is meant for two objects, viz. to support as well as to prolong the right flank. It is evident that the reserve is not retained at the disposal of the general, but that it is at once sent forward with a definite object. That is the usual in case of small detachments. Altogether the attack of small detachments differs very materially from that of large bodies, such as army corps. Small forces meeting an inferior enemy must almost always consider the possibility that the adversary receives reinforcements during the fight, consequently their endeavour must be to finish with the opponent as quickly as possible, therefore will attack with their whole force at once.

Now a few words about reserves. If a battalion or a brigade, or a division or a still larger force, is advanced against an enemy

whose strength, disposition and exact position are unknown, then these bodies are bound to retain by far the larger part of their troops in reserve, and to cover themselves by a very small firing line only; this firing line acts, so to speak, as a reconnoitring body, by drawing the enemy's fire upon itself it compels the latter to disclose his dispositions; but, if once this object is attained, if once the front the enemy has occupied becomes known, then it must be the endeavour of the assailant to establish a firing line stronger than the adversary's, because it is by rifle fire, and by rifle fire only, that the defeat of the enemy can be brought about. To retain at such moments still the greater part of the troops in reserve, is the same as depriving oneself willingly of the means of victory.

Taking our case, how many troops will the enemy have used for his first line? We have learnt that he has thrown up intrenchments on a front of about 600 yards. That points to a garrison of at the very least 1 battalion; it is possible that he will at once deploy $1\frac{1}{2}$ battalions, not much more, since he must retain some reserves; consequently, to make use of our superiority we must take 2 battalions and not less into the first line. Should we attack in three lines, taking 1 battalion for each, there would be every chance that 1 battalion after the other is defeated successively. Such are the conditions in our case, where the enemy's strength and dispositions are known, and these conditions will, as a rule, hold good for every small detachment attacking an inferior enemy, for the simple reason that his extent of front and distribution of depth are so limited that the eyes of a single experienced officer can detect the whole of the enemy's dispositions.

Quite different, however, are the conditions if large bodies such as army corps and armies meet each other; here the extent of front and distribution of depth is so considerable that cavalry patrols only will seldom be able to report with any accuracy upon the enemy's strength, frequently even not on his exact front, since the defending force may have occupied advanced positions; in this case the attacking force must at first feel the enemy's front, so that the first troops deployed are advanced more for the object of reconnoitring the enemy than of defeating him. It is for such large bodies that the distribution into three lines as laid down in the drill book will hold good.

The conditions under which army corps attack are vastly different from those that apply to a small detachment.

The officer commanding a small detachment will usually obtain sufficient information about the enemy ; he decides on his plan of attack and then throws his troops into action.

The officer commanding an army corps will let his foremost troops be gradually drawn into action, and on their experience he will base his final decision.

For everyone who has studied the subject of tactics thoroughly, it is most gratifying that the present issue of the drill book forbids a standard system of attack for a battalion. When a battalion forms part of the first line, i.e. when other troops are fighting on its right and left, it will be the usual for the battalion to have 4 companies as firing line and support, and 4 companies in reserve, as clearly implied in the drill book ; a battalion attacking on the right or left flank of the first line will throw back some reserve companies as echelons, consequently will use not more than 2 or 3 companies as firing line and supports : that can also be read out of the drill book ; but when a battalion acts by itself, the formations to be adopted will vary very much indeed. Supposing, for instance, the commander of a detached battalion learns that 400 of the enemy occupy the edge of a wood the extent of which is 300 yds., how will he attack ?

A battalion commander who still retains in a case like this 4 companies in reserve, knows little about his business. He must use 6 companies as firing line and support, retaining only 2 in reserve ; the companies on his flanks must be directed against the enemy's flanks, and the company leaders must be instructed to dissolve a greater part of their supports as soon as the fire becomes effective, and the whole when decisive ranges are approached. And why this ? Because the strength of the enemy and the extent of his front are known, consequently it is imperative to establish a firing line superior to the enemy as soon as the fire becomes effective. When this fire has thoroughly demoralised the enemy, the appearance of our 2 reserve companies determined to carry the position by point of bayonet will convince the enemy of the uselessness of further resistance.

Let us take another example.

A detached battalion with a few cavalry is advancing along a road in a fairly open country.

The cavalry reports having been fired at from a house close to the road, from a farmstead 400 yds. to the right, and from a small copse 200 yds. to the left of the road. These three localities are situated on one line. It has been impossible for the cavalry to obtain any other information about the enemy. The object of the detached battalion makes it imperative to clear up the situation. How does the battalion advance? In this case the battalion commander cannot decide at once whether he will attack the enemy or not; he will at first send 1 company forming firing line and support, say against the small copse to the left of the road: the object of these troops is merely to draw the enemy's fire upon themselves in order to compel the enemy to disclose his dispositions, their losses will enable the commanding officer to form an approximate estimate of the enemy's strength and on the distribution of his troops. The remaining 7 companies will be retained in reserve, echeloned towards the right and distributed in 2, possibly 3 lines, but these "lines" are only a preliminary *formation*, and are by no means to be mixed up with the 3 lines into which a large attacking force is divided. A single battalion attacks with firing line, supports and reserves, no second or third line, though the reserves might be divided into several parts. If he finds the enemy is too strong for him, he withdraws his reserves, leaving it to the foremost company to effect its retirement as well as it can; in this case this reconnoitring action will have demanded only few sacrifices. Should he, however, come to the conclusion that he can cope with the enemy, he has still 7 companies in hand which he now can form up for the decisive attack. Similarly, if the advance of an attacking battalion leads through a wood that covers the enemy's front, the battalion will keep the greater part of the companies in reserve and cover itself only by a thin firing line, till the enemy is met with.

Having broadly decided on the attack of our infantry, we have now to settle the position for our batteries; this, whenever possible, should be situated in rear of the gap between the front and flank attack. Here the guns are best protected by the advancing infantry, and can support both attacks; they usually find in the gap between the two attacks room for a second and third position, and are nearest to the position of the commanding officer, with whom the batteries must be in constant communication, since he alone will be able to decide which part of his attacking infantry will be

most in need of the artillery support. Our guns will be placed on the spur that projects from hill 408 towards Worsley Wood. The exact position will depend upon the heights of the trees of Worsley Wood: the guns must be so far advanced that they fire just over the trees. Such a position will make it extremely difficult for the enemy's guns to range upon our artillery, and the latter can come into action without being observed by the enemy; but in this case they must not trot forward over hill 408, but will advance by the road along Huyton River till they have passed the railway crossing close to the north-western border of Worsley Wood, and will then come into position by turning to the left. It is of course evident that wagons and timbers will be kept either on the right flank of the guns, or in front of them close to the northern border of Worsley Wood.

This artillery position, with a wood close in front of it, would become untenable should the enemy advance a few companies through the wood against it. Consequently, before the guns come into action the wood must be occupied by some of our troops, and it will be the most natural to use the infantry of the advanced guard for this object.

For the close support of the infantry attack the guns will find a suitable second position on the spur that projects from hill 375, towards north in the direction of Wood Farm. Round the northern foot of this spur runs Barton River along a comparatively deep valley that cannot be seen into from the enemy's position; our guns will have to cross that valley and the river close to the eastern edge of Worsley Wood. Barton River itself is fordable, but of course it is impossible to judge from the map on the nature of its banks; should these be four or more feet high and steep, Barton River will prove a considerable obstacle to the advance of our guns, no matter how shallow the river is itself. Here again our engineers can render most useful services by constructing a few passages across the river: these may be bridges, or only ramps leading from both sides into the river.

When giving the order for the advance of our detachment in the previous problem, we decided that one engineer officer should march with the vanguard. This measure, as we now see, has been fully justified.

We have now to decide upon the employment of our mounted arms during the fight. The squadron we had detached to the

western bank of River Huyton will, of course, remain there and continue to observe uninterruptedly the country south of the river. If the enemy retreats, this squadron will at first endeavour to delay the adversary's march by throwing its trains and baggage column into confusion, but it may also fall upon the hostile troops themselves, and perhaps with decisive results, since its appearance on this side of the Huyton may come as a complete surprise to the enemy. It is, of course, evident that the mounted infantry must remain for the present where it is, viz. at Sale. Of our remaining 2 squadrons, one will cover our left flank by placing itself behind hill 446, detaching patrols by Barton towards the enemy's left. This squadron will, as far as feasible, accompany the left flank if our front attack; the ground, however, makes such a procedure very problematical, but if once the enemy is well engaged in his front, it will be quite possible for this squadron to descend towards Barton River by the small valley 400 yards east of hill 446, to cross the river unobserved, and to approach Barton under cover of the spur that runs from hill 409 along the western border of Barton towards north.

It is, of course, impossible to allot any final rôle to this squadron, because the enemy will probably have his own cavalry on this flank; still the sudden appearance of a compact squadron on the flank of an already shaken enemy is not likely to be without influence upon him. It would be most desirable to have more cavalry on this flank, but we cannot leave our fighting force without any cavalry at all.

Consequently the remaining squadron will be used on the battle field of the infantry. In the first instance it will place itself under cover close to the eastern part of the northern border of Worsley Wood. It will detail some orderlies for the G.O.C., and also some for the commanders of the two battalions advancing through Worsley Wood. That is necessary, since the advance of these battalions from the position of the G.O.C. can be but imperfectly observed; constant communication between him and these battalions is therefore of paramount importance, it is feasible because Worsley Wood will protect these orderlies when galloping to and fro. The best, of course, would be if the G.O.C. could spare one of his staff officers, and send him to the right flank of the attacking force with a few orderlies, merely with the object of constantly reporting upon the progress of the fight;

but with small detachments as ours, this course will scarcely be possible. In the later period of the fight, when the guns advance to support the infantry, the squadron should trot forward with them along the eastern border of Worsley Wood, and halt when reaching the road that leads from the wood to Barton. Here the squadron will be again under cover, though it will have suffered some losses during its advance, and must be ready to follow up at once any success gained by the infantry. See I.D., page 118, No. 4.

The G.O.C. will have decided on his plan of attack soon after having reconnoitred the enemy's position, but he will not issue his final orders until he has received the report from the cavalry detached to the western bank of Huyton River, unless his position affords him a wide view of the country south of the enemy's position; whether this is the case cannot be seen owing to the limited area covered by our map. The report from the western bank of Huyton River reaches the G.O.C. at 7.30 A.M., but at this time the advanced guard will be half a mile north of the cross roads, 400 yards south-east of Sale Station, and since it is questionable whether the final orders will be received in time to avoid a wrong direction being taken by the troops (see I.D., page 127, section 132), a preliminary order may be necessary.

DETACHMENT ORDERS BY GENERAL O.

SOUTHERN CORNER OF WEASTE.

An inferior hostile force occupies hill 375.

The advanced guard and main body will take the road leading along Huyton River to Worsley Wood, with the exception of the 1st battalion of the Essex Regiment, which will march to Millbrook, via Fish Pond.

By order,
X., *Staff Officer.*

Verbally to Os.C. Units, in writing to
Os.C. Advanced Guard.

As soon as the last report is received, the following final order will be issued.

DETACHMENT ORDER BY GENERAL O.

SOUTHERN CORNER OF MILLBROOK,

3rd October, 7.40 A.M.

(1) A hostile force of 2 battalions, 1 battery and 1 squadron is intrenching itself on hill 375, facing north, and extending from a point approximately 200 yards north of Small Farm for about 600 yards towards west. The enemy's guns are not yet visible.

(2) Our detachment will attack the enemy, driving home the attack against his left flank. The order of march is now dissolved.

(3) To cover the guns the leading 4 companies 2nd Battalion Essex Regiment will at once clear Worsley Wood from hostile troops, without, however, becoming engaged with the enemy's main force.

(4) As soon as the just mentioned companies offer sufficient protection, the guns will at once come into action on the southern slopes of hill 408 and open fire.

(5) Having reached Millbrook, the 1st Battalion Essex Regiment will engage the enemy's front, directing its right flank along the line Wood Farm-hill 375, its left towards the easternmost of the trees north of Small Farm. It will eventually support the main attack, which will be executed by the 2nd Battalion Essex Regiment as soon as orders to this effect are received by Colonel A., who will then direct his left flank along the line south-eastern corner of Worsley Wood-hill 375, and drive the enemy from his position.

The 3rd Battalion Essex Regiment will follow 500 yards in rear of the right flank of Colonel A.'s attack and will support it. The machine guns will march with this battalion.

(6) The cavalry detached to the western bank of Huyton River will continue to observe; the Mounted Infantry will remain at Sale. Of the remaining squadrons, one will cover our left flank, will patrol towards the enemy's right, and will eventually endeavour to operate upon the enemy's line of retreat, while the other will place itself behind the eastern part of the northern border of Worsley Wood, will protect the guns when advancing, and will eventually throw itself upon the enemy if opportunities offer. This squadron will place 6 troopers at Colonel A.'s and 8 troopers at the G.O.C.'s disposal.

(7) The company Royal Engineers will at once construct a work close to the southern border of Worsley Wood, as near to the enemy's position as feasible, suitable to resist hostile counter-attacks. The nearest infantry will be informed of the site and nature of this work. The Royal Engineers will also construct passages for artillery across Barton River near the eastern border of Worsley Wood.

(8) The baggage will remain where it is.

(9) The G.O.C. will remain at the southern corner of Weaste, where he expects frequent reports.

By Order,
X., *Staff Officer.*

Verbally to Os.C. Battalions,
Artillery and Royal Engineers. In writing to
Os.C. 1st Battalion, Cavalry and baggage.

PROBLEM No. 7.

(MAP A.)

A REAR GUARD, of—

- 4 Battalions and 2 Machine Guns
- 2 Batteries R.A.
- 1 Battery R.H.A.
- 1 Cavalry Regiment and 1 company Mounted Infantry
- 1 company R.E.

covering the retreat of a beaten southern force, is bivouacing for the night of the 23rd to the 24th of May at the northern exit of Milbrook; the 1st battalion and 2 troops of cavalry furnish the outposts along the stream that runs through Fish Pond from east to west, while a detachment of 4 companies 2nd battalion, and 2 troops, is holding Oakley.

The pursuing enemy has established a cavalry outpost line along Warling River, and the bivouac of 1 to 2 cavalry regiments has been observed about 2 miles north of Warling Farm. Touch with the enemy's infantry has been completely lost. At 9 P.M. on the 23rd the O.C. rear guard received an order from the G.O.C. main body which has halted at Ordsall, to the effect that the main body will be clear of Ordsall by 7 A.M. next day and that the rear guard, if feasible, will follow the main body at a distance of 4 miles

Give the orders of the O.C. rear guard, assuming that he receives no fresh information about the enemy up to the time when he has marched off his troops.

SOLUTION.

The question assumes that no new information is forthcoming till the rear guard has marched off: that this actually will be the case cannot of course be anticipated by the officer commanding the rear guard; on the contrary he will hourly expect more news about the enemy, and will anxiously look forward for intelligence about the hostile infantry. Consequently it is an utter impossibility for him to issue his final orders so soon as the evening of

the 23rd; the only order he can give on that day is one fixing the time when the troops shall be ready to start, and when and where he intends giving his final orders. This time can be roughly calculated. Touch with the enemy's infantry has been lost, i.e. our cavalry has been unable to ascertain how far the hostile battalions are behind their squadrons, evidently some considerable distance, since our patrols were able to report the presence of a hostile cavalry bivouac 2 miles north of Warling Farm. It is now quite possible that the enemy brings forward his infantry late in the evening or even during the night, but if so, this infantry will be fatigued and tired out, consequently hardly fit for any night operations, though, of course, the possibility is not absolutely excluded; but the contingency the officer commanding the rear guard must provide for, is that the enemy advances early next morning, i.e. between 3 and 4 o'clock. By this time the commanding officer must have assembled his subordinates at a suitable point of vantage, so that no time may be lost in transmitting orders, while the baggage of the rear guard must be already collected on the road to Ordsall. Consequently the only orders that can be issued on the 23rd will be—

REAR-GUARD ORDERS BY

MILLBROOK, 23rd May.
9.30 P.M.

At 3.30 to-morrow morning all the troops of the rear guard will be ready to march off at a moment's notice, and the baggage of the whole rear guard will be assembled in column of route on the Millbrook-Barton road, rear of column at Millbrook.

At the same time officers commanding battalions, the cavalry, artillery and engineers, will meet the G.O.C. rear guard at the road junction 400 yards north of Millbrook to receive further orders. The O.C. outposts will send his adjutant with a detailed report about the enemy.

By order,
X., *Staff Officer.*

In writing to Os.C. Battalions, Artillery,
Cavalry, Engineers and baggage.

At 3.30 A.M. on the 24th, we find the commanding officer of the rear guard and his staff assembled at the road junction 400 yds. north of Millbrook, awaiting the further development of the

situation. If the enemy attacks, the rear guard must occupy a position; if he does not advance, the orders for the final retirement must be issued; and since the question assumes that the situation on the enemy's side remains unaltered, we have now to consider these latter orders.

A rear guard—says the drill-book—is on the march, subdivided in the same manner as an advanced guard reversed; but unfortunately the drill-book gives no technical terms for the different parts of a rear guard. We are therefore compelled to use the same as with an advanced guard, and to divide our rear guard into a vanguard and main guard.

The commander of a detachment, as explained in the first problem, can either place his cavalry at the disposal of the advanced guard, or he can retain it under his own orders by using it as independent cavalry; a similar course is open to the officer commanding advanced or rear guard, in either case the cavalry can be attached to the vanguard, or can be used as advanced-guard cavalry or rear-guard cavalry respectively; in the latter case the cavalry receives direct orders from the commander of the advanced and rear guard, and reports directly to him. This is the usual course, and is absolutely necessary if any other duty devolves upon the cavalry than that of securing the line of march only. Consequently, we will subdivide our force into main-guard, vanguard and rear-guard cavalry, giving the subdivision of troops in the left margin of the orders.

The advanced guard to a force retreating, says the drill-book (p. 169), should be accompanied by a strong party of engineers, &c. A similar use will be made of the engineers of a rear guard, in which case they may have to prepare bridges for demolition or may have to throw up a covering position, &c., consequently having to execute works that require some time; therefore they should march ahead of the column, since otherwise they will lack the time necessary for their labours. For instance, should they be ordered to prepare a position for defence, they manifestly must have finished their work when the infantry arrives; or should they have been required to prepare bridges for demolition, they must have done so when the rear guard begins to cross the bridge; in this case they will leave a few men behind to ignite the cotton or powder charge when the bridge has been passed by the rear guard. It is therefore evident that the engineers, in

order to come as near to their ideal use as possible, must march some distance in front of the rear guard—consequently we cannot mention them in the subdivision of our troops as forming part of the main guard, but will deal with them under the heading “sent ahead,” and will attach to them some cavalry, partly to keep up connection with main body, partly also to reconnoitre positions on the line of march: the latter duty necessitates that at least one officer should be with this cavalry.

We have now to consider what troops we must use under the above-mentioned headings, and how we shall march them off.

The withdrawal of our rear guard must be concealed from the enemy as long as possible, consequently it would be a mistake to withdraw the outpost earlier than absolutely necessary (see Infantry Drill, p. 176); it is therefore natural that the outpost should form our vanguard. But if it is necessary for our outposts to remain in their position as long as possible, it is still more so for the half of the second battalion at Oakley, because from the commanding ground in the vicinity of their village our line of march can be seen into, and is therefore likely to form the first object of the advance of the pursuing hostile cavalry; consequently we shall be compelled to add also this half battalion to our vanguard. This arrangement, it may be argued, leads to breaking up of units; that is quite true, but under the existing circumstances it cannot be avoided. Another course that possibly might suggest itself is that of using only the 4 companies at Oakley as the vanguard, while the outposts will form part of the main guard. The advisability of this scheme can be questioned on the ground that the enemy's patrols, if they keep closely to our outposts, will at once come in contact with our main guard—the half battalion at Oakley cannot prevent them from doing this—but in addition to this there is another reason that makes this arrangement undesirable. Since the enemy's dispositions remain unaltered next morning, as assumed in the question, the officer commanding the rear guard must come to the conclusion that during his retreat he will have to deal in the first instance with hostile cavalry only; consequently, should the latter press back our own cavalry and push forward energetically, there will be no reason to occupy a position with the whole of our rear guard, it will suffice if our vanguard deploys; but the latter must then be proportionally strong, since it serves not only as a pivot to the rear-guard cavalry, but must be able to

show a fairly imposing front to the enemy; $1\frac{1}{2}$ battalions are therefore not too much, and naturally we will add to it the battery of Royal Horse Artillery. Up to the time when we are marching off, the half squadron at Oakley and the half squadron distributed amongst the outposts will be the only cavalry in touch with the enemy: to tear this cavalry suddenly away from the adversary's front and flank would mean nothing else but to destroy deliberately—at least for some time—the means of information about the enemy. Consequently we must order our outpost cavalry, as well as the half squadron at Oakley, to maintain contact with the enemy while the infantry is withdrawing, and place them under orders of the officer commanding the cavalry regiment, who will be the best authority for deciding on their further employment. The latter officer will have to play an important rôle during our retirement. The rear guard—says the question—has lost touch with the enemy's infantry. With that piece of intelligence we cannot content ourselves; it is absolutely necessary to make every endeavour to find out how far behind his cavalry the adversary's infantry follows, and whether it follows at all. Should we neglect to possess ourselves of information on this point, we run the risk that the enemy continues the pursuit with a mask of cavalry only, while his infantry remains behind or takes quite another direction. The spectacle of a strong body of infantry retiring before a few cavalry regiments is certainly one so little elevating as to justify the utmost exertions for ascertaining the whereabouts of the hostile infantry.

That settles the principal task for our cavalry; the detailed execution of it must of course be left to the officer commanding our squadrons. A demonstration against the left flank of the hostile cavalry, executed with a view of drawing off the enemy's attention from the patrols that will have been sent round his left flank and rear, is one of the various means that may be adopted; anyhow, on whatever action the O. C. cavalry decides, we can materially assist him in his advance and his eventual retreat, by placing the troops at Oakley and the battery Royal Horse Artillery on the northern extremity of the spur close west of Oakley, and by allowing him to ask for support from these troops.

The distance between Millbrook and Ordsall is approximately 4 miles, and since the rear guard has to follow the main body at this distance the rear guard will march off at the same time as the

main body leaves Ordsall, i.e. at 7 A.M., the engineers half an hour earlier, and still earlier the baggage, so that the latter marches practically a short distance in rear of the main body. The length of the main guard is about $\frac{3}{4}$ mile; in case of an advanced guard this length would practically settle the distance between vanguard and main guard, but the same rule does not apply to a rear guard, when these distances are usually increased; in our case pure tactical considerations will determine how far the vanguard follows behind the main guard. Hostile artillery placed near Oakley could shell our retreating main guard till the latter has passed the junctions of roads about 700 yards north of hill 446, consequently the troops at Oakley must not withdraw till this point is passed, i.e. the vanguard must follow $1\frac{1}{2}$ miles in rear of the main guard. Since the vanguard comprises different units it must be placed under the command of one officer, and it is also advisable to indicate the point where these troops have to concentrate, since, otherwise, we are not absolutely sure the O.C. vanguard does not withdraw the garrison of Oakley with the battery Royal Horse Artillery, say, for instance, to Millbrook, thus leaving temporarily our left flank unprotected, though such a tactical error is not likely to be committed by an officer of some experience. It goes without saying that the mounted infantry remains under the orders of the officer commanding the cavalry, and it is equally unnecessary to mention that the vanguard will be accompanied by its full complement of ammunition.

We have now to consider the position of the officer commanding the rear guard. When a rear guard pursued by the enemy is compelled to make a stand, it will usually deploy on a position near to the leading troops, i.e. those that are furthest away from the enemy; this, anyhow, is the natural proceeding, and will always be the case if the adversary pursues closely, because, should the troops deploy on the vanguard the main guard would have to turn about, and would have to march back while the enemy is advancing at the same rate, and consequently there would be every chance that the contemplated rear guard action becomes practically an encounter. It will be now evident that the commanding officer of a rear guard must be the first on the position where he wishes to make a stand, and therefore he must march ahead of his troops, i.e. furthest away from the enemy. As it happens that in our case the rôle of delaying the enemy falls upon the vanguard only there

is no reason to adhere too strictly to this rule; the officer commanding can march either ahead of the main guard or in rear of it, both are right.

We have now finally to consider when our orders shall be issued. Our main guard will march off at 7 A.M., engineers and baggage earlier; consequently the final orders must be issued at 6 A.M. Up to this hour the cavalry patrols—according to the assumption of our question—will report that the dispositions on the hostile side remain unaltered; consequently the officer commanding will be justified in drawing the conclusion that if the enemy has not attacked till this hour he will not have his infantry at hand, and since now, at broad daylight, the ground in front is completely exposed to view for a distance of about 3 miles, and perhaps for even more to the troops in Oakley, and as therefore a surprise on the part of the hostile infantry is excluded, the officer commanding the rear guard will run little or no risk when issuing at 6 o'clock orders for all his troops. Naturally it would not be a mistake to give separate and consecutive orders to baggage, engineers, main guard, vanguard and cavalry. The latter must be started in such time that it can make its demonstrations against the enemy's left flank before the troops at Oakley and the battery Royal Horse Artillery are compelled to march off.

The final orders will be :—

REAR-GUARD ORDERS BY

ROAD JUNCTION 400 YARDS
NORTH OF MILLBROOK.

2nd May, 6 A.M.

SUBDIVISION OF TROOPS.

Sent Ahead.

Major O.

1 company Royal Engineers and
8 troopers.

Main Guard (in order of march).

8 troopers.

4th and 3rd Battalion.

2 batteries Royal Artillery.

4 companies 2nd Battalion.

4 troopers.

Vanguard.

Colonel N.

12 troopers.

4 companies 2nd Battalion.

1st Battalion.

Battery R.H.A.

Rear-Guard Cavalry.

Colonel E.

1 regiment (less 32 troopers).

1 company Mounted Infantry.

Verbally to Os.C. Units.

In writing to O.C. Outposts,
detachment at Oakley, and baggage.

(1) No new information about the enemy has been obtained. Our main body will be clear of Ordsall
7 A.M.

(2) Our rear guard will follow the main body, marching viâ Barton.

(3) The baggage, escorted by 1 section 4th Battalion, will march off at once.

(4) The engineers will march off at 6.20, and prepare the bridges over Barton River north of Barton and inside Worsley Wood for demolition.

(5) The main guard will start from its bivouac at
7 A.M.

(6) The vanguard will follow the main guard at a distance of $1\frac{1}{2}$ miles, and will delay the enemy when he presses forward.

(7) The outpost infantry will hold their positions as long as consistent with their being formed into column of route. The outpost cavalry, as well as the cavalry at Oakley, will continue to observe the enemy, and will receive further orders from Colonel E.

(8) The infantry at Oakley, when joined by the battery R.H.A., which will at once advance to this place under escort of the cavalry, will occupy a suitable position in the vicinity of Oakley, to be indicated by the O.C. cavalry, to provide a pivot for the demonstration of the latter. This support of the cavalry must not delay the retreat.

(9) The rear-guard cavalry will at once advance and demonstrate against the hostile cavalry, with the object of ascertaining at all costs where the hostile infantry is. Touch with the enemy's infantry must be maintained if once established.

(10) The G.O.C. rear guard will march ahead of the main guard.

By order,
X., *Staff Officer.*

PROBLEM No. 8.

(MAP B.)

A CONVOY of 50 military four-horse wagons, escorted by—

- 2 Battalions,
- 2 Squadrons,
- 1 Battery Royal Artillery,

returning to its own Division, which has halted 1 mile north of Benson, is bivouacing for the night 24th–25th of May, close to the northern exit of Rushall, after having requisitioned in the country south of that town; and since a hostile division was supposed to be moving from the south towards Cosham, the officer commanding convoy has thrown out an outpost line on the front Widnes Hill 329, west of Rye, furnished by the 1st battalion and 2 troops cavalry. At 7 P.M. on the 24th the officer commanding outposts reports:—

“Hostile infantry picquet occupies the N.W. exit of Dunster, from where an outpost line extends towards east. Inhabitants state that a strong hostile column of all arms is bivouacing around Cosham, where it arrived at 6 P.M. to-day.”

What orders will the officer commanding convoy issue for his march on the 25th?

The country is friendly.

SOLUTION.

In civilised warfare the escort of a convoy usually divides itself into two distinct parts. The smaller part, principally composed of infantry and a few cavalry, marches with the convoy itself, while by far the larger portion is used for tactical purposes, and constitutes an intervening body between the enemy and the convoy itself, consequently will march in front of the convoy if its front is threatened, on the right or left flank if danger threatens from those quarters, and will march in rear if the enemy follows the convoy.

Evidently next morning our convoy must try to cross the River Huyton by Benson Bridge, consequently will have to make a flank march, therefore the bulk of the escort must cover the right flank of our convoy. The country is friendly, consequently no interference with our convoy on the part of the inhabitants need be feared; we can also safely assume that up to the present the enemy is ignorant of the presence of our convoy, for were it otherwise he certainly would have doubled back the left flank of his outpost line to face Rushall; and this assumption derives additional strength from the fact that the enemy arrived at Cosham only one hour ago, probably after a long march, and consequently in need of rest for man and animal. This consideration will bring us to the conclusion that an ambush on the part of the enemy does not lie within the limits of probability, to say the least. Consequently, the troops marching with the convoy itself should be as weak as possible. It will be sufficient if we detail 2 companies—one to form an advanced guard, the other to form a rear guard—and a few troopers to be used by the officer in charge of the convoy to communicate with the troops covering the right flank of the convoy. The wagons being military ones, driven by trained and disciplined drivers, there is obviously no need to detail any troops to supervise the drivers, a measure that would be absolutely necessary were the drivers civilians. The remaining troops of the escort will now be thrown out to cover the right flank of the convoy. As it will frequently happen that this covering body will start as an advanced guard, will become a flank guard, and eventually follow as a rear guard, it is not advisable to use for it the corresponding name, viz. advanced guard, rear guard, flank guard, as this would necessitate a change of terms during the actual operations, but to employ for it an expression covering all these functions: the simplest is to retain for it the term "escort."

We now have to consider the route for the escort and the convoy itself, and we shall be aided in deciding on it by asking ourselves which direction, taken by the enemy if he advances next morning, would imperil our convoy most?

It is evident that should the enemy advance upon Rushall itself, little danger would threaten the convoy, as it will have quitted that place long before the enemy arrives. It is different should the enemy endeavour to gain the valley of the Wye Stream,

as in this case he would head our convoy, being nearer to Benson Bridge than the convoy itself. The enemy can advance into the valley of the Wye either *viâ* Dudley and Bottisham, or *viâ* Sandside and Hyde cross roads. The advance *viâ* Tenby and Newick need not be considered, as in this case the enemy would march behind our convoy, therefore, at the best would drive us towards our division, consequently the object of our escort will be to prevent the enemy from advancing upon Bottisham or Sandside. The ground which is most suitable for opposing the advance in either direction is evidently hill 527, north-east of Kenley; therefore this will be the first objective of the escort. The convoy itself must march so far north of the escort as to exclude any danger of its coming under the fire of the hostile guns; consequently the convoy can either march *viâ* Weston, Tenby, Sandside and Hunslet, or *viâ* Newick, Wye and Hyde. The latter route is preferable, because it leads over less steep gradients than the former; it is farther from the escort, consequently the presence of the convoy is less likely to be detected by hostile cavalry, while in point of length both routes are about equal. The greatest advantage of the northern road, however, is that it is farther from our escort, because, even should the latter be compelled to give way before a superior enemy before our convoy is in safety, it could occupy intermediate positions, delaying the enemy's advance by fighting rear-guard actions. One thing is evident, namely, that in civilised warfare the convoy must be kept moving. To park the convoy and to defend it, in the same manner as it is done in savage warfare, would invariably bring about its capture, as a few hostile shells and even long infantry fire, hitting the teams, would very soon render the convoy immovable.

We have now to consider the details of our orders. Will it be advisable to give out one separate order for the assembly of the troops this evening, and a separate order for the march next morning; or can we also give separate final orders for the march at once? As pointed out, the enemy seems to be unaware of the presence of our convoy, and besides, we must start anyhow so early to-morrow morning that the enemy has no reasonable chance of coming in collision with our convoy should he start at the usual time for continuing a march, namely, one hour after day-break. These considerations justify the final order for the march being given out this evening; however, there is one precaution

which should be taken at once. Our cavalry patrols have come in contact with the enemy ; should they, in case of hostile patrols advancing to drive them back, retire on Rushall, there is every chance that they will draw the attention of the hostile cavalry towards our troops. Consequently the officer commanding convoy will at once despatch the following order to the officer commanding outposts :—

RUSHALL, 24th May.

7.5 P.M.

Your cavalry to keep in contact with the enemy, but should he send his own cavalry against them they must on no account retire on Rushall, but take a northerly direction and report *viâ* Wye.

By Order,

Staff Officer.

Sunrise in May is about 4 A.M. At 5 A.M., therefore, the enemy can re-commence his march ; at this hour the convoy should have reached Wye. The distance from Rushall to Wye is approximately 5 miles. As the wagons of our convoy are military ones we can allow 3 miles per hour. Consequently, our convoy will start from Rushall at 3.20 A.M. Taking the windings of the roads into consideration, we shall find that the distance from Rushall to Hill 527 is approximately 5 miles too, and if this hill is already occupied by our escort when the convoy reaches Wye, it is evident that the amount of resistance to be offered in case of attack will be only a comparatively slight one ; as a matter of fact, the action would closely resemble that of a rear guard. Consequently, the escort will start at the same time as the convoy, and will march *viâ* station 1200 yards east of Rushall, Tenby and Kenley. This march partakes of the character of a flank march ; it is therefore paramount that as long as possible it should remain concealed to the enemy ; consequently our escort cavalry will receive strict orders to reconnoitre towards the enemy by officer patrol *only*, who must carefully avoid drawing the enemy's attention towards our march. Should the enemy show any indications of resuming his march so early that he could reach hill 527 before, or simultaneously with our escort, the cavalry should be sent on ahead to hold this hill dismounted. Whether the hill will have to be occupied by our troops, or whether they will merely assemble in "Rendez-vous" formation at its northern slopes, will naturally depend on the enemy ; should he show no indications to advance, naturally it would be a mistake to deploy our troops, as

this step cannot but draw the enemy's attention towards us. On the other hand, should he advance or be already on the march, an action is unavoidable, and the latter alternative is of course much more likely to happen than the former.

Our outposts can be concentrated at the road junction 400 yards north-west of Widnes in time to join the main body of our escort, while the outpost cavalry already in contact with the enemy is best assembled at a later period by the officer commanding cavalry, under whose orders it will be placed at the moment this officer starts from Rushall.

The following will be the final orders :—

CONVOY ORDERS BY COLONEL O.

SUBDIVISION OF TROOPS.

RUSHALL, 24th May.
7.45 P.M.

Escort Cavalry.

Colonel F.

2 squadrons less
1 troop.

Advanced Guard.

Colonel O.

4 companies 2nd Battalion.
1 section Cavalry.

Main Body (in order of march).

1 section Cavalry.
2 companies 2nd Battalion.
Battery R.A.
1st Battalion.

Convoy.

Major F.

2 companies 2nd Battalion.
2 sections Cavalry.
Convoy.
2nd line of transport.

(1) Hostile infantry picquet occupies the north-western exit of Dunster, from where the outpost line extends towards the east. Inhabitants state that a strong hostile column of all arms is bivouacing around Cosham, where it arrived at 6 P.M. to-day.

(2) Our convoy will continue its march to-morrow.

(3) The escort cavalry will be clear of the eastern exit of Rushall by 3.10 A.M. to-morrow. Will advance *viâ* station east of Rushall and Tenby to the northern slopes of hill 527. It will observe the enemy by officer patrols *only*, and must carefully avoid drawing the enemy's attention. Should the enemy show any indication to possess himself of hill 527 before it can be reached by our infantry, the cavalry must go ahead and hold it dismounted.

(4) The advanced guard will be clear of Rushall by 3.15 A.M.

(5) The main body will start from Rushall at 3.20 A.M.

(6) The outposts will be concentrated at the road junction 400 yards N.W. of Widnes at 3.45 A.M., but will not withdraw earlier than necessary to join the main body. The outposts' cavalry will remain in contact with the enemy, and will be placed under the command of the O.C. escort cavalry when the latter starts from Rushall.

(7) The convoy will start from the northern exit of Rushall at 3.20 A.M., and will march *viâ* Weston, Newick, Wye and Benson Bridge. Major F. will report at once should any delay occur, and also when Wye and Benson Bridge have been reached respectively.

(8) The O.C. convoy will march with the advance guard.

Verbally to assembled officers.
In writing to O.C. Outposts.

By Order,
Staff Officer.

In the above orders the distribution of the troops allotted to the convoy itself is naturally left to Major F., who will probably march one company in front of the convoy, another company in rear of it, distributed as laid down in the 'Infantry Drill,' section 153; the distance between the main body of the escort and the advance guard is decreased by five minutes, or a quarter of a mile, because the sooner height 527 is occupied by the escort the better it will be.

Our arrangements will of course not procure the safety of the convoy with absolute certainty, but no arrangements in warfare are calculated on the base of certainty, but merely on that of probability. Should, for instance, the enemy advance to-morrow morning earlier than we anticipated, then our plans cannot be executed—say, for instance, that at the time when the advance guard of our escort reaches Tenby the enemy is reported to have already reached Dudley with his advance guard, then our plans will be completely changed. We cannot hope to cross Benson Bridge without running the risk of losing our convoy altogether, consequently the only alternative left is to march the convoy north *viâ* Alton, with the object of crossing the River Huyton below Benson, while our escort will delay the enemy by fighting a succession of rear-guard actions, endeavouring during the retreat to gain the vicinity of Alton.

In the scheme just solved we assumed the country to be friendly, while the direction of the enemy's line of advance was known to us. But supposing we had to escort the convoy from Rushall to our division through hostile country, the inhabitants of which were reported to have taken up arms while nothing was as yet known of the enemy, then the distribution would be a totally different one. While the bulk of our escort would march in the centre of the convoy itself, about one-half of the infantry, consequently one battalion, would have to furnish an advance guard, a rear guard, a right and a left flank guard; each of these bodies might have the strength of two companies and one section of cavalry, while the bulk of the escort cavalry would have to reconnoitre extensively to the front and both flanks, and would also have to secure hostages from all the villages through which the convoy would have to pass.

In the following problem we shall have to deal with the different solution of the convoy scheme.

PROBLEM No. 9.

(MAP B.)

A CONVOY of 100 waggons (four-horse), requisitioned in the country north of Rubery, which is hostile, driven by civilians and loaded with supplies, has halted for the night 22nd-23rd of April 400 yards south of Penge; its escort consisting of 2 battalions, 1 battery, 2 squadrons.

During the march from Rubery to Penge, the convoy has been closely followed by hostile cavalry patrols; consequently the officer commanding has ordered the 1st battalion and half a squadron of cavalry to occupy an outpost line on the front Hyde Cross Roads, Parkley, Wye Farm.

At 6 P.M. the officer commanding outposts reports:—

“Ley, Peak and Peak Farm are occupied by hostile infantry posts. An extensive bivouac has been observed close, west of Alton.”

What orders would the officer commanding the convoy issue, with the view of reaching his own division 2 miles south-east of Cosham?

SOLUTION.

It is evident that in this case our escort will have to act as rear guard, and it is equally certain that the presence of a large hostile bivouac west of Alton threatens our right flank. Consequently, while our convoy will have to start as early to-morrow morning as possible, our escort will have to assemble its principal forces on the road from Alton to Sandside. Since the country is hostile and our drivers are taken from the inhabitants, a proportionately large number of the troops must march with the convoy, therefore we will detail 3 companies to march with the convoy itself, of which 1 company will form an advance guard, 1 company a rear guard, while the 3rd company will be distributed amongst the drivers. To secure the line of march and to procure hostages from the

villages through which the convoy will have to pass, we will have to detail at least half a squadron to precede the convoy. Our outposts will remain in their position until the convoy has a good start; should we withdraw the outposts before our convoy has left Penge, we naturally should betray to the enemy our intentions to march off, with the equally natural result that the enemy will at once start in pursuit and imperil the safety of our convoy.

The following orders will explain our dispositions:—

CONVOY ORDERS BY COLONEL W.

BIVOUAC 400 YARDS SOUTH OF PENGE.
22nd April, 6.30 P.M.

(1) Hostile infantry posts occupy the front Ley, Peak and Peak farm. A large bivouac is visible west of Alton.

(2) Our convoy will continue its march to-morrow.

(3) The convoy and the 2nd line of transport, escorted by 3 companies of the 2nd Battalion and half a squadron of cavalry, under command of Major A. will be clear of our present bivouac by 4.30 A.M. to-morrow, and march *via* Sandside, Sandy Farm, Kenley, Dudley, Dunster and Cosham. Major A. will send the bulk of his cavalry ahead to procure hostages from all the villages through which the convoy passes, and inflict the severest punishment on the inhabitants should they endeavour to interfere with our convoy.

(4) At 4.30 A.M. to-morrow our cavalry will send patrols towards Alton and Ley and ascertain the strength of the enemy.

(5) At the same hour our artillery and the remaining 5 companies of the 2 Battalions will start from our bivouac. The artillery and 1 company will march to hill 362 (N.E. of Penge) while the other 4 companies will advance and occupy the northern edge of the wood quarter of a mile west of Hyde.

(6) The outposts will hold their ground in case of attack.

(7) The O.C. will be with the guns.

By Order,
X., *Staff Officer.*

Verbally to assembled officers.

In writing to O.C. outposts.

PROBLEM No. 10.

(MAP B.)

A DETACHMENT of 1 Infantry Brigade,
 1 Cavalry Regiment,
 2 Batteries of Field Artillery,
 1 Company Royal Engineers,

has been advanced by an eastern force, with orders to delay the advance of a hostile western force on Huyton River, which will be crossed by the main body of the eastern force late in the afternoon of the 3rd of May. For the night of the 2nd-3rd May, the detachment is partly bivouaced, partly billeted in and around Upper Bottisham, covered by outposts, and here the general officer commanding the detachment has learned that the hostile bodies are expected to reach Weston in the morning of the 3rd; he therefore has started his force early on the 3rd, *viâ* Hunslet and Sandside, covered by an advance guard of 1 battalion, while the cavalry has been sent on ahead independently.

At 5.15 A.M. on the 3rd, when the main body of the detachment has just reached Hunslet, the officer commanding the cavalry reports:—

“Hostile cavalry patrols encountered on the line Penge-Widnes, fell back before our cavalry. Two hostile squadrons are trotting *viâ* Weston Court to Weston. A hostile battalion has just reached Weston Court, marching in the same direction as the hostile squadrons.”

An officer patrol reports from Hill 422 (north-west of Newick) having observed one mile west of Weston Court a hostile bivouac of 4 to 5 battalions and 2-3 batteries, apparently preparing to march.”

Ten minutes later the same officer reports:—

“The two hostile squadrons fell back on the approach of our cavalry. The hostile advance-guard battalions will reach Weston in five minutes. The hostile main body is advancing in the direction of Weston.”

What does the general officer commanding the detachment decide to do? Give the orders he would issue, and reasons for the same.

SOLUTION.

Before deciding on the measures to be adopted by the detachment, we shall first have to ascertain where our troops are in column of route.

The order of march of the main body will be : a few cavalry orderlies, 1 battalion, 2 batteries, 2 battalions, the 4 machine guns, the company of Royal Engineers and the Bearer Company. Taking roughly $\frac{1}{4}$ mile as the length of the battalion, another $\frac{1}{4}$ mile for the Bearer Company and the Royal Engineers, and about $\frac{1}{3}$ mile for the 2 batteries and the machine guns, we shall get a total of over $1\frac{1}{4}$ mile, or say roughly, $1\frac{1}{2}$ mile, as the length of the main body. It is therefore evident that the rear of the main body will be still at Bottisham. Taking the distance between the advance guard and the main body as being the same as the length of the column of the latter, we shall find that our advance-guard battalion will be already at Sandside. Of course a different distribution of the column might have been assumed, as, for instance, the Engineers marching with the advance guard, but that would not materially alter the length of the column. Still less would this be the case had one machine gun accompanied the advance-guard battalion.

As soon as the first report of the cavalry is received, the general officer commanding will trot forward to join the advance guard, and will broadly decide on his plan of action. That he will have to occupy a defensive position is evident in the face of the superiority of the enemy. The question which arises is, what position will he occupy, and how far shall he go to the front? The nearest position that presents itself is marked by hill 488 (south-east of Hunslet), and hill 527 (north-east of Kenley). This position is evidently unsuitable, because it does not cover the bridges over the River Huyton. A somewhat better position would be the ridge west of Hunslet, the principal disadvantage of which would be that its left flank is commanded. The third position is hill 383 (north-east of Sandside); this position offers no protection for the left flank, and is commanded by the heights west of Sandside. The last position eventually is the ridge west of Sandside marked 415, 421, 417; while the sloping ground north and south of this ridge offers fair opportunities for flank defence, it must be admitted that it is too extensive for our detach-

ment. Further to the front we cannot go without risking an encounter with the enemy while still on the march. None of the positions just enumerated are so strong as to justify certain hope of success. Consequently, the general officer commanding will come to the conclusion that in order to delay the enemy until the afternoon, when the main body is expected to reach Huyton River, he must occupy as forward a position as possible, so that in case the enemy proves too strong to be defeated by defensive action he can fall back, occupying successive positions as he retires. But it is by no means to be assumed that the officer commanding will at once decide to fight rear-guard actions, as the strength of the detachment in comparison with that of the enemy—provided that the reports which have been received prove true—is such as to give no reasonable chance of success; and besides, even if he occupies the most advanced position, that is to say, the heights west of Sandside, he is after all only 3 miles in front of the river. Consequently, by pure rear-guard fight he could never hope to succeed to delay the enemy's advance till the late afternoon, or from 12 to 14 hours. He therefore determines to occupy and defend stubbornly the ridge west of Sandside. The question now arises, how does he occupy this position? When examining the ground we shall find that the left flank is well protected, first by the village of Tenby, forming a suitable pivot for flank defence; secondly, by the open ground sloping towards Tenby Brook.

It is different with our right flank: the enemy can advance to Newick and form up there under cover, and threaten our right flank; while heights 369 and 368 decidedly limit our frontal fire.

Where are our troops when the last report of the cavalry has been received? In ten minutes $\frac{1}{2}$ mile will be marched; consequently the head of the main body will have reached the cross roads $\frac{1}{4}$ mile west of Hunslet, while the rear of the advance guard will be at the cross roads 600 yards west of Sandside, with its leading troops approximately half a mile in front. Assuming that at this time the general officer commanding the detachment reaches the advance guard, it is evident that no, or very little, choice will be left as regards the deployment of the latter. It simply must occupy the nearest position at hand to bar the enemy's advance; that means it must deploy between Tenby and the Abbey, and it will be safe for us to assume that the officer

commanding the advance guard will have initiated this movement on his own account. Here, our advance guard will soon become engaged with that of the enemy, and it is the deployment of the main body that we shall now have to consider. Our advance guard, being of equal strength to that of the hostile advance guard, will be quite able to hold its own. In which direction the enemy's main body will eventually advance we cannot possibly know ; but, looking at the ground from the enemy's point of view, it will be seen that an attack *viâ* Newick offers much better chances to him than a flanking movement directed against the south-west border of Tenby. To make it clear what this latter movement would mean, we must bear in mind that the enemy's troops could not march *viâ* Weston, since here they would become exposed to the fire of our artillery, and troops cannot make a flank march when exposed to effective artillery fire. Consequently, should the enemy contemplate making his flanking attack against Tenby, he would have to direct the troops destined for its execution on Weston Farm before they reached Weston Court. It will be now quite clear that the enemy will prefer to direct his main attack against our own right flank, since this movement will, in the first instance, require less time ; secondly, will give more cover to the enemy ; and lastly, will threaten our own line of retreat. The details of this advance we cannot possibly anticipate, but one thing is quite certain—namely, the flank attack of the enemy must be so close to the front attack that support can be given to the latter ; and we will not greatly err if we assume that the first troops of the flank attack will advance to the south of Newick, because his intention naturally must be to draw first of all, all or nearly all of our battalions into the first line. Once he has attained this, then a comparatively small force will suffice to reach and to fall into our flank.

These considerations suggest the counter measures to be taken on our part, and we may say that the guiding principle for our detachment will be : not to let its troops be drawn into the front line too soon. Consequently, when the enemy commences to prolong his front towards our right flank, only such troops will be deployed as are absolutely necessary for opposing him ; and since we are acting on the defensive, we can hope that we shall be able to do so with troops inferior in point of numbers to those of the enemy. Only then shall we be able to make up for the

superiority of the enemy. It will now be clear that at the commencement we shall not deploy more than the advance guard battalion, which will take up a position between the Abbey and Tenby, and will occupy Tenby itself, say by one company. That will be the first order of the general officer commanding the detachment. Then, of course, he will order his artillery to advance. The first object of the latter will be to compel the enemy to quit the road and to deploy, and as the enemy's main body is reported to be on the march to Weston Court, the first position of the artillery will be close north of Tenby; but that may be by no means the final position. The latter will depend on the position occupied by the enemy's guns.

When the main body arrives, the officer commanding will order one battalion to form up in rendezvous formation about 150 yards south-east of hill 421, with the view of reinforcing the first battalion should the enemy reinforce his own advance-guard battalion. This battalion will at once occupy the Abbey with two companies, which troops will place it into a state of defence, assisted by a party of engineers. This building lies in a hollow, and will be exposed to hostile infantry fire only when the latter are within 400 yards of it, while hostile troops can be effectively enfiladed from the Abbey when descending into the valley of Penge Brook. The Abbey therefore is an important point. The third battalion will be drawn up in quarter column close west of the cross roads 600 yards west of Sandside; while the fourth battalion will halt in similar formation close to the centre of the western border of the wood north of Sandside. In this formation we will have to wait till the enemy gradually develops his attack.

Let us imagine that the enemy reinforces his advance-guard battalion with another battalion, then our 2nd battalion will have to increase the garrison of Tenby, say by two companies. We will assume that later on we hear that two hostile battalions have deployed to the south of Newick, their right flank being directed on the Abbey; then our 3rd battalion will advance and deploy, its left commencing 100 yards due north of the north-east corner of the Abbey, its right stretching as far as 400 yards due north of its left. Our position would now be as follows: 1st battalion, 3rd battalion and half of the 2nd battalion deployed as the first line; the remaining half of the 2nd battalion in rear of the centre of our first line, ready to support

any weak point of it ; while the 4th battalion would still form an intact reserve in rear of our right flank.

Now let us again suppose that a hostile reserve battalion is seen advancing north of Newick ; then two courses are open to us, either part of the 4th battalion advances and prolongs the front of the 3rd, or the hostile battalion will be permitted to advance into the valley of the Penge, to ascend its eastern slopes, and when its own left flank approaches hill 417, our 4th battalion will advance and counter-attack its flank (see Infantry Drill Book, p. 122, No. 8).

The above may be taken as the general description of the events as they might happen. Three points will probably strike our reader, namely, the retention of by far the greater number of our troops in reserve ; second, the inability of the troops of throwing up any, or at all events only the slightest, entrenchments ; thirdly the complete dependence of our final deployment on the direction chosen by the enemy.

As regards the first point, we may put it down as a principle that the less our flanks are protected the stronger must be the reserves which will be retained at the commencement ; and *vice versâ*, the stronger the protection of our flanks the stronger can be our first line, and the comparatively weaker our reserves.

Perhaps one question will suggest itself to our readers, namely, are these reserves second or third lines ? The answer is, they are both. The second line is actually nothing else but part of the first line, originally retained in reserve with the view of meeting frontally any contemplated flanking attack on the part of the enemy. Its strength will therefore depend on the security of the flanks ; thus, for instance, if both flanks were absolutely secured, the necessity for a second line, as far as the protection of the flanks goes, would cease to exist. The third line, according to the Drill Book, is meant to assume the offensive, that is certainly, from a theoretical point of view, a thing most desirable ; but I venture to say that, in the defence, no commander can foresee at the commencement whether he shall be able to pass eventually from the defensive to the offensive. We need only imagine that the whole of our second line has been used up in opposing flanking movements, while the enemy still continues to threaten our flanks with fresh troops, then evidently the third line too will be used up for meeting such movement on the part of the adversary, consequently, will eventually become a second line, and we shall be thrown back on the passive defence

Of course, should the enemy's flanking movement have come to a standstill, and should he have no more troops with which to continue it, while we find ourselves the happy possessors of intact reserves, then we shall assume the offensive with them.

From these considerations it will be clear that the suggestion of affixing an approximate strength to the second and third lines cannot possibly be met, and it is decidedly right if the strength of these respective lines is left open in the Drill Book.

As regards entrenchments, it must be admitted that in defence, troops which are destined for the defence of the flanks will have little or no time available for throwing up any shelter; that will be especially the case with small detachments where the flanks must quickly adapt themselves to the hostile advance, and where the initiation of a flanking movement on the part of the enemy naturally takes place a comparatively short distance from the position. It is different with large bodies such as army corps and armies, in which case flanking movements are, as a rule, the natural development from the line of route allotted to the divisions or corps.

We shall have now to consider what use we shall make of the other troops at our disposal. The cavalry, of course, will receive orders to keep in observation of the enemy, and to report any of his movements; that is the most important duty of the cavalry, as the final deployment of our troops will be based directly on these reports furnished by our regiment. If the enemy has advanced so close that there is no more room for our cavalry between the attacking and defending infantry, then the cavalry will concentrate on our threatened flank, where at the decisive moment it may have to throw its weight into the fight. Throughout the action, however, small patrols should carefully observe both hostile flanks, especially with the view of giving timely notice, should the opponent receive any reinforcements. Our machine guns will go with the 4th battalion, which forms our last reserve. To place machine guns into the first line of defence is, in civilised warfare, decidedly a mistake. In the first instance, these delicate weapons exposing themselves to infantry and artillery fire for a long period, are bound to become sooner or later disabled, and even should that not be the case, are we certain that sufficient ammunition will always be forthcoming during a fight that lasts for hours?

In civilised warfare, machine guns ought to be looked upon as

the last fire reserve, and therefore must be with the last reserve, to be employed only at the final struggle ; and if we keep back these weapons till this last period of the fight is reached, then, I believe that, also in civilised warfare, machine guns would prove to be of the greatest possible value. For instance, in our example let us imagine that the enemy has compelled us to throw three battalions into the first line, let us imagine that he continues to threaten our right flank with fresh troops, and that even part of our last reserve has been compelled to oppose him by meeting his flank attack with a new front, and that he is joined by still more troops on his left flank, advancing to envelop our right, let us imagine that these troops are commencing to ascend the eastern slopes of Penge Brook, south of Penge itself, then the time will come for our machine guns to act. While our last companies are thrown forward to counter-attack the enemy's left as it threatens to envelop our own right, the machine guns will be brought into action, say at the northern slopes of hill 417, and will now bring an overwhelming fire to bear on the enemy ; and if machine guns are used in this way at the last phases of the fight, coming upon the enemy as a surprise, their effect cannot but be most demoralising for him.

Our engineers will be principally used to place the Abbey into a state of defence, and they will be able to continue this work for some time, since the Abbey, being situated in a hollow, cannot form a target to the enemy's infantry until they reach the ground 400 yards west of the Abbey.

The following will be our orders :—

DETACHMENT ORDERS BY GENERAL O.

HILL 421.

3rd May, 5.30 A.M.

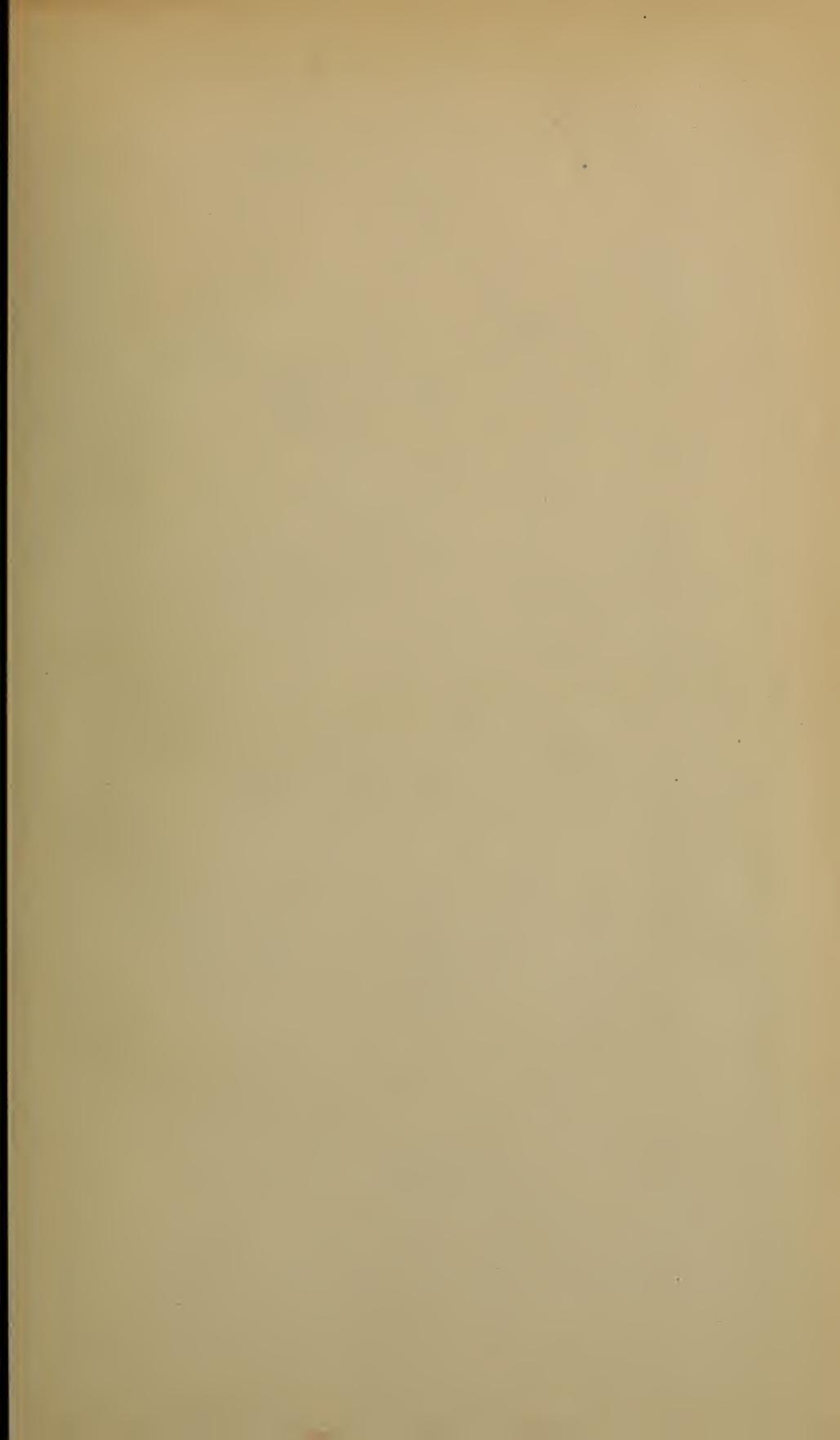
- (1) Two hostile squadrons fell back from Weston on the approach of our cavalry; a hostile battalion has reached Weston; a hostile column of 4-5 battalions and 2-3 batteries are advancing in the direction of Weston.
- (2) Our detachment will occupy the line Tenby—the Abbey; the order of march is now dissolved.
- (3) The 1st battalion will at once entrench itself between the Abbey and Tenby, and will occupy the south-west border of Tenby with 1 company.
- (4) The batteries will at once come into action close north of Tenby, and compel the enemy to deploy.
- (5) The 2nd battalion will assemble 150 yards south-east of hill 421, and will occupy the Abbey with 2 companies, which will place it in a state of defence. The 3rd battalion will assemble close west of the cross roads 600 yards west of Sandside. The 4th battalion will assemble close to the centre of the western border of the wood north of Sandside. The machine guns will be with the 4th battalion.
- (6) The cavalry will keep in close contact with the enemy; will report at once the initiation and the progress of any flank movement; will eventually cover our threatened flank, while patrols advancing around both hostile flanks will give timely notice should the enemy receive any reinforcements. The cavalry marched with the advanced and main body will be now at the disposal of the G.O.C. close east of hill 421.
- (7) The company of Royal Engineers will at once assist the garrison of the Abbey in making this place defensible; having done this they will cut a road through the wood north of Sandside about 450 yards north of and parallel to the road leading through Sandside to Newick.
- (8) The bearer company will establish a dressing station at Sandside.
- (9) The baggage will at once start from Bottisham to Ludlow, and will halt when they have reached this place. The field hospital will establish itself at the road junction half a mile north-west of Upper Bottisham.
- (10) The G.O.C. will remain with the artillery.

By Order,
X., *Staff Officer.*

Verbally to assembled officers.

In writing to O.C. cavalry.

By orderly to O.C. trains and transport.

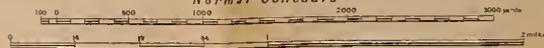


Map B.



Scale 3 inches to 1 mile.

Normal Contours



U 312 .B87 1899

U 312 .B87 1899
B urde, J.
Problems in applied tactics,
with solutions

#17199136

Library of the Marine Corps



3000241457