

CONFIDENTIAL.

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# Canadian Handbook for Scouts, Observers, and Snipers.

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*Compiled by*  
**MAJOR N. A. D. ARMSTRONG.**

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FRANCE, April, 1918.



LONDON :

Printed for the Overseas Military Forces of Canada, by  
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CANADIAN WAR MUSEUM  
MUSÉE DE GUERRE DU CANADA

J. J. MacInnes #1412

Royal Military College

Canada

February 1920.

### DEFINITIONS.

1. SNIPER.

Expert rifle man "Out to kill" Highly trained in observation and the use of ground. Equally valuable in trench and open warfare.

2. SCOUT.

A man trained to observe and procure information. He should not use his weapon except in order to achieve his mission.

## INTRODUCTION.

It is hoped that these notes may be of some value to Battalion Intelligence Officers and others who are primarily responsible for the training of Scouts, Observers and Snipers.

It is realised that the notes are by no means complete, but they may form a basis for instruction.

It is the experience of many Officers to suddenly find themselves appointed Battalion Intelligence Officer, or Scout Officer, or Sniping Officer, frequently without any previous knowledge of the duties required of them, but they are expected to immediately carry on with the training of the Scouts and Snipers under their new Command ; for this reason, and also on account of the immense importance of scouting and the obtaining of accurate information, and the importance of sniping, particularly during offensive operations, and also in order to co-ordinate the training in the Canadian Corps at the front and in England, these notes have been compiled.

CHAPTER I.  
ORGANISATION AND DUTIES OF BATTALION  
INTELLIGENCE SECTION.

**1. Organisation.**

1 Officer (And if possible an Assistant Officer, particularly during offensive operations, who shall be known as Scout Officer).

5 N.C.O.s.

24 Men.

As follows :

1 Officer.

1 Sergeant.

1 N.C.O.

1 ditto

1 ditto

1 ditto

6

3 Men for O.P. by day.

3 Men for O.P. by night.

4 Snipers.

4 Observers.

10 Scouts.

24

Total 30

The Section to be excused Battalion duties such as  
Guards  
Fatigues

but at the same time realising there are certain occasions when this cannot be adhered to.

The Intelligence Officer to have entire charge of section for discipline, rations and clothing.

Section should be billeted together and live in dugouts by themselves.

**2. Duties.**

INTELLIGENCE OFFICER :

(1) Arrange for the collection of intelligence from all sources.

(2) Supervise and arrange the duties of the Section.

(3) Collate the information and frame the report for the Brigade.

(4) Train the Section when in Brigade and Divisional Reserve.

SERGEANT :

(1) To generally assist Intelligence Officer and act as Quartermaster.

(2) To collect information from the Sentries on the Company Posts.

(3) To make regular rounds of O.P. and S.P.

**3. Snipers and Observers.** - Selected Battalion Snipers and special Observers or Spotters will occupy sniping and observation posts behind the lines.

The posts will be built by the snipers and observers who are to occupy them.

These posts must be well concealed.

Map location and sketches of S.P. will be sent to Brigade Headquarters.

**4. Reports.**—The Observers and Scouts must report everything they see and the Intelligence Officer must train the men in reporting. The Intelligence Officer must go carefully over all the reports and pick out the useful from the useless information.

Information should be separated :

Definite and Indefinite.

**5. Training.**—In Brigade and Divisional Reserve the Intelligence Officer will carry on a system of training. No Battalion work should interfere with his arrangements, as the time allotted to the Scout Officer for the training of his section is very limited.

### **INFORMATION FOR SNIPING AND INTELLIGENCE OFFICER.**

**6. Division of Work.**—Battalions are responsible for collecting the information about the ground between our positions and the enemy's position and any obstacles in that area, for locating the position of the enemy's front line and for information about that line.

**7. Brigades.**—Are responsible for locating the enemy's approaches. Support and Secondary lines, and for all information pertaining to those lines, also for the direction from which the enemy's batteries are firing, the position of any forward batteries, and for information concerning movements in rear of enemy's lines.

**8. Forwarding Information.**—(1) All ranks must be impressed with the necessity of forwarding information regarding enemy's movements or special activity or any definite identification to the formation whom it concerns at the earliest possible moment, in addition to including the information in their daily report. When any operations take place which lead to the capture of prisoners or equipment, the identification when possible will be immediately forwarded by wire.

(2) When an attack is in contemplation on any part of the enemy's lines it is essential that men should be specially detailed to go round the enemy's trenches as soon as the assaulting troops are in possession of them and collect any documents that may have been left behind. These men should be selected from Battalion Intelligence Section (if Brigaded or Divisional, then these units would provide the men).

(3) **PATROLS.**—Patrols by the Battalion Scouts should not replace the Company Patrols. These Scouts should still be used for patrol work of a special nature, and for assisting Company Patrols and Bombing Parties. This is important.

(4) **RECORDS.**—Brigade and Battalion Intelligence Officers will keep full records of all information regarding their frontage in the log books provided for that purpose.

(5) Books.—Books for the use of O.P.s should be marked with the name and number of the Post, and Log Book or Patrol Books will be marked with the sector they cover. All these books will be handed over on relief.

9. The Intelligence Section.—Should be thoroughly acquainted with our own defences and organisation.

They must know the location of all Artillery F.O.s, Trench Mortar positions, Machine Gun positions, Sniping Posts, Company Headquarters, Battalion Headquarters, etc.

Lists of these locations will *not* be carried by observers or placed in posts or dugouts.

10. Special Intelligence.—When any unusual activity or any suitable target is observed in the enemy lines, the Post making the observation will report immediately to the nearest unit which can make use of the information.

The fact that the Report was made will be noted in the Daily Report of the Post, giving the time.

## GENERAL REMARKS RE ORGANISATION AND TRAINING.

### 11. Local Conditions.

It has been suggested that :

1 Officer  
5 N.C.O.s  
24 Men

would form a workable unit, but these numbers depend so largely on

#### (1) THE GENERAL SITUATION.

That is to say what opportunities are afforded for sniping in the front and support lines, etc., in front of the line and so on.

#### (2) ENEMY ACTIVITY.

Whether he is aggressive or not and his sniping is good, and he has many sniping positions and has good command of our lines.

From what points in our lines he may be dominated.

#### (3) NATURE OF FRONT.

Whether lines are close or far apart.

If very close sniperscopes will probably be the only available method, unless we at the same time have sniping positions behind on higher ground. If both conditions exist more snipers would be required.

### 12. Must have knowledge of—

When organised, Snipers, Observers and Scouts must have a knowledge of—

(1) Causes of inaccuracy in shooting and defects in the rifle.

(2) Use and care of telescopic sights. There are about 15 different kinds issued.

(3) Observation.— Use of telescope and field glasses. What to look for and how to look for it.

(4) Construction of concealed hides and loopholes.



- (5) Military landscape sketching.
- (6) How to report and what to report. Handing over reports. Imperative to maintain thorough liaison.
- (7) Map reading and map making (trench working maps).
- (8) The reading of aeroplane photographs.
- (9) Fitting up and use of fixed rifles and sniperscopes.
- (10) Use of compass.
- (11) Use and value of protective colour.
- (12) Reconnaissance in sniping, including knowledge of handing over reports—conventional signs—enemy identifications, etc.
- (13) Knowledge of scouting and use of ground.
- (14) Sniping in attack and defence, and in a big offensive.
- (15) The employment of Battalion Intelligence Section before, during and after big offensive operations.
- (16) Night sniping.
- (17) Range practice at stationary and moving targets at ranges from 200 to 500 yards.
- (18) Penetration and use of armour piercing bullets.
- (19) Knowledge of good and defective S.A.A.
- (20) Organisation and duties of the sniping Section.
- (21) Duties of Battalion Intelligence Officer.
- (22) System of Intelligence adopted by Canadian Corps.

### 13. Duties.

- (1) To cause casualties to the enemy.
- (2) To counter enemy's snipers.
- (3) Build O.P.s, S.P.s, and L.H.s.
- (4) Watch and protect our own front by careful observation and accurate shooting.
- (5) Carry out special patrol work when necessary.

### 14. Methods of Working.

- 1. Singly
- 2. Pairs
- 3. Threes

#### (1) SINGLY.

Sometimes impossible to arrange for two.

Usually unsafe to have position for two when out in front of parapet, must keep hides as small as possible when sniping in front. Also when night sniping or stalking.

#### (2) PAIRS.

Wherever the position will allow of it, contour of ground, concealment, etc., it is always advisable to arrange for pairs, particularly if the relief is a long one. It is most trying for one man to observe and snipe hour after hour.

Post men according to their ability, namely :

Some men are good shots at long distances.

Others are good snap shots.

Others are best at observation, etc.

They should not be detailed to posts irrespective of their qualifications.

Posts should be relieved as often as possible . every two hours if it can be arranged.

#### 15. Internal Economy.

- (1) Snipers should have good billets and live together, and endeavour to promote a high state of esprit de corps.
- (2) They should be rationed from Headquarters.

#### 16. Equipment.

Telescopic Rifle (issue 5 per Battalion, and should be increased to 6)  
Telescope or Field Glasses.

Masks (Veils).

Sniper Suits.

Note Book, Pencil and Rubber.

Gas Helmet.

No equipment except cartridges.

Map of enemy's front (and-on no account should map of British front line trench system in detail be carried).

#### 17. Organised Sniping.

Rifles, telescopic sights, sniperscopes, fixed rifles, should all be used.

#### 18. Officer's Special Duties.

- (1) Discipline.
- (2) Training.
- (3) Reconnaissance of his lines.
- (4) Selection of sites for loopholes and sniper posts.
- (5) Inspection of these daily.
- (6) Locating enemy's positions.
- (7) Sites for fixed rifles and sniperscopes.
- (8) Range card.
- (9) Co-operation with—
  - (a) Neighbouring Battalions.
  - (b) Own Artillery.
  - (c) Trench Mortars, etc.
  - (d) Own Scouts if latter a separate organisation.
- (10) Prepare summaries of reports and intelligence.
- (11) Taking over and handing over.

#### 19. N.C.O.s Duties.

- (1) Routine.
- (2) Make out daily rosters.
- (3) Cleanliness of men, arms and equipment. Snipers out of trenches should endeavour to be the smartest men in the Battalion. No slovenly methods should be permitted. Must be punctilious in saluting and in every way should be a credit to their regiments.
- (4) Distribution of rations.
- (5) Supervision of sniping and observation.
- (6) Collecting reports.
- (7) Overseeing construction of loopholes, hides and observation posts.
- (8) Direction and supervision of firing of fixed rifles.
- (9) Taking out Patrols.

- (10) Care of rifles and sights.
- (11) Concealment.
- (12) Reconnaissance and observation.

## 20. Brief Summary of Duties.

Co-operation between snipers on duty is most important. They should work together whenever occasion may arise: this can nearly always be arranged.

They should stalk their man together if possible. Likewise there should most certainly be a little co-operation with snipers in Battalions on either flank.

Sniping Officers in the front line should therefore get together and discuss these matters.

Men in the front line other than snipers should be asked to impart any information which might be important for the snipers to know, viz, a plate might be hit and heard by a sentry or man. This should be reported. It might be accident, it might be design. In any event the sniper would be careful when re-occupying the position.

Sentries could report any targets they might see in the Bosche lines.

## CHAPTER II.

## RECONNAISSANCE IN TRENCH WARFARE.

(The first and most important duty of Intelligence Section when taking over new trenches.)

## METHODS.

## 1. Own Lines.

## (1) BY COLLECTING KNOWLEDGE FROM OTHERS :

The Sniping Officer, his N.C.C.s and men should go in at least 24 hours ahead of their Battalion and take over from the outgoing Battalion and obtain all information possible from Snipers and Scouts relieved as to

## (2) FRONT LINE.

All concealed loopholes used for sniping, and what they cover.

All loopholes spotted by the enemy.

All sniping posts or loopholes in parados.

All dangerous places (loopholes, low parapets, enfiladed trenches, breached parapets, etc).

## (3) SUPPORT LINE.

All loopholes and what they cover.

All positions for fixed rifles, rifle batteries, and what they command.

Observation posts, if any.

## (4) COMMUNICATION TRENCHES AND APPROACHES.

Any loopholes or sniping posts in or near communication trenches.

Points enfiladed by enemy and direction of fire.

Flanks of frontage.

Must know plan of new trenches and be able to find your way about either by night or day to act as guides.

Locate Company Headquarters.

Also Company Sergt.-Major.

Points commanding enemy's line.

All positions for fixed rifles, rifle batteries, and what they command.

## 2. By Periscopes.

Most useful under certain conditions.

When front lines are very close together.

Sometimes the only safe method of observation.

A good magnifying periscope is very useful if snipers are in or near the front line, and if enemy is close.

The greater the magnification so much the better.

The periscope must not be too short, otherwise bullet may penetrate parapet and kill observer (this has frequently happened).

A good small periscope is very useful. It can be easily concealed and can be used in hot places ; also for spotting direction of shot when dummy heads are fired at by enemy.

**USEFUL PERISCOPES.**

Messrs. Graham & Latham's " Piccolo " periscope.

The Ross. Monocle Glass and metal tube.

Messrs. Negretti & Zambra. Monocle glass and telescoping tube.

Messrs. Sinclair's " Una " periscope (2 prism telescopic periscope).

Box periscopes are more suitable for Sentries than Snipers. Men should be taught to expose periscope carefully, see that it is disguised, be careful of background, and avoid flash of the glass.

**3. Telescopes and Field Glasses.**

Used from well-concealed positions behind the lines. Great care should be taken to avoid unnecessary movement or sunlight flashing on lens.

**4. By Systematic and Thorough Observation.**

Take small sections at a time.

Must have observation posts.

Must keep enemy under observation both by day and night.

**5. By Maps and Aeroplane Photos.**

Maps and photos are most necessary, and must be obtained.

They contain valuable information.

Every officer should have a fair knowledge of the system of German entrenchments in front of his position. This can be obtained from photos.

These photos show: Railways, watering places, tracks, bivouacs, trenches, ration rendezvous, vehicles on roads, wire, crossing places, trench mortar emplacements, bridges over trenches and streams, gun emplacements, defensive organisation, closed works, R.E. dumps, buried cables, saps, trees.

**6. Compass.**

For bearings to points or targets in enemy lines.

**7. Behind Lines.**

All sniping posts known or unknown to the enemy.

Find out whether they have ever been shelled or shot at by enemy.

Obtain approximate ranges to targets in enemy lines.

Find out if posts can be relieved in daylight and if so method of approach.

**8. By Own Observation.**

Be careful.

See for yourself.

Reports given to you by others should be treated cautiously.

Watch enemy carefully for first day at least.

Find out if he fires at any loopholes or posts.

Study his attitude and habits.

Must try and get out in front and examine your own loopholes, and see if they are properly concealed (on a foggy or misty morning).

**9. Enemy Lines.**

By knowledge obtained from others concerning:

Targets obtainable.

Where they are.

What places to watch.

Best time to watch for special targets.

Known enemy loopholes.

Known enemy sniping posts.

Places in enemy lines that can be enfiladed.

Enemy movement and general attitude, whether aggressive or retaliatory.

If aggressive they must be watched more carefully than ever.

## 10. Patrols.

Between lines.

### (1) MOST IMPORTANT.

(a) To amplify observation.

(b) To learn exact nature of ground.

(c) To see or feel what cannot in the ordinary way be observed.

### (2) TO PROVE OBSERVATION.

(a) To confirm ideas as to suspicious objects.

(b) To look for enemy's movements by night.

(c) To see by actual observation what one's territory appears like to enemy.

### (3) TO WATCH AND REPORT.

(a) Sapping by enemy (this is most important).

(b) Any encroachment by the enemy of No Man's Land by any means whatsoever.

(c) Examine wire and work done in front of enemy parapet.

(d) To establish position of enemy's listening posts if possible.

(e) To watch for any telephone wires or other means of communication across No Man's Land, etc.

(f) To give timely warning, if possible, of any raid, or to endeavour to stop any raid.

### (4) SPECIAL RECONNAISSANCE.

In my opinion this should be carried out by one man alone, provided he is a good scout and understands his work. It is difficult at the best of times for one man to move without being seen, and any addition to the number only increases this risk.

Disguise should be worn by night as well as by day. It is just as important to destroy outlines by night as by day.

### (5) LISTENING SCOUTS OR PATROLS.

This method of reconnaissance should not be overlooked. Men properly placed can obtain most useful information, particularly if they have knowledge of the German language.

### (6) PRECAUTIONS.

(a) Do not take incriminating documents of any sort with you when on patrol.

(b) Warn everyone concerned before going out.

(c) Have definite boundaries or flanks. Arrange this with I.O. on right and left sectors.

(d) Do not arrange any definite hour of return except under special circumstances. Most dangerous.

(e) Be most careful to guard flanks when on special patrol, or raids on small scale, etc.

(f) Patrols from Divisions with distant objective have been sent forward with the Division to which nearer objectives were allotted in order to report on the latest developments of the battle front before the launching of the attack of their own Divisions.

Good results have been obtained by this method, but for this purpose patrols should be lightly equipped.

(g) Patrols must always be pushed out after gaining the final objective.

(h) The enemy frequently employs strong patrols. These attack or attempt to cut off our patrols if weak, or retire before strong ones. The use of strong patrols is therefore advocated under certain conditions, usually during offensive operations.

(j) A patrol which has succeeded in penetrating the enemy's line should establish a post on the enemy's line of retreat.

(7) **ADVANCED POSTS.**

Advanced posts gained by day and established are often heavily shelled—it is therefore generally advisable to reconnoitre by day and gain ground by night.

(8) **PATROLS ARE OF THREE KINDS—**

(a) **RECONNAISSANCE PATROLS.**

Not less than 2 nor more than 5. (See para. 4.c.)

(b) **OFFENSIVE PATROL.**

15—20 men, consisting of :

2— 3 Scouts

6— 9 Bombers

6— 9 Rifle and Bayonet

And always, if available, a Lewis Gun.

This Patrol will be used to clear up ground in front for final objective, such as to reconnoitre shell holes, craters, trenches, and to keep the Bosche from coming out, and generally to maintain command of No Man's Land.

(c) **DEFENSIVE PATROLS.**

15 Men, consisting of :

3 Scouts

6 Bombers

6 Bayonet Men

And frequently Lewis Gun.

(9) **THE SCOUT OFFICER.**

Should examine Patrols before they go out.

See if they are fit and in good condition.

Properly equipped.

Armed.

Have had a meal.

Examine them when they come in, arrange for them to have a hot drink and change, if their clothes are very wet.

(10) **EQUIPMENT**

Largely a matter of individual experience.

Luminous compass.

Revolver.

2 Mills' bombs.

Short dirk 6in. to 8in. long.

Rifle and bayonet should never be carried. they are an impediment to all but the *most* expert scouts of an Army. this refers to Reconnaissance Patrols.

#### (11) DRESS.

Also a matter of individual experience, and varies according to weather and time of year.

One of the best things to wear, particularly during Winter months, is a big and loose fitting "jumper" or smock made of flannel or wool, and of neutral colour. It is warm, has no particular outline, and makes no noise if wire, brambles or branches are met with.

Stands any amount of rain.

In Summer time the same thing can be made out of sandbagging and painted to conform to whatever frontage is being patrolled.

Overalls can also be made of the same material. All these suits are made up and forwarded at very short notice by Special Works Park R.E.'s, at Wimerieux, Aire and Amiens.

#### (12) PATROL FORMATIONS.

It is possible I may be at variance with the instruction given at some Schools on the above subject, but I can assure anyone who reads these notes that if I appear to disagree, it is because actual experience covering many, many months of successful work in No Man's Land by Canadian Patrols has taught them that it is setting up a most dangerous precedent to lay down any hard and fast rules governing formation.

So much depends on—

Time of day. Namely, whether it is light or dark.

Nature of ground to be patrolled.

State of weather—windy, raining or fine.

On very dark nights formations are impossible except by actual contact.

Formations suggested and practised by some Schools would be absolutely impossible of accomplishment on the Flanders front at present.

It is far better to allow Patrols to adapt themselves to their surroundings. They will very soon find the best formation to adopt on their own particular front.

These remarks do not in any way refer to formations known as "Fighting Patrols," which really amount to minor operations such as raids, and of course require most careful consideration.

Very dangerous situations have occurred through newly-trained Patrols attempting to adopt prescribed formations in trench warfare. It is not an uncommon experience for them to accidentally kill each other.

#### (13) LANDMARK OR SIGN.

Sometimes it may be necessary to have a landmark or sign to lead you back safely to your trench, such as :

Stick in Parapet.

Rocket Signal.



Rifle Fire.  
Torch Flashes.  
Ball of Twine or Tape.

(14) ALTERATION OF MESSAGES.

Great care must be taken if it becomes necessary to alter any message sent down the sentry line and out to listening posts. This has been the cause of many casualties.

(15) USE OF RECONNAISSANCE.

1. To secure your own safety.

The more you know the safer you are.

Must know exposed and dangerous places to avoid losses.

Must know safest places to operate from.

2. To worry the enemy and cause him losses in :

Exposed places.

Low parts of trenches.

Enfiladed trenches.

Wherever he can be got at.

To obtain information and carry on extermination.

## 11. IDENTIFICATION BY COCKADES.

Imperial on Right Side.

State on Left Side.

Helmets in trenches sometimes mean business, or that a new regiment has just marched in. (See diagram.)

## 12. FUZES.

H.Z. 05 and K.Z. 11 are dangerous even when partially exploded and separated from the shell. Detailed information is particularly required by General Staff G.H.Q. of shells with following fuzes :

K.Z. 14	} Field Gun.
K.Z. 11	

H.Z. 14	} Light Field Gun.
H.Z. 05 Gr	

H.Z. 14vst—10 c.m. Gun, 10.5 calibre.

GvZ 14—13 c.m. Gun, 13.5 calibre.

15 c.m. heavy.

Details of shells of larger calibres should always be forwarded.

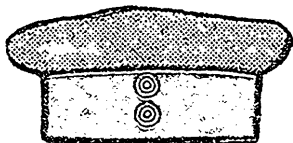
## IDENTIFICATION BY COCKADES.

Two are worn in the cap.

Imperial Cockade      Above



State      Below



Imperial in 3 colours

Red      White      Black

Prussian



Black      White      Black

Saxon



White      Green      White

Bavarian



White      Blue      White

Wurtemberg



Black      Red.      Black

Colour of  
centre ring  
given first in  
each case.

### 13. UNIFORM AND BADGES OF GERMAN ARMY.

All arms dressed in grey (feld grau).

Cap or covered helmet, tunic (stand and fall collar), great-coat, trousers or pants and long boots (worn over or under trousers).

Shoulder strap with regimental number or monogram edged with various colours or State colours.

Great coats sometimes dark blue, cap bands often grey-covered.

#### Staff Officers.

Carmine band to cap, broad carmine trousers stripe.

#### Infantry.

Edging of shoulder strap according to Corps.

White—I., II., IX., X., XII., and I. Bavarian Corps.

Red—III., IV., XI., XII., XV., XIX., and II. Bav.

Yellow—V., VI., XVI., and III. Bav.

Blue—VII., VIII., XVIII., and XX.

Various—XIV.

Light Green—XXI.

#### Jager and Schutzen (Rifles).

Dressed in grey-green, with green strap edging and shako vice helmet. Cap band red or grey covered.

#### Cavalry.

Stand-up collar. Lancers and Hussars wear special cut tunic and special head-dresses. Edging of shoulder strap varies in colour. Dragoons have single edging.

#### Cuirassiers.

Double edging. Cap bands various.

#### Field Artillery.

Black piping to collar, red grenade on shoulder straps, brass buttons. Cap band black.

#### Engineers.

Black piping to collar, no grenade, white metal buttons, cap band black.

#### Train.

Blue edging to collar, and tunic (supply) crimson edging. Cap band blue.

#### Medical.

Red edges to blue collar patch. Cap band black.

#### Landwehr.

Wear cross on head-dress. Caps now mostly all grey.

**Coloured Bands round Cap.**

1. Ordinary	...	...	...	Red (1 M.G. Batteries).
2. Jagers	...	...	...	Light Green.
3. Art and Pioneers	...	...	...	Black.
4. Cavalry	...	...	...	Various.

**14. IMPORTANT IDENTIFICATIONS.**

- (1) A copy of the marks on the identity disc.
- (2) The pay book—brown paper cover.
- (3) Letters, diaries and papers found on German soldiers.
- (4) The shoulder strap marked with regimental number or monogram (state whether taken from a tunic or great coat).
- (5) Marking on arms, clothing and equipment. (The number of the Regiment is marked on the inside of the flap of the cartridge pouch and on bayonet near the hilt. It is also stencilled on the tunic lining and inside the cap).
- (6) Search prisoners as soon as possible after they are captured to prevent them destroying documents. Forward to Divisional Headquarters with statement as to where obtained, whether from prisoners or dead.

**15. IDENTIFICATION—CLOTHING.**

Shoulder straps.

Identification marks of units of the XXIII. Corps.

In order to conceal the number, a coloured band or strip of cloth 2 c.m. broad must be sewn on the shoulder strap near the sleeve.

In the case of the 45th Reserve Division on the left shoulder strap, and in the case of Corps Troops on both shoulder straps.

The following distinctive colours have been fixed:—

209-216 Res. Inf. Regt.	...	Red.
210-213 Res. Inf. Regt.	...	Green.
211-215 Res. Inf. Regt.	...	Blue.
212-214 Res. Inf. Regt.	...	Brown.
F.A.	...	Red.
Foot Artillery	...	Yellow.
Pioneers	...	Black.
Cavalry	...	Dark Blue.
Ammunition Column Train	...	Light Blue.

## CHAPTER III.

## REPORTS.

(Fundamental principles to be adopted when Reporting )

## 1. REPORTS.

Three of the most essential things in forwarding intelligence are—

- (1) Accuracy.
- (2) Speed.
- (3) Conciseness.

## (1) Accuracy.

This can only be attained if the observer has been to some extent trained and knows what to look for and how to report it. Accuracy is of particular importance because if reports have to be verified valuable time is lost.

Beginners should report only what is actually *seen* or *heard*. It is sometimes dangerous to attempt to try and draw conclusions from what one sees and hears. In some instances our conclusions may be correct, but in many cases we may be entirely wrong.

## (2) Speed.

It is of the greatest importance that information should be sent on at once.

It is of little use knowing where the enemy was the day before yesterday if we cannot tell where he is to-day.

A great many men sit on their Reports and are afraid to send them in. They continually re-read them and make alterations, etc., and hang on to them hour after hour until whatever value they may have had originally is lost by delay.

## (3) Conciseness.

Confine your reports to what is relevant.

Be brief where necessary,

Clear in expression,

And to the point.

## (4) Negative Information.

Sometimes of great value, especially to know that the enemy was not in certain places at certain times.

## 2. REPORTS ARE OF THREE KINDS :

- (1) Verbal.
- (2) Written.
- (3) Drawn.

Sometimes a report is a combination of all three.

**(1) Verbal.**

A verbal report is one made by word of mouth.

- (a) Do not speak in a hurry.
- (b) Before you begin make up your mind exactly what you are going to say and repeat to yourself. On the other hand, when you send a verbal message have it repeated to you.

**(2) Written.**

A written report is always preferable to a verbal one, no matter how dirty or untidy the paper may be upon which it is written.

- (a) Write as clearly as possible, and always with the names of places in capital letters (block letters).
- (b) Always read over what you have written in order to check mistakes.
- (c) Always state the place from which your report is sent, also do not omit date and time.
- (d) It is important in sniping and intelligence to keep a copy of all reports you make.

**VAGUENESS.**—Avoid vague and indefinite terms such as dawn, dusk, behind, beyond, on this side of.

**(3) Drawn.**

Without a sketch it is sometimes impossible to explain a report.

Remember that 12 a.m. is always followed by noon, and in referring to midnight two dates are always given :—

Relief will take place midnight 1st, 2nd October (This if relief is for 1st).

All reports must be signed. this precaution is frequently omitted through carelessness.

In case of a Private give number, rank, name, regiment, date and time. Officer, name, rank, regiment, date, place. And when sending back information during an attack always state Platoon and Company.

## CHAPTER IV. MAP READING.

(It is a mistake to worry beginners with advanced lectures on this subject; if they can master the following selected instruction it will be well.)

### 1. POINTS TO BE NOTED.

When taking over any new frontage the Intelligence or Sniping Officer should obtain a map of the location from Brigade Headquarters.

On opening a new map the following things should be noted :

1. Look for scale.
2. Note vertical interval.
3. Note position of ridges, hills and water-courses.
4. Look for direction of true or magnetic north point.

Detail method of reading squared maps to class, viz. :

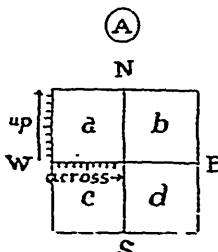
All foreign maps are divided into large rectangular squares and lettered. Sides 6,000 yards long.

These squares are again divided into smaller squares and numbered from 1 to 30 or 1 to 36. The sides of these squares are 1,000 yards long.

For the purpose of giving a closer reference these numbered squares are again divided into four smaller squares, and lettered a, b, c, d—the sides of these squares being 500 yds. long.

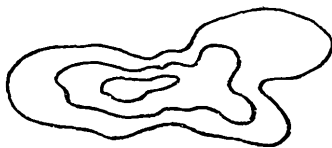
For the purpose of giving a still closer reference these a, b, c, d squares are divided into 10 equal parts, and numbered from 0 to 9.

a	b	2	3	4	5	6
c	d					
7	8	9	10	11	12	
13	14	15	16	17	18	
19	20	21	22	23	24	
25	26	27	28	29	30	
31	32	33	34	35	36	



The lower line is always read first, from west to east; then the side (west) is read from south to north or upwards, as per diagram (A).

## 2. CONTOURS.



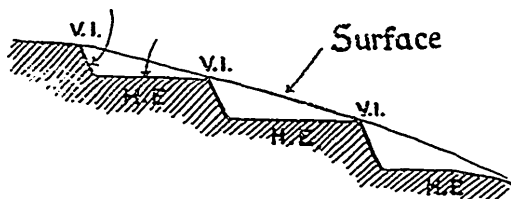
Called contours when drawn to scale, and form lines when sketched in roughly.

### Vertical Interval.

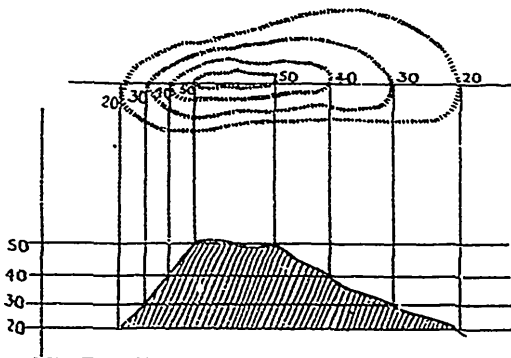
The distance vertically between contours is called the V.I., and is always expressed in feet, inches, or metres.

### Horizontal Equivalent.

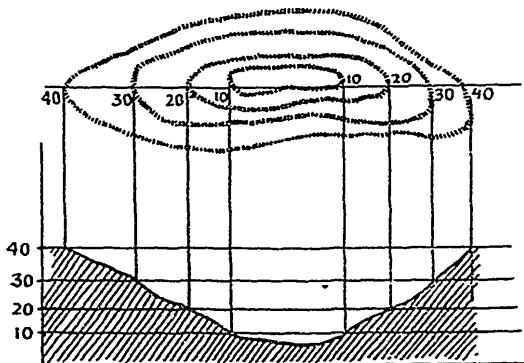
The distance between contours horizontally is called the H.E., and expressed in yards.



### Enough Method of Reading Contours :







### 3. TEST.

Ask class quickly what shape the following diagram, marked A would represent on the ground.



A large percentage will immediately reply "A knoll, Sir." Then for those who make the mistake of calling this a hill ask them to explain the following (marked B) :



## 4. REPRESENTATIVE FRACTIONS.

$$\text{R.F. } \frac{1}{63.360} = 1'' = 1 \text{ mile}$$

or 1" on the map represents 63.360" on the surface of the ground.

Common Scales in inches :

$$\frac{1}{63.360} = 1'' \text{ mile}$$

$$\frac{1}{31.680} = 2'' \text{ mile}$$

$$\frac{1}{15.840} = 4'' \text{ mile}$$

$$\frac{1}{7.920} = 8'' \text{ mile}$$

$$\frac{1}{6.336} = 10'' \text{ mile}$$

To find the number of English inches to the mile on any map that has an R.F. is quite simple.

Always divide the unknown denominator into 63.360.

$$\begin{array}{r} 100.000 \ ) 63.3600 ( .63 \text{ or } \frac{1}{2} \text{ in. to the mile} \\ \underline{60.0000} \\ 3.36000 \\ \underline{3.00000} \end{array}$$

To find the R.F. of 11" to the mile :

$$\frac{11}{1760 \times 36} = \frac{1}{5760} \quad \begin{array}{r} 63.360(11 \\ \underline{63.360} \end{array}$$

$$\frac{1}{5760}$$

To find the R.F. of  $10''=1$  mile :

$$176 \times 36 = 6336 \text{ (} 63.360 \text{ (} 10''=1 \text{ mile)}$$

One useful R.F. to remember is

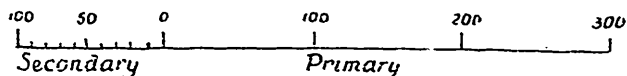
$$\frac{1}{10.000}$$

Nearly all Trench Maps are drawn to this scale :

$$\frac{1}{10.000} = 6'', \text{ or to be exact, } 6.336'' \text{ to the mile.}$$

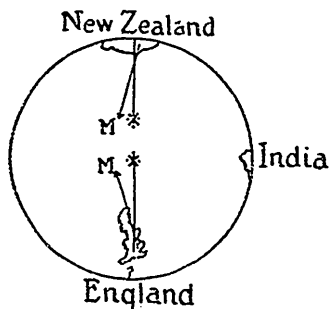
### 5. SCALE.

Always represented as follows, and divided into Primary and Secondary Divisions :

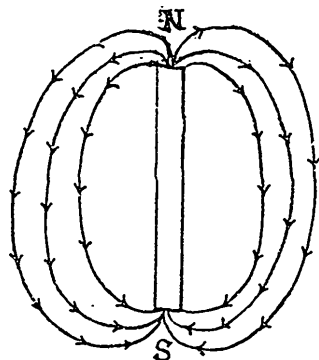


### 6. COMPASS.

Magnetic Variation.



The needle always points to the Magnetic North as shown in the above diagram. The outline below represents England and illustrates the fact that with few exceptions an angle must always exist between True and Magnetic North.

**Bar or Terrestrial Magnet.**

Lines of magnetic force continually emanating from the North and passing round and in at the South so long as the bar maintains its magnetism. The South end being pulled towards the South rather than the North to the North, as a fish swimming up stream is straightened by his tail.

The Magnetic Pole creeps nearer the North Pole at the rate of 4 to 7 minutes per year.

**15½° West true Meridian at London.**

**To Set a Map.**

Which is to place it in such a manner as to correspond exactly with the actual lie of the ground.

This will be found by means of a compass, and the Map is set by laying it on the ground and turning it round until its Magnetic North Point is parallel with the needle of the compass and points northwards.

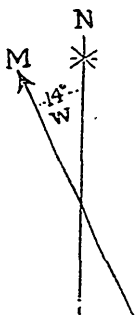
**7. BEARINGS.**

All bearings given should be True bearings to allow for variation of individual compasses.

**Example.**

If given 50° T.B. to march on from a named starting point for two miles, how would you proceed ?

When given True Bearing to march on always find Magnetic Variation first of all.



When Variation is West always *add* Variation to True Bearing to find Magnetic.

Therefore :

$$\begin{array}{r} 50^{\circ} \text{ T.B.} \\ 14^{\circ} \text{ Var.} \\ \hline 64^{\circ} \end{array}$$

The Bearing to march on is therefore  $64^{\circ}$  Magnetic.

### 8. TO SET COMPASS FOR NIGHT MARCH.

**First.**

Take True Bearing from Map, then

The Black Pointer on the glass is set on required Bearing plus Magnetic Variation.

Bearings or figures on the outer rim : for 6, 7, 8, etc., read  $60^{\circ}$ ,  $70^{\circ}$ ,  $80^{\circ}$ , etc.

**To Set.**

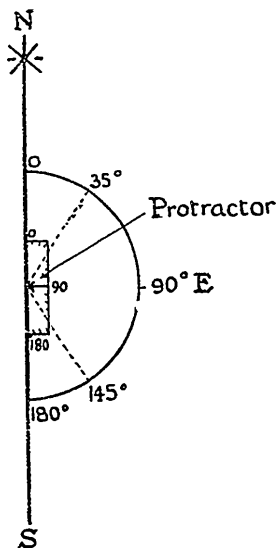
Unscrew clamp on the vernier plate and tighten when set : this is important.

**To find Bearing.**

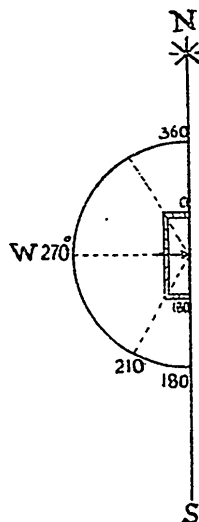
Let needle coincide with pointer on glass and look through prism. Then line on some object and that will be your bearing.

## 9. USE OF PROTRACTOR.

To take bearing from map called True Bearing.



Therefore all bearings East of North will read from  $0^\circ$  to  $180^\circ$ , and these degrees are marked on the outer rim of the Protractor.



All bearings West of North will read from  $180^\circ$  to  $360^\circ$  and these degrees are marked on *inner* rim of protractor.

### To obtain Bearing.

Always place the arrow head which bisects your protractor on your position, and be careful to note that your protractor is held on.

**True North Line** (If Grid North is used, always say so).

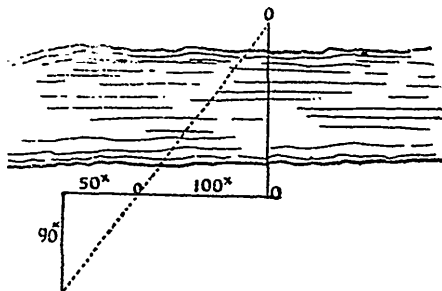
Then join up your own position on map with point required by drawing pencil line, and where this line coincides with graduation on protractor will be your

**True Bearing.**

### 10. BEARING BY A WATCH.

Hold the watch face upwards, point the hour hand at the sun and bisect the angle between the hour hand and 12 o'clock. This line will point South (approximately).

### 11. TO MEASURE WIDTH OF A RIVER.



Select tree on opposite bank and one where you stand.

Then move off at a right angle to these, and pace a distance, say 100 yards; plant a mark and go on half as much again, another 50 yards.

Then turn at right angles to your original line and walk away from the river, counting your paces until you bring the mark in line with the tree on the opposite bank.

The distance you have paced since turning will be one half of the distance across the river, namely 180 yards.

**12. GRADIENT.**

Ground rises 100' in 1,500 yards.

Express in fraction :

$$\frac{1}{15 \times 3} = \frac{1}{45} = 2\%$$

The gradient of a slope is the fraction which represents rise or fall :

$\frac{1}{20}$  = rise or fall of 1 foot in 20 feet.

An approximate rule for expressing in degrees a slope from a given gradient is to multiply the gradient by 60

For steep slopes this is not to be used.

**13. SLOPES.****Concave and Convex.**

**CONCAVE.**—The slope between two points is concave when an imaginary straight line joining them is, throughout its length, above the surface of the ground immediately beneath it.

**CONVEX.**—When the surface of the ground interrupts the direct vision between these two points.

If the slope of the upper part of a hill is gentle, indicated by the contours being far apart, and that of the lower steep, indicated by the contours being close together, the general slope will be convex.

If, on the other hand, the upper part of the slope is steep, indicated by the contours being close together, and the lower gentle, indicated by the contours being far apart, the slope will be concave.



## CHAPTER V.

## SNIPING IN ATTACK AND DEFENCE AND NIGHT SNIPING.

## 1. INTRODUCTION.

There is still a great deal to be learnt about sniping in attack in trench warfare.

The tremendous artillery preparations and barrages have compelled us to modify some of our original instructions to snipers, because where front lines are close no sniper could hope to live in No Man's Land during a barrage.

During the Somme fighting, when front lines were sometimes far apart, snipers in several instances were able to put machine guns out of action by digging in in front of enemy parapet, and waiting for their machine guns to open up.

The following notes give a rough outline of methods which it was suggested should be employed by snipers in attack and defence in trench warfare, before any definite data had been compiled from actual experience in a modern offensive. Later instructions will be found in Chapter VI.

## 2. PRECAUTIONS.

(1) Be most careful in the selection of your men. If this precaution is not taken it only means unnecessary casualties.

(2) Men selected should not only be good scouts, but good shots, and not only good shots but quick shots—men who can take rapid aim—what is sometimes called "offhand" shots.

## 3. SNIPING IN ATTACK IN

## (1) Trench Warfare.

In an attack the bombardment usually comes first. Until this is over snipers should be kept more or less in reserve positions—that is to say if a big offensive is contemplated.

Take T.S. rifles from snipers and supply them with ordinary ones in a big offensive if it is imperative to send them over with the waves of an attack.

These T.S. are expensive and not easily procurable. The best place to leave the T.S. rifles is with Armourer Sergeant or Quartermaster.

Each sniper should wrap his rifle and sight up most carefully in sacking and label it.

## (2) Methods to be followed.

Snipers should be on the look out for enemy machine guns opening fire. These are difficult to distinguish from rifle fire. Use a telescope and observe greater escape of gas.

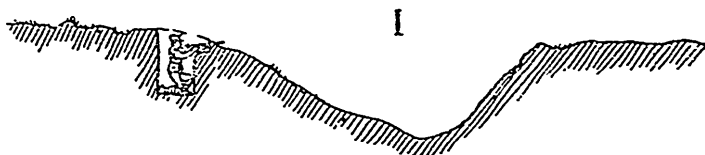
Snipers as a rule should operate on the flanks in an attack.

If enemy has been roughly handled, snipers will watch for officers or N.C.O.'s exposing themselves, directing operations, etc., reforming men and so on. Also shoot at men carrying loads of any sort.

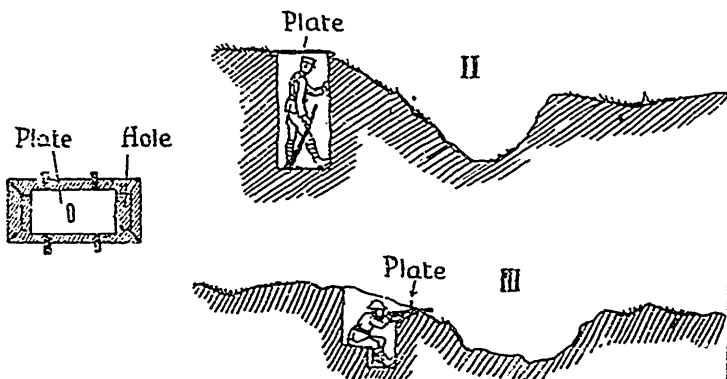
If the advance is likely to be over 500 yards, one or two good snipers might take up their positions just in front of enemy's front line in No Man's Land, in shell holes, etc.

A Bosche sniper did this on the Somme, and laid out eight of our men before he was spotted.

If field of fire enables them to do so they should "dig in" on back edge of crater or shell hole (Diagram I.).

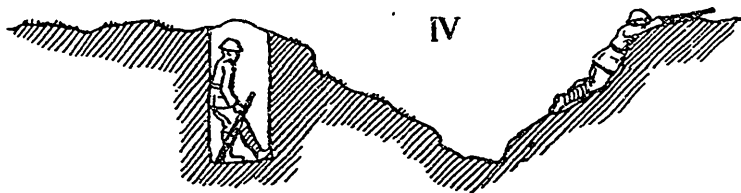


Some snipers have even taken a steel sniping plate out with them for protection against shrapnel, etc., during preliminary barrage, etc. They usually dig a narrow hole as per Diagram II., and support the plate over their heads on two sticks, or on other occasions they also use this plate for sniping from craters, as follows (Diagram III.).



The hole or hide must be as small as possible if for sniping. All excavated earth must be hidden. This is quite simple where the ground has been cut up by shell fire.

Another method adopted by some snipers after shelling has diminished (Diagram IV.):



When trench is taken bring up snipers, but do not place them in the captured trench. They should work their way out in front, carefully watching for targets.

Endeavour to obtain commanding position over some part of enemy's communication trenches, or any of his trenches.

Keep in touch as much as possible, keep eyes open for useful information.

Observe as well as kill. A good sniper should be able to supply valuable information sometimes.

Following the above instructions two of our snipers and scouts sent back most important information which helped our troops to push on and capture Carcelette during the Somme offensive.

This was a case of sending negative information, namely, that the enemy were not holding certain trenches in strength.

#### 4. ATTACK BY NIGHT.

If we attack by night not advisable to use snipers unless they are to act as scouts.

On a dark night snipers can be of no use.

Only in case of counter attack by enemy should snipers be called on, and in this case everyone must expect to turn out.

#### 5. OPEN WARFARE.

When enemy retires, snipers, should advance with first wave and be given a roving commission.

Keep eyes open for enemy machine guns placed to retard our advance.

Put these out of action if possible.

Snipers should be observant and have good eye for ground in open warfare.

It is impossible to lay down any particular rules to govern his actions.

Experience, ingenuity, scout craft, marksmanship, keen observation, quick thought and action in awkward positions any or all of these qualities may be called upon during an advance in open warfare.

Also a good eye for ground, quickness in noting good positions other than on the ground, such as trees, houses, windmills, haystacks, etc.

Also knowledge and value of protective colour.

Danger of any careless movement when under observation.

Good sense of direction (bump of location).

## 6. SNIPING IN DEFENCE.

The only means we have of annoying the enemy are :—

1. Bombers.
2. Snipers.
3. Firing over parapet.
4. Machine guns.

The chief object in defensive sniping is—

To kill first of all the enemy sniper, hunt him out, spot his hides, lay for him, draw his fire if you cannot spot him by any other means.

Sniper and observer, if working together, should plan out their campaign for the day.

## 7. ERROR OF THE DAY.

When a sniper takes up his position or before he takes up his position, if possible, he should fire a shot to find error of day.

This is better than a lot of theory.

Fire at some range where you expect to get a target.

Let the observer report carefully what happens.

Choose a brick wall or clay bank, or anything which would show strike of bullet.

This shot should be fired very carefully because it will establish your elevation for the day most probably.

## 8. METHODS OF OBSERVER.

(1) Use of low power glasses for all work.

(2) The great curse of the observer is eye strain and headache. Avoid this by adopting methods described in lecture on observation.

(3) Observer should have comfortable position.

When the enemy attacks—

Snipers must not fire haphazard at anyone.

Pick out officers, N.C.O.s, machine gunners, etc. Leave the mass to the mass.

## 9. SNIPING IN DEFENCE IN OPEN WARFARE.

Reverse the programme of attack in open warfare.

Snipers must assist the rearguard to resist the enemy.

**10. NIGHT SNIPING.**

Almost all losses in night sniping have been due to carelessness.

Best time : During summer nights or moonlight. Useless on very dark nights.

**The Value of Night Sniping over Ordinary Sniping.**

- (1) Effect on morale of enemy ; man always more afraid of danger at night.
- (2) Identifications—sometimes take them personally.
- (3) Close range for shooting, average 75 yards.

**11. EQUIPMENT-SIGHTS.**

Ordinary service sights are not of much use on dark nights.

Use the four lugs of sight protectors as guides.

Fore-sight Lugs      Back-sight Lugs



Cover lugs with white paper or phosphorous paste, and paste a thin piece of paper or tape along top of barrel.

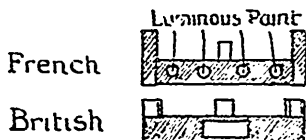
**12. APERTURE SIGHT.**

Useful for longer ranges, but both sights must be large.

**13. LUMINOUS SIGHTS.**

No longer an issue, but used by the French.

Examples :—

**14. LOW POWER TELESCOPE SIGHT.**

Can shoot with these on fairly dark nights.

Should be tried by snipers.

It clears the target wonderfully when almost invisible to the naked eye, and is the best of all sights for night work.

**15. FIELD OR NIGHT GLASS.**

For locating target.

Field glasses of high power useless.

Sling them around neck under coat.

Don't carry in case.

No equipment to be worn.

Carry ammunition in pockets.

Silence imperative.

**16. CLOTHING.**

Headcover.—No outlines. Something soft like woollen cap.

Mask face.

Good strong glove on left hand helps when crawling (no good when ground is very muddy.)

**17. PRECAUTIONS**

Must select men for this work.

Brave but excitable men useless.

Knowledge of No Man's Land imperative.

Must have landmarks and know contours, etc., to guide you.

**18. BOUNDARIES.**

Must have fixed boundaries.

Understanding throughout trenches what you are going to do ; not only officers and men in your own trench, but also in trenches on either flank.

Be careful to warn your machine gunners also.

**19. COVERING FIRE.**

Sometimes used to distract enemy ; sentries to fire at regular intervals.

Fire high.

**20. AMMUNITION.**

Examine ammunition before you go out.

Use same brand. Be fairly certain you can depend on it.

**21. NO OIL IN THE BORE OF YOUR RIFLE.**

A flash seen from flank is much more noticeable than from front.

**22. METHODS.**

(1) Know how to handle rifle.

(2) Practise shooting with the least possible time spent in aiming.

(3) Work your bolt slowly but bring it back to full extent.

(4) Always keep low, never stand upright when within 100 yards of enemy trench.

(5) Keep in low ground and have background behind you when possible.

**23. STALKING.**

Sentries looking over parapet.

Watch where flares go up.

Working parties.

**24. WAITING.**

For listening posts.

Patrols, especially if they are known to follow more or less the same route.

Decoys sometimes tried.

**25. FOG.**

Can get a much better sight than at night.

Always aim low in fog.

In fog a man may be visible at 300 yards against sky line when invisible at 50 yards.

## CHAPTER VI.

THE EMPLOYMENT OF SCOUTS, OBSERVERS,  
AND SNIPERS, BEFORE, DURING, AND AFTER  
OFFENSIVE OPERATIONS.

" The special duty of these sections was to report on the progress of operations, for which purpose they were in direct telephonic communication with their Brigade Headquarters.

" In addition to this special duty they carried out the normal duty of reporting on the enemy's movements, positions, etc.

" Very good work was done by all intelligence sections throughout the operations, and although reports appeared at times to be at variance with each other, on being carefully sifted and co-ordinated, very accurate information regarding the state of the enemy's wire and defences was obtained.

" Owing to casualties which were suffered in the recent operations it was at times necessary to employ men of intelligence sections on work other than that work for which they were intended.

" This applies more or less to all specialists and under certain conditions appears unavoidable."

" A. W. CURRIE,

" Lieut.-General."

1. DISPOSITION OF SCOUTS, OBSERVERS AND SNIPERS BEFORE,  
DURING, AND AFTER OFFENSIVE OPERATIONS.

## Before the Attack.

The country over which the Battalion will have to advance must be carefully studied by the Battalion Scouts from observation posts and information forwarded to Brigade Headquarters.

The information thus obtained should be plotted by Battalion Intelligence Section and the maps issued to Company Commanders and officers in order that they might be given a very good idea of the obstacles which would be encountered on the frontage allotted to them.

Companies could be supplied with aeroplane maps of the whole front by pasting together separate photos.

Scout Officer and Scouts should make a thorough reconnaissance of the country behind our lines and report on trenches suitable for jumping-off trenches, condition of wire, and detail parties to cut same to allow passage of our troops during attack and also reconnoitre assembly area for Battalion, and locate dugouts for Company Headquarters.

Scouts can also be used to guide Companies to their positions in jumping-off trenches.

Scouts can assist Companies to find their locations for jumping-off positions, and Scout Officer with three or four scouts can lay a tape line for jumping-off positions for attacking Companies.

Scouts should carefully patrol whole front immediately before an attack, and make sure that there are no hidden obstacles, such as old trenches or ditches filled with barbed wire, and no machine guns.

Also when possible post advanced listening posts, when close to the enemy defences, and sometimes by lying quiet can form an estimate of the garrison of the trench and find out if any work is being done in the enemy trenches.

If scouts and snipers move forward with the attack, they should take up their positions on the flanks.

Also before the attack No Man's Land must be frequently patrolled to prevent the enemy patrols from approaching our lines, also to observe enemy movements, wire, work, etc.

By day, when not resting, scouts should look over the ground to be patrolled at night.

Also on the night before an attack all Battalion Scouts could be sent out to act as advanced listening posts, to prevent hostile patrols from coming out.

Also when wire cutting previous to an attack it has been found useful to leave a couple of scouts early in the morning in the outpost line to remain out all day in order to turn in a report on the wire, also state if our heavies are falling short.

## **\*2. BATTALION SCOUTS—SPECIAL DUTIES.**

### **Offensive Operations.**

- (1) Examine No Man's Land to locate machine gun positions, etc.
- (2) Examine and report daily on conditions of enemy wire.
- (3) Aggressive patrols along enemy wire to prevent his patrols getting out to see our assembly trenches.
- (4) Investigate reports that enemy is withdrawing from his position.
- (5) Effect of our artillery fire.
- (6) Locate enemy strong points.
- (7) Prevent enemy repairing wire.
- (8) Guides to ration and water carrying parties.
- (9) Become familiar with all forward dumps.
- (10) Guides to raiding parties.
- (11) Report on enemy's barrage and our own.
- (12) Furnish guides for reliefs.
- (13) Reconnoitre trenches.
- (14) When in reserve and moving up to the attack, usually in artillery formations, it is imperative to maintain proper interval and to keep in touch with formations in front, and in the rear with Battalion Headquarters; for this purpose scouts are used.
- (15) Locate advanced Battalion Headquarters, as the Headquarters move forward.
- (16) When Battalion reaches its objective scouts move to either flank and find out if the Battalion is connected up and with whom.
- (17) Guides to special working parties or wiring parties.
- (18) Guide transport to Battalion Headquarters.
- (19) Sometimes to find daylight route for runners from Battalion Headquarters to advanced report centre.



- (20) Guide to ammunition parties.
- (21) Confirm positions said to be taken up by Companies and locate new Company Headquarters.
- (22) Guard squads of prisoners used as stretcher bearers.
- (23) Take artillery and other officers to new positions.
- (24) Scouts to place stakes for Divisional Boundaries and assembly positions. Luminous stakes for assembly.
- (25) Guide bomb carriers to front line.
- (26) Check up distances and positions.
- (27) Tape out new trenches, often under heavy shell fire.
- (28) Ascertain the numbers of all captured guns and their exact location.
- (29) To reconnoitre and report on the consolidation line as completed.
- (30) Scouts assist companies to find dugouts in which to billet men.
- (31) Used as leading file on offensive patrol in German communication trenches leading from captured positions for information.

### Actual Experiences of Battalion Scouts and their Organisation during Vimy Ridge Attack.

#### REPORTS.

Whenever possible all reports should come to Battalion Headquarters through Intelligence Officer who verifies and signs information transmitted.

#### EXAMPLE 1.

Battalion Scouts divided into two sections :

- 1st Section : Scout Officer and 4 Scouts.
- 2nd Section : Two Scouts.

#### 1ST SECTION—4 Scouts.

This section proceeded in rear of the Battalion to the jumping-off trench, and moved forward when the Battalion advanced.

On arrival at objective two scouts reported back to Battalion Headquarters with information that objective had been taken. The other two scouts immediately located an observation post and kept Battalion Headquarters informed as to the enemy's movements.

The other two scouts that had reported back to Battalion Headquarters located an observation post at these Headquarters which was manned day and night. These men supplied valuable information.

- 2. Scouts followed up 4th Wave.
- 3. Scouts followed up 2nd Wave.

#### EXAMPLE 2.

Scouts went over with the 2nd wave and established a forward observation post.

**EXAMPLE 3.**

Intelligence Officer, 5 Snipers, 3 Observers and 4 Scouts went over behind the 2nd wave and established Battalion Forward Report Centre and temporary Forward Battalion Headquarters.

Fired green signal to advise observation post in rear that forward Report Centre was established, and scout sent back to Battalion Headquarters to bring up C.O. and Headquarters Staff.

**EXAMPLE 4.**

The Intelligence Officer and majority of section to accompany C O. and carry out observation and reconnaissance under his direction. Balance of Scouts attached 2 per Company.

**EXAMPLE 5.**

The Battalion Scouts were not sent over in the actual attack, but were retained for purposes of reconnaissance afterwards.

**EXAMPLE 6.**

When objective was captured the Intelligence Officer with six or eight Scouts went forward and established Observation Post and Report Centre. On a further advance a corporal and three or four men went forward and reported back by runner to the Report Centre.

**EXAMPLE 7.**

Battalion Scouts were not sent over with the waves of the attack, but were kept at Battalion Headquarters for the purpose of obtaining information after the attack.

As soon as attack had developed the Scouts were sent out in pairs at stated intervals with instructions to establish—

S.O.S. Posts.

Forward Observation Posts, and generally to report on situation.

**EXAMPLE 8.**

Scouts were used extensively as guides and were of great value in bringing out parties over Vimy Ridge.

**EXAMPLE 9.**

All Scouts were returned to their Companies for the attack, and one Scout in each company was told to check up the situation on reaching objective, and then report to Battalion Headquarters.

Only one Scout reported back, the remainder were either killed or wounded.

**EXAMPLE 10.**

The Scouts were sent out from Battalion Headquarters about two hours after attack went over, to get information about our new positions.

**EXAMPLE 11.**

Summary by a certain Brigade.—“In future operations it has been decided to hold back Intelligence Sections until the objective is gained and then employ them in observation, scouting, and sniping.”

### 3. OBSERVERS.

Observers should be constantly employed during an attack, and reports sent in from all newly-established positions at frequent intervals.

(1) The location of all Observation Posts, both infantry and artillery, should be reported as soon as they are established.

(2) A diagram of the ground under observation should accompany the report whenever possible.

(3) Night posts should be established to report on flare lights and enemy activity.

(4) During all periods in the line whenever possible, two Observation Posts should be established per Battalion.

(5) Locate and man S.O.S. Post day and night.

(6) Watch all movement behind enemy's line.

(7) Watch all signs of enemy massing or other movement of his troops and report to Artillery Liaison Officer.

(8) Two Battalion observers should be on duty night and day, one at or near Battalion Headquarters to warn Headquarters of any unusual occurrence, such as special flares, machine gun fire, shelling, etc.

(9) Special Observation Posts.—Reports made to Report Centre half hourly night and day. The other at some good vantage point. This observer to send in reports twice a day or at any time anything unusual is observed.

(10) Also in the attack an observer should be established as near Battalion Headquarters as possible to watch for flares, signalling "Objective Gained."

(11) Trained observers should move forward with or close behind the attacking troops.

#### Observation Post's Actual Experience during Vimy Ridge Battle.

During the action of 9th April, an Observation Post was manned by two Observers, they were able to watch the advance of our troops, and reported at 5.32 a.m. (two minutes after the first wave jumped off) that the first trench had been taken. One half-minute later this information was transmitted to Brigade.

This Observation Post reported as each trench was taken, and also when the last wave of attack was clear of No Man's Land.

### 4. COMPANY OBSERVERS.

(1) During offensive operations, the Company Commanders should appoint previously trained Observers.

(2) Night and day one Observer per Company at least should be on duty.

(3) Observations reported to Company Commander at least twice a day.

(4) If front is an extended one each Platoon should have an Observer and report sent by Platoon Commander to Company Commander.

## 5. COMPANY SCOUTS.

- (1) Should act as flank guides to their Platoons in attack, and maintain correct direction.
- (2) As company patrols in conjunction with Battalion Scouts.
- (3) Guiding parties of the Company to various map locations.
- (4) Also, owing sometimes to casualties, as company runners.
- (5) Guides to ration parties.
- (6) In most cases worked under the direction of their Company Commander.

### Note.

The advisability of sending them over the top with their Companies has been frequently questioned.

1. A Battalion Commander states: This method I consider to be a mistake, because they all practically became casualties. It would have been better had they been retained until some time later, and then utilised for purposes of reconnaissance by their respective companies.

2. Another states. Went over with the companies and were used for intelligence work with the Company, and also to assist in reconnaissance.

## 6. SUGGESTED ORGANISATION FOR OFFENSIVE OPERATIONS.

Battalion Intelligence Officer.—O.C. Scouts, Observers, and Snipers. If possible, assistant during attack.

8 trained Scouts at least.

4 trained Observers.

8 Snipers (who are trained to either shoot or observe as necessity arises).

**Attack** (when more than one objective is to be taken).

Intelligence Section should be assembled near Battalion Headquarters and when attacking troops signal "first objective taken":

Three Scouts sent out on the double to first objective.

Make quick reconnaissance of the trench in their sector.

Establish Observation Post if possible, and a temporary forward Report Centre.

Signal back "All clear," and one Scout returns to guide up Intelligence Officer and remainder of Intelligence Section, who will still further examine ground won and positions chosen, look for any lurking prisoners and identifications, and when satisfied detail Scout to guide up Battalion Headquarters. In the meantime Observers will be watching progress of advance, and on further objectives being gained similar proceedings as in the first instance might be carried out, until final objective gained, when:

Intelligence Officer and four Scouts, or even six Scouts, should advance to final line, make thorough reconnaissance of new positions, establish contact with units on flanks and find out who they are.

Also possibly, in conjunction with Company Scouts, to push out patrols in front and generally keep in touch with enemy and report on situation.

If possible to prepare a fairly accurate landscape sketch or map showing location of units.

Establish forward Observation Posts.

## 7. SNIPERS IN ATTACK.

Snipers as a rule can be of very small value during early stages of a big offensive. What with bombs, barrages, rifle and machine gun fire, the air is usually full of smoke and visibility consequently bad. On this account telescopic sights would be useless and open sights nearly so. Also during the early stages of an attack, when the creeping barrage is on, very few enemy snipers will be bold enough to expose themselves, and it has been found that the attacking troops are well able to deal with escaping Bosches.

Telescopic sights should therefore never be taken over in the waves of an attack.

It will be found that Bosche Snipers take a very heavy toll during consolidation of our lines, and this is the time to order our best shots and best snipers and observers forward.

They should be given a roving commission, and Platoon Commanders and Company Commanders should take the earliest opportunity of advising Intelligence Officer of any casualties from Bosche snipers and the location of the casualty.

## 8 Snipers' Experiences during Vimy Ridge Battle, from Reports sent in by various Intelligence Officers.

### EXAMPLE 1.

Eight Snipers (four pairs) went forward with the third wave of the assault and took up best positions obtainable. Generally in or immediately in rear of the objective line.

Both in the actual assault and after the objective had been gained they engaged all targets which presented themselves, assisting in engaging machine guns and keeping enemy sniping down.

While the best shots in the companies were generally able to engage short range targets, the Battalion snipers had orders to look out for longer range targets, and were found useful in this respect.

### EXAMPLE 2.

Snipers and observers were useful during the advance in keeping down enemy snipers and machine gun fire.

### EXAMPLE 3.

During offensive operations against Vimy Ridge snipers were sent over in first wave of the attack, establishing themselves and locating enemy snipers.

### EXAMPLE 4.

Snipers were sent over with first wave with instructions to pay special attention to machine guns and leaders.

### EXAMPLE 5.

Not only were our snipers active and most helpful in keeping down enemy sniping (which at that time was very bad), but the scouts also obtained valuable information. (Consolidation).

**EXAMPLE 6.**

After final objective had been gained and during consolidation daylight hours were utilised by the Snipers in forward isolated positions with splendid results.

**EXAMPLE 7.**

Owing to rapidity of advance and heavy artillery fire, Snipers had very little chance of engaging targets during first phase of the attack, but did good work in keeping down the fire of enemy snipers while Battalion was digging in.

In some cases where every attempt is made to keep our front line concealed from the enemy, it is inadvisable to carry on sniping in or very near this line.

**EXAMPLE 8.**

Two Battalion Snipers trained as Scouts were detailed to follow the second wave and two to follow the third wave, their instructions being to establish Observation Posts and communicate to Battalion Headquarters the situation as they could see it.

**9. DUTIES OF BATTALION INTELLIGENCE OFFICER IN ATTACK.**

When final objective is taken (time of course depends on zero hour).

3.00 a.m. to 6.00 a.m.—Writing up Patrol Reports.

6.00 a.m. to 11.00 a.m.—Tour of front line trenches.

2.00 p.m. to 4.30 p.m.—Observation Posts checking map locations, etc.

4.30 p.m. to 6.00 p.m.—Compiling intelligence report.

7.00 p.m. to 2.00 or 3.00 a.m.—Tour of front lines, assisting O.C. Companies, or on special reconnaissance.

After the final objective has been gained the Intelligence Officer might go forward with the Battalion Scouts and establish a forward Observation Post and Advance Report Centre. He should also go over the newly consolidated line and ascertain the exact disposition of our troops.

In any event a complete reconnaissance of the forward area should be made.

It is also advisable sometimes for the Adjutant to accompany the Scout Officer on a reconnaissance of the front line to find disposition of companies, particularly if a further short advance is in contemplation.

## CHAPTER VII.

## HANDING OVER REPORTS AND SUMMARIES OF INTELLIGENCE.

## 1. ORGANISATION AND DUTIES.

There are three reports which particularly concern the Intelligence Sections. They are as follows :—

- Daily Report.
- Daily Summary of Intelligence.
- Handing over Report.

## 2. DAILY REPORT.

The Daily Report should be drawn up as follows :—

## DAILY REPORT.

To O.C. Snipers : 10/10/16.

.....  
 .....  
 .....

Signed.....

(Observer, Sniper or Scout)

Time.....

This Report should be rendered to the Intelligence Officer by every Observer, Sniper and Scout, every time they come off duty in or near the front line.

If the post is occupied by two or more men they would both sign.

This Report should be handed in in spite of the fact that Log Books may also be kept.

It is most imperative that officers should insist on their men reporting what they see, hear, or perform.

Unless given a certain amount of instruction in this work men find very great difficulty in describing at all accurately what they see.

Men must not "sit on" information, particularly front line information.

## 3. DAILY SUMMARY OF INTELLIGENCE.

(Intelligence Officer's Report.)

Procedure :

(1) AT BATTALION.

The Intelligence Officer will collect all Reports from his men and together with information from Companies in front, support and

reserve trenches, also any information he may have obtained himself when on patrol sometimes ; must keep eyes and ears open continually.

Having obtained all possible information he will hurry off to his dugout and summarise all information ; that is, he will " comb out " the Reports and separate definite from indefinite information, and condense the Report as much as possible.

When his summary is compiled the usual procedure is to take it to the Orderly Room Sergeant at Battalion Headquarters, who types it, then it should be taken to the Adjutant, who examines it, and if correct hands it back to Intelligence Officer for signature ; after which it is sent to Brigade Headquarters at an appointed time.

It is prepared as follows :—

DAILY SUMMARY OF INTELLIGENCE.

1st Battalion.

To Brigade Headquarters.

10/10/16.

.....  
 .....  
 .....

For Officer Commanding,

Signed.....  
 Intelligence Officer.

(2) AT BRIGADE.

It is examined by Brigade Intelligence Officer, who receives similar summary from remaining Battalions in the Brigade, and whose business it is to condense all these reports and forward immediately to the Divisional Headquarters.

(3) AT DIVISIONAL HEADQUARTERS.

The same process is carried out at Divisional Headquarters, and the summary sent to Corps Headquarters, where it remains for the time being until supplemented by news from the Army front.

The Corps Summary, as it is now called, is then issued to Divisions, Brigades, and Battalions, usually arriving at Battalions about noon the next day.

4. INTELLIGENCE SUMMARIES.

Try and save unnecessary repetition in writing and thereby save time.

Intelligence Officer always working against time in the front line.

5. FORMULA:

Try and use a short clear workable formula for your intelligence summary. Most Brigades have a set formula, in some cases unnecessarily lengthy.



The following is a simple formula, and might be adopted in preference to a more lengthy one :

**SUMMARY OF INTELLIGENCE.**

(1) **GENERAL ACTIVITY OF ENEMY REGARDING—**

Rifle fire and sniping	} Sub-heads inserted when necessary.
Machine gun fire	
Artillery fire	
Trench mortars	
Lights	
Bombs and rifle grenades	
General attitude of enemy	
Smoke	

(2) **WORKS.**

Working Parties	} Sub-heads inserted when necessary.
Trenches	
Dugouts	
Wire	
Emplacements	
Listening Posts	
Saps	
Mines	
Trench Trams	
Loopholes	
Dangerous places	

(3) **ROADS.**

(4) **AIRCRAFT.**

(5) **IDENTIFICATION.**

(6) **WEATHER.**

(7) **GENERAL.**

(8) **PATROLS.**

(The above eight marginal headings should be sufficient for any Battalion Intelligence Summary.)

This same formula could also be used by Company Officer in the front line when handing their reports to the Intelligence Officer.

**6. EXAMPLE :—**

To Intelligence Officer :

(1) **GENERAL ACTIVITY.**

Rifle fire and sniping	Nil.
Machine gun fire	Quiet in front, but quite active on our extreme right.
Artillery fire .....	Active also to the South.
Lights .....	Normal

(2) }  
 (3) } ..... Nothing to report.  
 (4) }  
 (5) }

(6) Dry and clear in the early evening, turning to Scotch mist and strong westerly winds later.

(7) Nothing to report.

(8) Our Patrols busy in front of diagonal, from 9 p.m. to 4.30 a.m.

Signed.....  
Capt., No. 2 Company.

**7. HANDING OVER REPORT.**

This Report should contain a summary of all the intelligence collected during one tour of duty in the front line.

Handing over Reports should be exchanged between relieving Intelligence Officer, and Senior N.C.O. and men, and should be each addressed as follows :

**HANDING OVER REPORT.**

15th Battalion.

To Relieving Intelligence Officer :

4th to 9th inclusive.

.....  
.....

Signed.....Lieut.  
Intelligence or Sniping Officer.

**HANDING OVER REPORT.**

1st Battalion.

4th to 9th inclusive.

To Relieving Sergt., Sniping Section, etc. :

.....  
.....

Signed No. 3241 Sergt.....  
Intelligence Section, etc.

The Snipers, Scouts and Observers address their reports to their own O.C. Scouts, and not to incoming men.

Sniper or Observer, etc., to Intelligence Officer :

**HANDING OVER REPORT.**

4th to 9th Inclusive.

To O.C. Scouts or Snipers :

.....  
.....

(Signed) J. SMITH, Sniper.  
J. JONES, Observer.  
Post No. 3.

Thorough liaison between outgoing and incoming troops is most imperative, particularly is this so in sniping, observing, and scouting. Without thorough liaison there can be no continuity of observation and sniping, and many casualties, etc., must be the result.

If there is an obvious break in this continuity of observation the Bosche is very quick to take advantage of it, and immediately his snipers and patrols become aggressive, and it naturally takes some time to subdue him again.

The following are a few of the faults to guard against in order to maintain the upper hand in our work :—

Faulty or no handing over reports.

No trained Snipers.

No trained Observers or no trained Scouts.

Untrained or no Intelligence Officer or Sniping Officer.

The usual fault is no Handing Over Report. The enemy must be kept continually under observation and sniping; there must be no break.

The relieving Battalion must be given all possible information.

Every Handing Over Report should be accompanied by a working map, drawn either roughly or correctly to scale. This as a rule should be done at Brigade Headquarters by Brigade Draughtsmen, and on this map should be placed correctly and to scale the Bosche trenches in front of the Brigade sector.

These trenches can be copied from aeroplane photos.

The working map should be drawn to the scale of  $\frac{1}{5000}$  if possible,

if not  $\frac{1}{10,000}$

It is most important for snipers and observers to have a map of this sort; they then take a far greater interest in their work and besides their references will be far more reliable.

If these maps are not procurable at Brigade Headquarters the Sniping Officer should make enlargements of trench maps himself.

## 8. NORTH POINT IN MAPPING.

The position of the enemy governs all Military sketches or maps. The enemy right is always our left. The North point has nothing to do with their position. This is usually put in last of all. To avoid any danger of misunderstanding great care must be observed when signing name to a map, and placing scale, so that the sketch or map may not be transposed. Our own positions, trenches, etc., should never be marked on a working map or any map which is taken into the front line. The only marked positions shown should be a dangerous loop hole or low parapet in our own front line.

Military Mapping should not be confounded with Military Sketching. Therefore all snipers should have some knowledge of

## 9. CONVENTIONAL SIGNS.

A great many of these are the same as those given in the Field Service Pocket Book. But some new ones have been evolved during

the war which may not be familiar to some, and are included among the important everyday conventional signs. (See Diagrams Chap. XII.)

## 10. ROAD SPACE.

It is important for the Intelligence Section to be taught something about road space.

Regiment of Cavalry or Mounted Infantry at full strength, properly closed up, and with first line Transport, occupies road space of ...	1,190 yards
Battalion of Infantry ... ..	945 yards
Company ... ..	150 yards
Brigade ... ..	4,560 yards

(Including Brigade Transport of 780 yards).

## 11. INTELLIGENCE.

It must be borne in mind that it is not always possible for men or officers in the front line to gauge the importance of information right there, but that the higher formations with their wider range of information are better able to assess the value of any particular point.

Close observation of the enemy's front-line, particularly as regards movement of men and material and routes used, new works, such as saps, will often reveal an impending attack.

It is impossible to state in detail the far reaching consequences which often result from some apparently unimportant piece of information, but officers and men who have had more than regimental training should make it their business to help to win the war by spreading such information as they acquire in special courses, and to impress on others the importance of strictly obeying orders regarding conversations and exposure in the front line.

It should also be a point of honour that documents and equipment such as shells and fuzes belonging to the enemy are handed over and sent to Corps Headquarters, as they very often give valuable information.

Identifications of the enemy's units can, as a rule, only be obtained from prisoners, and it is very important as it enables a check to be kept on the movements of hostile units on this and other fronts, and enables dispositions to be made accordingly for the attack or defence.

## 12. SUMMARIES OF INTELLIGENCE CANADIAN CORPS METHODS.

(1) The practice since the formation of the Corps has been to employ Corps and Divisional Summaries.

The function of the Divisional Summary has been to publish within its own area the information obtained from—

(i.) Brigade report.

(ii.) Divisional artillery reports (including record of hostile shelling, etc).

The functions of the Corps Summary has been to publish within the Corps area the information obtained from—

- (i.) Divisional Summaries
- (ii.) Adjoining Corps Summaries, and
- (iii.) General information from other sources furnished by the Army through its summary.

(2) It has always been recognised that the object of these summaries is in each case threefold, viz. :

- (i.) Forwarding of information to higher formations and
- (ii.) Disseminations of information to lower formations.
- (iii.) Recording of information for use for subsequent intelligence and other reports, thus forming the basis of all information about the enemy's lines.

(3) In view of these objects it is thought that in addition to promptness the feature to be kept prominently in mind is the nature of the information and its usefulness to the formation to which it is supplied.

On that account the summary issued by the lower formation will naturally contain much more detailed information than the higher.

If this mass of detail gathered from the front line can be quickly sifted, selected, arranged and returned to the front line in such form as to be acted upon by the various units the same day, then the extensive machinery by which the intelligence has been gathered is quite worth while.

(4) The Divisional Summary as issued in the Canadian Corps is thought to fulfil these requirements in an admirable manner, as it returns to the Brigade in the early afternoon the detailed information gathered by the infantry and artillery brigades up to the morning of the same day.

This promptness enables both the Brigade Staff and Regimental Officers to still plan any tactical work for the approaching night which may be based upon the intelligence received. It gives to each of the lower formations the combined informations from their own front, their flanks, and their rear, and supplies as well such artillery information as can be of use or encouragement to them.

(5) A report of some nature is required to be made daily in any case by the Division to the Corps, covering intelligence obtained during the period, and the best form for this has been found to be the summary of intelligence of which the necessary copies can be quickly duplicated.

While this can be made elastic to suit the conditions, it is preferable to have it short to include only such information as is necessary to follow closely the enemy's dispositions and movements, and the progress of his work on front line and rear areas, together with records of shelling.

(6) The Corps Summary is necessary and useful in not only condensing and re-arranging the important items of intelligence of the Corps and adjoining fronts, but in supplying to the Units (down to Battalion Headquarters) a variety of information from outside sources which they would not otherwise get, and which they seem to consider useful.

The Corps Summary too, offers a medium for co-ordinating many of the items of intelligence, which are gathered by the various units on the Corps front, thus making their collection the more useful to the units sending them in.

## CHAPTER VIII.

TELESCOPIC SIGHTS AND MUSKETRY.  
FIXED RIFLES AND SNIPERSCOPIES.**1. TELESCOPIC SIGHTS.**

Use of telescopic sights is not new in warfare. Used in Indian Mutiny, 1856 ; American Civil War, 1865 ; Bisley, 1900.

Telescopic sight does not increase accuracy very much. Will not make a marksman out of a bad shot. Merely enables aim to be taken at small and indistinct objects.

The Rifle should be zeroed with open sights, then with telescopic sights, as the weight of Telescope alters the jump of the rifle.

**2. AIMING.**

Always aim at 6 o'clock line of object ; be careful to aim correctly. More care required in aiming with telescopic sight than with open sight.

**3. HOLDING.**

The telescopic sight is often mounted on the side of the rifle, and the head therefore loses steadying support of butt.

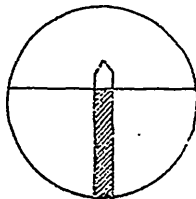
REMEDY.—Tie a pad or screw a piece of wood on left side of butt.

**4. SNAPPING PRACTICE.**

Snapping practice and lots of it very necessary in order to accustom men to their rifles and improving hold and let off.

**5. TELESCOPIC SIGHTS—CARE OF.**

- (1) Must never be taken to pieces except by skilled men.
- (2) Has from eight to twelve lenses.
- (3) The front lens is called the object glass.
- (4) Rear lens is eyepiece.
- (5) The pointer and cross hair called the reticule, as per diagram :



In aiming the eye should be 4 to 4½ inches from eyepiece.

**Note.**—Each telescopic sight is fitted to a particular rifle, and must be used with that rifle and with no other on any account.

## 6. SIMPLE RULES FOR USE AND CARE OF TELESCOPIC SIGHT RIFLES.

### (1) Focus.

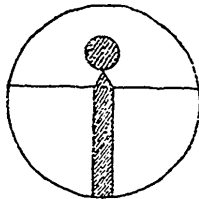
The telescope should be carefully focussed. This is done by loosening the capstan head on the sleeve on top of the barrel of the telescope and moving the sleeve to right or left as necessary. When the focus has been found screw up the capstan head or screw holding the sleeve.

### (2) Elevation.

The elevation is altered by using the elevation drum on top of the telescope. When the elevation drum has been moved to the desired position it should be fixed in that position by tightening the screw.

### (3) Aim.

The aim is taken by sitting the object aimed at on the top of the pointer in the telescope, i.e., aiming at 6 o'clock. By this method the object or target is always kept in view.



### (4) Screws and Lenses.

Men using telescopic sights should be strictly forbidden to touch any screws, capstan heads, etc., at all, except the capstan head on the focussing sleeve and range dial screw.

They must make no attempt to clean the lenses, and must only carefully polish the outsides of the eyepiece and object glass, neither of which must be unscrewed.

This polishing should be done with a clean handkerchief, and must on no account scratch the glass.

Lenses should never be taken out to clean except by an expert, otherwise the shooting of the telescopic sight rifle may be entirely altered.

### (5) Lateral Adjustment.

When absolutely necessary lateral adjustment can be obtained in the case of certain makes of telescopic sights (the Periscopic Company) and some others, by tightening and loosening the capstan heads which are placed on either side of the barrel of the telescope, just below the elevating drum.

If the rifle shoots to the right, first loosen left capstan head and then tighten right, and if it shoots to the left reverse the process.

But this tightening and loosening should be most carefully done as it is a delicate operation.

Very roughly speaking, one half turn equals 6 inches on the target at 100 yards, but this varies.

#### (6) Fitting.

The front leg of the fitting by which the telescopic sight is fixed to the rifle is in some makes (Aldis Co.'s telescopic sight, fitted by Purdey and others) made to fit into a dove-tailed slot.

In order to correct the lateral shooting of these rifles take out the screw on top which holds the dove-tailed slot in place, and tap the dove-tailed slot over until the rifle shoots correctly.

If the rifle shoots to the right, tap to the right to correct, and if to the left, more to the left to correct. On a 4-inch base tapping 1/100 of an inch equals 9 inches on the target at 100 yards.

#### (7) W. J. Jeffrey Sight.

In the case of the telescopic sight supplied by W. J. Jeffrey, of which there are a certain number issued, lateral adjustment can be made by turning screw in centre of elevating drum. If rifle is shooting left, turn to left, and if shooting right, turn to right. Do not turn very far as the pointer will be thrown out of position, causing parallax. This firm has recently issued an improved sight with lateral adjustment by means of dove-tailed slot, but the writer has not yet seen these in France.

#### (8)

A man who has proved himself capable of handling a telescopic sight rifle should be allowed to use that rifle exclusively.

Telescopic sights should remain in a Battalion, and should never be handed over as "Trench Stores."

#### (9)

The elevation and lateral zero of telescopic sights vary considerably in different men's hands. It is therefore necessary for a man to know the rifle with which he is shooting in order to be certain of any results.

#### (10) Damp or Fogged Sights.

The telescopic sight in the hands of many of our snipers are not properly focussed to the sight of the individual using them, and in other cases the object glass and lenses are fogged by damp through lack of care.

If a telescopic sight which is fogged with damp is kept in a warm room or exposed to the sun, the damp will evaporate, but telescopic sights should not be toasted at the fire recklessly or they will be ruined.

#### (11) Few Shots.

As few shots as possible should be fired through telescopic sight rifles. After 300 to 500 shots have been fired the extreme accuracy of the rifle begins to deteriorate.



**(12) Highly Polished.**

Snipers must keep the bore of their rifles highly polished. By doing this sincerely they will double the life of the barrel for accurate shooting.

**7. THE RIFLE AND CAUSES OF INACCURACY IN SHOOTING.**

It is to be presumed that most men attending a sniping course understand elementary musketry such as care of arms, etc., and that most are to be trusted with a rifle.

It is not my intention, even were I able to do so, to explore into the fields of theoretical musketry. This can always be crammed up by reading Musketry Regulations. It is, however, well to remember—

**The Forces acting on Bullet—**

Explosion of charge

Resistance of air

Gravity

—as due allowance must be made for the last two forces when sniping.

**Trajectory.**

The curved line a bullet takes on leaving the barrel in its flight.

**Muzzle Velocity.**

Mark VI. 2060 feet per second.

Mark VII. 2440 feet per second.

**8. PRACTICAL HINTS ON CAUSES OF INACCURACY.****(1) Inaccurate Shooting may be caused by—**

- (a) Faults in Rifle.
- (b) Faults in Sights.
- (c) Faults in Ammunition.
- (d) Personal Error.

**(2) Faults in Rifle.**

- (a) Worn-out barrel (worn-out barrel due to not cleaning usually).
- (b) Worn-out bolt.
- (c) Warped or bent fore-end.
- (d) Metallic or nickel fouling.
- (e) Faulty trigger pull. Too hard, needs filing; or too light a pull.

**(3) Sights.**

- (a) Damaged foresight, too thin, highly polished, etc.
- (b) Damaged backsight, or not properly adjusted. Slips.
- (c) Movement of wind gauge, loose.

**(4) Faults of Ammunition.**

- (a) Select one brand and keep to it. (Different ammunition gives different elevations.)

**GOOD AMMUNITION FOR SNIPERS:**

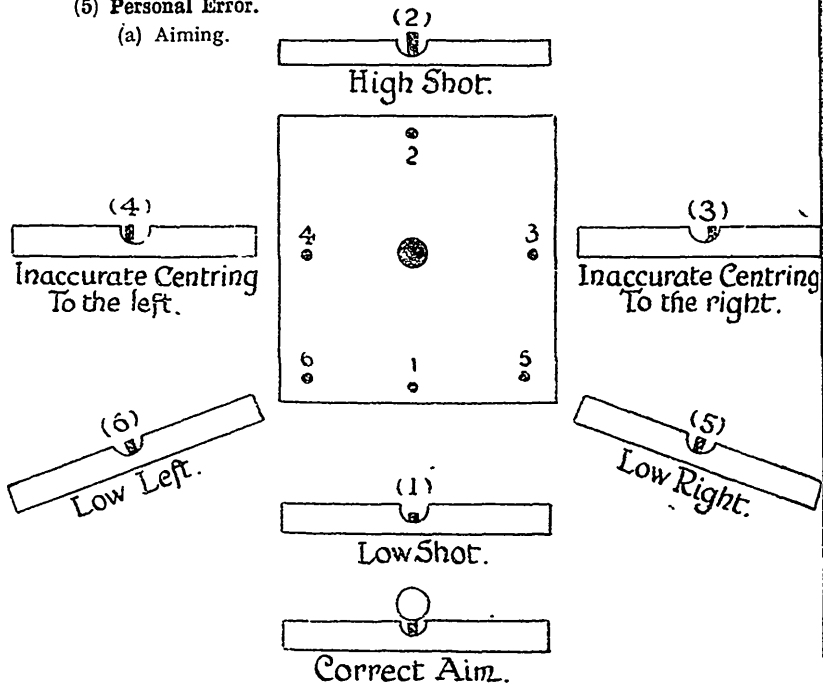
D.A., E., K.N.

Don't expose cartridges to sun or heat.

Keep clean and dry, and free from oil.

## (5) Personal Error.

(a) Aiming.



- (b) Position must be comfortable.
- (c) Hold with both hands—most important. Bad holding most prevalent. No hold at all sometimes.
- (d) Trigger pressing.—Take up first pull directly you are on the target. Men are apt to take up both pulls at once, which is fatal to good shooting. Men should constantly practise this. If rifle is new to you, always press trigger several times before shooting when you go down on firing point.
- (e) If you are resting your rifle, always rest it at the same place and rest it lightly. Resting rifle *lightly* makes no practical difference to your shooting, but nine men out of ten do not rest rifle lightly, they do not support weight of rifle with the left hand, but on the contrary drag it down heavily on to the rest. With a rifle so held down the bullet will strike  $3\frac{1}{2}$  inches per 100 yards higher if the rest be taken at the nose cap, and half this amount if the rest be taken at the band. This fact applies particularly to snipers firing through loopholes in steel plates and resting nosecap.

## 9. CARE OF RIFLE.

(1) Life of barrel depends more on cleaning than on use, and every man keen on shooting knows this. Take an expert target shot or an old hunter, and watch their methods. Their rifle is a living thing to them, particularly the bore.

(2) When polishing do not use wire gauze on new barrel. If necessary, polish may be partially renewed by using Brooke's soap. Damp a flannelette patch and rub a little on it.

(3) Bulges are caused by allowing an obstruction to get into the barrel, earth, snow, putting in wooden plug, etc.

(4) Never have polished or bright sights: should always be darkened.

(5) Avoid oil in breech and on bolt head. Remove all oil from barrel before firing. Snipers must be particular to remember this, as it greatly increases flash and thereby gas.

No matter how free the rifle may be from oil there is always a tendency for the first few shots with Mark VII. ammunition through a clean rifle to go a little higher than the subsequent shots.

At 200 yards the second shot may be an inch lower than the first, the third down another inch, the fourth down again the same amount, then the elevation holds constant.

### Obstruction in Barrel.

In case of obstruction in barrel such as a pull through, fill the barrel full of water and fire a blank cartridge.

### Hints.

- (a) Test rifle as often as possible.
- (b) Must know rifle and its peculiarities.
- (c) Great value of snapping practice.
- (d) If given opportunity get correct length of stock.
- (e) Always use your own bolt.

## 10. WIND.

Teach men to aim off for wind: leave wind gauge alone.

Easy Windage Table.

RANGE	MILD.	FRESH.	STRONG.
200	2 inches	4 inches	8 inches
300	4 "	8 "	16 "
400	8 "	16 "	32 "
500	16 "	32 "	64 "

## 11. ALTERATION OF SIGHTS.

### Elevation.

#### Going Up.

For a low shot multiply the distance you are at by the next higher range to obtain rise in inches.

This scale is approximately correct, and can easily be remembered.

GOING UP. LOW SHOT.			DOWN. HIGH SHOT.	
100	to	200	3½"	4"
200	to	300	7"	9"
300	to	400	12"	16"
400	to	500	20"	25"
500	to	600	28"	36"
600	to	700	40"	49"
700	to	800	54"	64"
800	to	900	72"	81"
900	to	1000	94"	100"

When going down multiply the range you are at by *itself* to obtain elevation —from 800 yards to 100 yards.

The difference is as can be seen by table  
64.

### Error of Day.

Barometric pressure and temperature.

Rifles are sighted for the following conditions:

1. Barometric pressure 30in. (sea level).
2. Thermometer, 60° Fahrenheit.
3. Still air.
4. A horizontal line of sight.

The following rule for correction in case of variations in barometric pressure is approximately correct:

For every inch the barometer rises or falls add or deduct:  
1½ yards per 100 yards of range.

## 12. PECULIARITIES IN HOLDING.

It must be remembered that the same rifle in different hands will shoot quite differently: this is due to peculiarities in holding.

The sniping rifles will be used sometimes by one man, sometimes by another, and no one must be surprised if in the hands of one man the rifle shoots a little to the right, whilst in the hands of another it shoots a little left, high or low.

Each man must learn for himself where the rifle shoots in his own hands.

It has been continually noticed at Bisley that two of the best known shots may shoot with the same rifle and one invariably put his shots 1 or 2 inches per 100 yards to the left or right of the other.

The difference will be constant.

If a rifle is so held that the whole of the recoil is taken on the heel for one shot, and the whole of the recoil on the toe for the next shot, a considerable difference will be found in the elevation, and different men vary considerably in the way they take the recoil. Every man must try and take it in the same manner for every shot, or he will not keep his elevation.

### 13. SNIPERSCOPES (Second Army Pattern)

Sights can be more clearly seen with sniper scope than with open sights.

Both accurate and safe.

Rifle can be fired over parapet without exposing person.

A fair shot can use it with advantage.

#### (1) Range.

Best up to 200 yards. Particularly effective at close ranges.

Can be used up to any range at which the target is visible.

#### (2) Targets.

(a) Enemy wherever exposed.

(b) Systematic searching of enemy loopholes.

(c) Periscope breaking during bombardment.

#### (3) For Effective Use one must—

(a) Practise with it.

(b) Have a platform to give steadiness—sandbags.

(c) Conceal it—this can be easily done.

(d) It must have a good periscope.

(e) Properly fitted up.

#### (4) Fitting Up.

(a) Trigger bar without friction.

(b) Butt plate or trigger guard back against pin.

(c) Tie small of butt on to front pin.

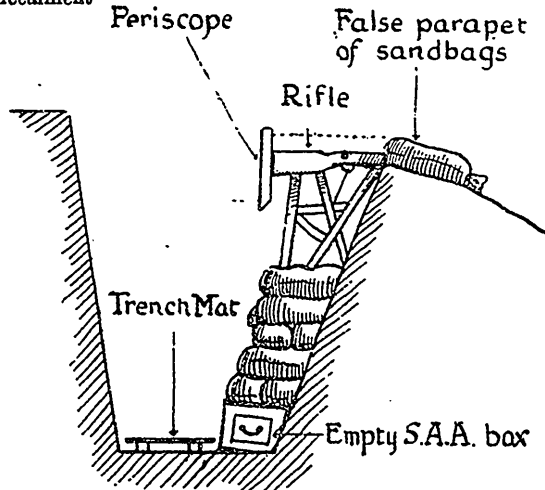
(d) Pack bolt lever down.

(e) Wire on retaining pin.

(f) Oil action of rifle and sniper scope.

(g) Arrange periscope so that sights are aligned to give regulation aim.

#### (5) Concealment



- (a) Fore end and periscope top disguised by sandbags or mud.
  - (b) Muzzle of rifle placed between two header sandbags of the false parapet.
  - (c) Better concealment obliquely.
  - (d) All movements on top of parapet done very slowly.
- (6) **Closing the Bolt.**
- (a) Don't press the bent slot against parapet or else the bolt may be partially opened.
  - (b) If when trigger is pressed cocking piece goes only half way home, don't:
    - (1) Close the bolt.
    - (2) Take rifle down.
 On the contrary, open the bolt.
- (7) **Hints for Use in Trenches.**
- (a) Not necessary to use crack shots.
  - (b) Sniperscopes generally trench stores. To be left in trench, but take off periscope before leaving; put in safe place.
  - (c) Loading by magazine from underneath. Hand or any part of person must not be exposed.
  - (d) If possible use same rifles all day, for various rifles cannot always be properly fitted in.
- (8) **Teaching.**
- (a) Fitting up.
  - (b) Aiming.
  - (c) Comfortable position and firm hold, body well balanced.
  - (d) Steady let-off.
  - (e) Accuracy.
  - (f) Careful concealment and placing on parapet.
- (9) **Position and Hold.**
- (a) Butt in middle of chest, body square to rifle.
  - (b) Legs apart, stomach leaning against platform, head back.
  - (c) Left hand grips front upright and pulls in towards chest. Right hand, palm down, grasps the butt firmly and presses down, right elbow forward.
  - (d) Don't flinch, snatch the trigger, or close both eyes.
- (10) **Precaution.**
- (a) Never leave a live round in the chamber.
  - (b) If anything goes wrong beat open the bolt.
- (11) **Sequence in Fixing Rifle in Stand.**
- (a) See that trigger guard is against bolt or butt plate against pin.
  - (b) Screw butt tightly.
  - (c) Put string through or round pin.
  - (d) Screw small of butt tightly.
  - (e) Tie string.
  - (f) Pack knob of bolt lever and put in retaining pin.
- 12) **How to Conceal a Sniperscope or Rifle.**
- (a) Never aim your weapon directly to your front, but obliquely.
  - (b) Rub clay or mud on the nose cap, sight protection, and bridge charger guide.

(c) Wrap a piece of sacking round the fore end of the rifle. Do not put it on in the same way that puttees are put on, use small pieces and tie on with string.

(d) Place sandbags on either side of the rifle, lying obliquely. Place others indiscriminately here and there on the parapet to make the others less conspicuous.

#### 14. ROWLOCK RIFLE REST.

Mostly used for keeping down fire of enemy's sentries and machine guns at night.

##### Method of Using on Parapet.

(1) Set by sniper at evening "stand to" to fire just over enemy parapet; sniper aims while another man works the screws. Elevating slide tightly clamped but direction slide unclamped.

(2) Fired by sentries at flashes.

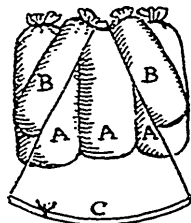
(3) Concealed by sandbags or removed at morning "stand to."

##### Method of Firing.

(1) Recoil taken on shoulder.

(2) Magazine swivel hard up to direction slide to give rigidity.

(3) Rifle held firmly down at point of balance.



AAA. Platform of 3 header sand bags.

BB. Sandbags on top to hold.

C. Elevation slide.

#### 15. MUSKETRY.

##### (1) Range Practice for Training of Snipers.

These practices can be varied and made as natural as possible according to individual ideas and ground available.

First of all examine sights and barrels for defects. It is usual to find several bulged barrels in every class, also rifles from which grenades have been fired, which are all scratched, and in some cases split.

Corroded barrels, etc.

Filing foresights.

Renewing foresights.

Foresights too thin or flattened on the corners by a blow, etc.

Faulty trigger pull, and many other jobs for the armourer.

Then comes zeroing with telescopic sight. This is a delicate matter and requires practical experience, and also some slight optical knowledge.

Very profound warnings are issued to snipers about touching the inner workings of their telescopic sights, which is quite right, but in some cases we are led to believe that only optical experts can adjust the reticule, take out lenses and mend telescopic sights, etc.

Personally I think it is a mistake to frighten men on a subject which, with a little experience and commonsense is not difficult, particularly is this so with Canadians, a great many of whom are surveyors and accustomed to learn the adjustment of their instruments.

I do not include the Warner & Swasey telescopic sights in the above remarks.

After preliminary application the class fire a group with both open and telescopic sights, which on the first occasion is not scored in their marks. It is more satisfactory to let all the men fire a few shots at the bull before rushing them into grouping practice. Sometimes the instructor can make the required adjustment after the sniper has fired a couple or three shots.

### **Snap Shooting.**

This is very important, and as much practice as possible should be given snipers at this sort of target.

It will be found that some men excel at snap shooting, but are only moderate as deliberate shots. This should be noted in their reports so that on returning to their Battalions they may be placed where they are more likely to find moving targets.

### **Loophole Plates.**

It is advisable to give snipers some practice at loopholes in plates at 100 yards and 200 yards.

Also to practise listening for impact of bullet on plates at 200 yards and 100 yards, particularly if these plates are covered with dummy bags.

### **Preliminary Lecture.**

Range 200 yards.—Examination of Rifles and telescopic sights. Obvious defects adjusted when possible, in both open and telescopic sight rifles. Zeroing of rifles. 1st with open sights, 2nd with telescopic sights.

Range 200 yards.—When preliminary zeroing of open and telescopic sights is completed and various adjustments carried out, the Class will fire. 1st, group of 5 shots with open sights, 2nd, group of 5 shots with telescopic sights, careful attention being paid to the groups. Groups, 4in., 8in., and 12in. These preliminary groups will not be scored.

### **1st Practice.**

Range 200 yards.—Grouping. Bull 6in. Groups, 4in., 8in., and 12in. Points, 20, 12, and 5. Sights optional.

### **2nd Practice.**

Range 200 yards.—Application. Target, 2nd class figure. Bull, 4 points; Inner, 3 points; Outer, 2 points. 10 rounds. Sights open.

### **3rd Practice.**

Range 200 yards (P 40).—Application. Target, 2nd class figure. Bull, 4 points, Inner, 3 points; Outer, 2 points. Rounds, 10. Telescopic sights.

### **4th Practice.**

Range 200 yards.—All inaccurate sights and rifles finally tested by instructors and adjusted. The class will then fire Final Group.



Groups, 4in., 20 points; 8in. 12 points; 12in., 5 points. One group with open sights not to score. Group with telescopic sights to score.

**5th Practice.**

Range 200 yards.—Snap Shooting. Bosche head, stationary. Hit, 4 points. Rounds, 10. 5 rounds open sights, 5 rounds telescopic sights. Possible 40.

**6th Practice.**

Range 200 yards.—Snap Shooting. Bobbing figure. Exposure, 4 seconds; interval, 3 seconds. Hit, 4 points. 10 rounds. 5 rounds open sight, 5 rounds telescopic sight. Possible 40.

**7th Practice.**

Range 300 yards.—Target, 2nd class figure with 6in. bull. Rounds 10, including 3 sighters. Sights optional. Possible 28.

**8th Practice.**

Range 200 yards.—Snap Shooting. Walking man. Exposure 10 yards. Hit, 4 points. No. 12 Platoon, morning; No. 11 Platoon, evening. Rounds 5. Sights optional.

**9th Practice.**

Range 200 yards.—Snap Shooting. Same as 5th practice.

**10th Practice.**

Range 200 yards.—Snap shooting. Same as 6th practice.

**11th Practice.**

Range 500 yards. Target, 2nd class figure, 16in. bull. Rounds 10, including 3 sighters. Sights optional. Possible 28.

## CANADIAN CORPS SCHOOL—Sniping and Scouting Course.

Day.	9.15 to 12.30	2 to 4.
Monday	Range 200 yards. Preliminary Lecture, Examination of rifles and T.S. Obvious defects adjusted, when possible in both open and T.S. rifles. Zeroing of rifles— 1st with open sights. 2nd with T.S. sights.	Same as morning.
Tuesday	Range 200 yards. When preliminary Zeroing of open and T.S. is completed and various adjustments carried out to Class will fire : 1st.—Group of 5 shots with open sights. 2nd.—Group of 5 shots with T.S. sights. Careful attention being paid to the groups. Groups: 4in., 8in., 12in. These preliminary groups will not be scored.	
Wednesday	Range 200 yards. 1st Practice.— GROUPING. (Bull 6in.) Groups: 4in., 8in., 12in. Points: 20in., 12in., 5in. Sights optional.	Lecture : TELESCOPIC SIGHTS USE AND CARE OF.
Thursday	Range 200 yards. 2nd Practice.— APPLICATION. Target, 2nd class fig. Bull 4 points. Inner 3 " Outer 2 " 10 rounds. Sights open.	Lecture : CAUSES OF INAC- CURACY IN SHOOT- ING AND CARE OF ARMS.
Friday	Range 200 yds. P40 3rd Practice.— APPLICATION. Target, 2nd class fig. Bull 4 points. Inner 3 " Outer 2 " Rounds 10. Telescopic sights.	Lecture : MAP READING.
Saturday	Range 200 yards. All inaccurate sights and rifles finally tested by instruc- tors and adjusted. The class will then fire final group. 4in. 8in. 12in. 20 12 5 One group with open sights not to score. Group with T.S. to score.	HALF-HOLIDAY.

## CANADIAN CORPS SCHOOL.—Sniping and Scouting Course.

Day.	9.15 to 12.30.	2 to 4.
Monday	Lecture.—OBSERVATION AND SCOUTING Selection of men. How to use telescope. Value of protective colour. Danger of movement What to look for and how to look for it.	Judging distance.
Tuesday	Range 200 yards. 5th Practice. SNAP SHOOTING. Bosche Head Stationary. Hit 4 points. Rounds 10. 5 rounds O.S. 5 rounds T.S. Possible 40.	Lecture : RECONNAISSANCE AND SNIPING. In trench and open warfare.
Wednesday	Range 200 yards. 6th Practice.— SNAP SHOOTING. Bobbing figure. Exposure 4 secs. Interval 3 " Hit 4 points " 10 rounds. 5 rounds O.S. 5 rounds T.S. Possible 40.	Lecture : REPORTS AND SNIPING IN ATTACK AND DEFENCE. NIGHT SNIPING.
Thursday	SCOUTING. Reconnaissance of a position. (Lunch out). (Open warfare). No. 11 Platoon attacking Scouts. No. 12 Platoon defending Scouts. Mapping enemies' position—Report on Topography. Dead ground—Approaches— Timber—Cover contours—Field of fire, etc.	
Friday	Lecture. THE NEW MILITARY LANDSCAPE SKETCHING.	SKETCHING. Practical test in Field of new method.
Saturday	Lecture. THE EMPLOYMENT OF BATTALION, OBSERVERS, SCOUT AND SNIPERS. BEFORE, DURING AND AFTER OF- ENSIVE OPERA- TIONS.	HALF-HOLIDAY.

## CANADIAN CORPS SCHOOL.—Sniping and Scouting Course.

Day.

9.15 to 12.30.

2 to 4.

Monday	Range 300 yards. 7th Practice.— TARGET. 2nd class figure with 6in. Bull. No. 11 Platoon Morning. No. 12 Platoon Afternoon. Rounds 10. Including 3 sighters. Sights optional. Possible 28.	Range 200 yards. 8th Practice.—SNAP SHOOTING. Walking man. Exposure 10 yards. Hit 4 points. No. 12 Platoon Morning. No. 11 Platoon Evening. Rounds 5. Sights optional.
Tuesday	No. 1. Reconnaissance Re- port and Sketch (Distant). Scouts' position, H.3c. 9.0 Describe approaches, entrenchments, likely positions for S.P.'s M.G. Bat- teries, strong points	MAP READING. Class to fill in features on Con- toured Map specially prepared
Wednesday	OBSERVATION Of model German trench. Prepare a sketch and then report :— All movements, in, outside or near trench. Spot loopholes, fired through. Snipers' post, Snipers' hides, saps. Disguised men and periscopes, sniperscopes. Demonstration of protective colour. Night sniping 8.20 to 9.30 p.m.	
Thursday	Lecture.— CONSTRUCTION OF SNIPERS' POSTS— LOOPHOLES—HIDES Also disguises for plates, loopholes, hides and for Scouts Observers, and Snipers both by day and night.	CONSTRUCTION OF HIDES AND LOOP- HOLES.
Friday	CONSTRUCTION OF SNIPERS' POSTS—LOOPHOLES—HIDES, etc.	
Saturday	No 2. Reconnaissance Re- port and Sketch. Scouts' position H.3.c. 9.0. Facing East. Describe all impor- tant features— Enemy activity— Trenches—Strong points, etc.	HALF-HOLIDAY.

4th Week.

## CANADIAN CORPS SCHOOL. Sniping and Scouting Course.

Day.	9.15 to 12.30.	2 to 4.
Monday	8th Practice.—SNAP SHOOTING. Bosche Head stationary. Hit 4 points. Rounds 10 5 rounds O.S. 5 Rounds T.S. Possible 40.	Map Reading. VISIBILITY TEST.
Tuesday	Range 200 yards. 9th Practice.—SNAP SHOOTING. Bobbing figure. Exposure 4 secs. Rounds 10. 5 rounds O.S. 5 rounds T.S. Possible 40.	Lecture : ORGANIZATION AND DUTIES OF INTELLIGENCE SECTION.
Wednesday	LECTURE AND TEST. HANDING OVER REPORTS—SUMMARIES OF INTELLIGENCE—DAILY REPORTS—FORMULA. CONVENTIONAL SIGNS. Class to draw Trench Map and prepare a handing over report.	
Thursday	SCOUTING (Lunch out). Mapping routes followed on enlarged Map prepared individually by each member of the Class—Writing and preparing Reports—Establish O.P.'s. and advanced posts as per Operation Order. All note books to be handed in for inspection.	
Friday	Range 200 yards. COMPETITION. (individual) Target Gin. Bull's Eye Rounds 10 5 rounds O.S. 5 rounds T.S. Prize.	Lecture : AEROPLANE PHOTOGRAPHS.
Saturday	Lecture by CORPS COMMANDER	

## CANADIAN CORPS SCHOOL.

In order to fill in a certain amount of spare time which unavoidably occurs between firing their practices, the class will be given.—

Extra tuition in Map Reading and writing Reports on Map Squares, noting important Map features.

Use of Sniperscopes.

Use of Rifle Battery.

Instruction in adjustment of Telescopic Sights.

Firing through Loopholes at Loopholes.

Firing at Bosche heads, Figures, Periscopes, at unknown ranges.

Intelligence system used in the Canadian Corps.

Operation Orders for the training of Scouts, etc.

How to use Barr & Stroud Range-finder.

Enemy Reliefs, important indications.

Penetrations.

The Siting of Snipers' Posts and Loopholes.

Semaphore Signalling.

Landscape Sketching, etc.

If the weather should be too bad for completion of firing practices, a portion of above will be inserted in Syllabus.

## CHAPTER IX.

OBSERVATION, SCOUTING, AND PROTECTIVE  
COLOUR.

## 1. SNIPING AND SCOUTING.

**Sniping and Scouting** (in Battalion Organisation) should go hand in hand together. Therefore, a course of training in Sniping includes training in Scouting, so far as it applies to Sniping. The Scout proper will not be a Sniper.

## 2. SNIPING.

What do we understand by Sniping ?

Sniping, or that is to say, the picking off of individual adversaries with weapons of precision, has been long practised, but its general application as at the present time is a result of the trench warfare which has developed since 1914, and in the improvement in modern weapons.

It demands patience, perseverance, pluck, with precision both of the man and his weapon. It is the art of the hunter coupled with the wiles of the poacher, and the skill of the target expert armed with the best aids that science can produce, and it is with this combination that we have to deal.

Let us consider first the objects of sniping, then the means by which they may be best attained.

**First object :**

To protect your own trenches—both fire, support and communication trenches and all approaches. This involves—

- (1) Obtaining a superiority of fire and keeping down that of the enemy.
- (2) Obtaining a mastery over the enemy snipers.
- (3) Making a thorough reconnaissance of the enemy's position and obtaining all useful information.

**Second Object.**

Is to kill the enemy sniper and shake the enemy's morale, and the two objects go hand in hand together.

If the enemy is allowed a quiet time he will utilise it for work of attack and defence. A few well trained snipers can keep him busy by their domination with accurate fire and produce an effect that is not measured merely by the number of rounds fired.

It is a prevalent idea that a sniper is a species of machine gun, whose sole object is to dispose rapidly of large number of the enemy.

Such an idea is erroneous. Snipers should, practically speaking, never use rapid fire from any concealed position. Rapid fire, excepting during offensive operations, will be certain to attract attention and the sniper's position will not only be endangered by sound of discharge, but also by gas, which is increased or decreased according to the ammunition used, but which is nearly always present and which will, therefore, constitute a danger.

Particularly should rapid fire never be used with rifles mounted with telescopic sights: it heats the mounting and is otherwise injurious.

Rapid fire should not be confused with rapid *aim*: the latter is most essential.

The first matter for consideration is the choice of men to act as snipers and scouts, and it may here be observed that so many specialists are now demanded in warfare that it is useless to try and make a sniper of every man in a Battalion, even if it were possible. Only a limited number will be available for this purpose, but they must be specialists in this branch reserved for this purpose only, and subjected to special training.

Good shooting is an essential but by no means the only qualification.

He must be OBSERVANT in the highest degree.

### 3. OBSERVATION.

Extract from notes compiled by General Staff, War Office, March, 1916. (This applies to Scouts particularly).

Men selected must be intelligent and well educated, besides being good shots.

Also observation and the *ability to describe* what he has seen are most important qualifications in a sniper or a scout.

Good shooting is an essential but by no means the only qualification. Men selected must be observant in the highest degree.

The sniper must be able to pick up targets which are not obvious to the ordinary view.

He is out to kill special targets, men who know as much about the game as himself, and can make use of concealment, disguises, protective colour, etc.

This will be impossible of accomplishment unless men are observant and know what to look for and how to look for it. This requires special training, and that is why so many sniping and scout schools have been formed so that men may attend and be shown and trained in the use of all the latest devices in the way of disguises, protective colour, loopholes, etc. besides being trained in many other important branches of scouting and sniping.

To proceed with observation, there are certain aids:—

Telescope.

Field Glasses.

Periscopes, Sniperscopes, etc.

Your own eyes.



#### 4. USE OF TELESCOPE.

(1) FOR CONCENTRATED DETAIL IT IS UNEQUALLED.

Far easier to conceal.

Field glasses very good, but cannot verify if uncertain of an object if far away. The writer has proved this time and time again when big game hunting, and examining nature of horns carried by various animals, etc.

(2) TAKE CARE OF TELESCOPE.

An important warning to men new at the game—Should never lend telescope to pals.

(3) CORRECT METHOD OF CLOSING.

Close shutter over eye piece first (prevents grit and dust getting into the space which exists between metal and eye-piece), then place it against the body and close with rotary movement.

Watch for grit or mud.

Never place bare hand over object glass: it scratches very easily and also fogs the glass.

Place leather cap over when closed.

Avoid concertina method of closing.

(4) HOW TO USE.

Use both eyes alternately—relieves strain; and then both open. Note distant object with naked eye (stationary), then pick up with scope. Then moving objects on the ground and pick them up.

Then objects moving in the air, such as birds, aeroplanes; helps to quicken you.

Good wing shot as rule will be quick with scope because he uses same method.

NOTE.—That small objects near at hand are difficult to pick up; for instance, take a peculiar looking leaf in a hedge which you have spotted with naked eye, and try and pick it up quickly with scope.

FINALLY—

Telescope is observer's best friend: it is easy to obtain a new rifle but not a new telescope.

#### 5. SELECTION OF MEN.

The greatest care should be exercised by Officers and N.C.O.s in the selection of suitable men to act as Snipers, Observers, and Scouts.

Men have to be highly trained for this work, and no time should be wasted in the attempt to train illiterate men or men unsuitable for the work.

Men are too often *detailed* instead of selected. As a rule Company Commanders dislike to part with good men, and therefore detail men who are undisciplined, blind, deaf, slow and a nuisance to the Company.

This is a bad practice. Unfair to the men and to those detailed to train them.

Sir Douglas Haig has stated that he depends largely on the observers, snipers and scouts in the front line for his information. It is far more reliable than any other, therefore we must have good men.

### (1) Qualifications.

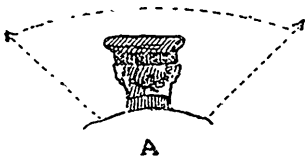
- (a) Good eyesight. Quick sight : some born with it, others develop it ; must develop to become good Observer, Sniper, or Scout. Eyes should always be restless when in the field. Never caught napping, so to speak ; should try and develop.

#### ANIMAL SIGHT.

Quick sight as per diagram (A).

#### FLANK TO FLANK.

Direct or slow sight as under (B).



A



B

Should not be colour blind or deaf.

#### (b) Colour Blind.

If a man is colour blind but in all other respects a good shot, scout or observer, this defect would not debar him from entering the Intelligence Section, but cases have occurred where men have been posted as Observers who were colour blind and whose duty it was to report on all flare lights seen and their colours. If a man knows he is colour blind he should always notify his officer. In any event it is just as well to test all Observers.

#### (c) Deaf.

Partial deafness is prevalent among front line troops, and should be watched for with the greatest diligence by the Intelligence Officer and Scout Officer.

#### Examples :

The writer a short while ago was performing the duties of an Orderly Officer and inspecting men's huts. On entering one hut the occupants were called to attention and all obeyed with the exception of a man who was leaning out of the window at the end of the small hut. The command was repeated, but still no movement from the man. At this juncture I was informed that the man was deaf. I thought it advisable to investigate the case, and was told by the men that " He had been in the line with us for several months. He had been on sentry duty on the parapet. He had taken his tour of duty in our listening posts." This experience " gives one to think."

The following case happened quite recently (September, 1917). An Officer was returning from patrol duty and was challenged by his Listening Post. He answered the challenge and then advanced, and in the next second was shot through the heart. The case was investigated and it was discovered that the man who challenged the officer was deaf and did not hear his reply, the other two men in the listening post heard the officer quite distinctly.

- (d) Keen, intelligent: no job for dull man.
- (e) Persistent, patient, plucky. Has to spend many hours in hide by himself, and there have been several instances where one of our snipers and a Hun sniper have spotted each other at the same moment and started a duel.
- (f) Highly strung, nervous temperament unlikely to make a good Sniper or Scout.
- (g) Man who is untruthful.

Example:

A Sniper claimed 63 Bosches and placed as many notches on the stock of his rifle. When subsequently this man was sent to a sniping school he was unable to hit a 32in. x 32in. target at 100 yards.

## (2) Sight.

Men should be tested both by day and night.

Men with excellent sight by day may be almost blind at night.

The writer saw a soldier who was going out to relieve a Listening Post walk straight into a shell hole full of water through being blind at night. There are many other instances.

Men should not be detailed for important work without due regard to their ability to carry out the work, therefore men should be tested.

## (3) Ground.

Both Snipers and Scouts must have good eye for ground and be able to read ground quickly and know how to make a successful stalk. Should practise this at all times, particularly when out in billets.

## (4) Out-of-Door Life.

Generally try and select men who have led an out-of-door life, preferably in the woods, such as game hunters, trappers, prospectors, surveyors, and poachers—particularly are these men likely to make good Observers and Scouts.

Also, as a rule, they are fair shots, which, coupled with the experiences they have had, must undoubtedly give them a great advantage (at the start anyway) over the city man.

Also these hunters and trappers are men imbued with a good deal of commonsense, good practical knowledge, have been compelled to use their wits when in places remote from civilisation. They move silently, their food and living depend frequently on success with eyes, rod and rifle, it is essential for them to be particularly observant, patient, and persistent, and by nature of their calling are usually fairly brave men.

Having now obtained a telescope and some good men, we turn our attention to

## 6. OBSERVATION.

### Position for Observation.

- (1) Choose a good one. Not an easy matter. Must have system. We will suppose we are attempting to establish an Observation Post behind the lines, possibly sniping post as well: First, find flanks of Battalion frontage; take telescope; advance carefully (dawn best time). RECONNOITRE extreme left, centre, extreme right. Also note ground (most important). Examine position of enemy trenches. Look for concealment because that is protection. Do not be in a hurry, may take whole day or more.
- (2) IDEAL POSITION (For Sniper).  
A good commanding position behind the lines, not more than 300-350 yards from enemy front line.
- (3) MAKE IT REASONABLY COMFORTABLE, particularly if it cannot be relieved in daylight.

## 7. WHAT TO LOOK FOR.

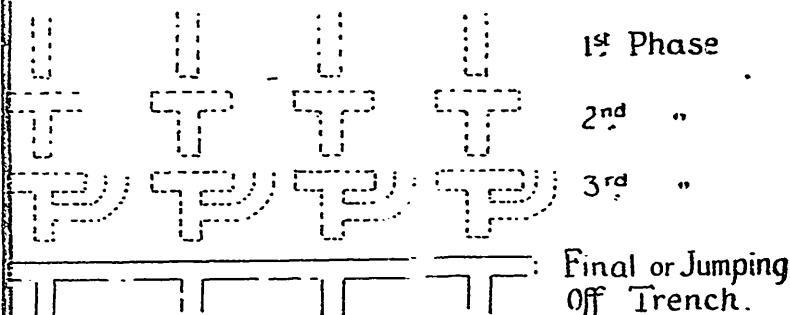
Snipers and Observers should keep a list of the following important things so that they can look over the said list every time they go on duty:

- (1) **Loopholes.**  
Observation Posts and Snipers' Posts.
- (2) **Machine Gun Emplacements.**  
Built or building; also direction of fire from bullets from these guns.
- (3) **Trench Mortars.**  
Locate from flash and aeroplane photos.
- (4) **Smoke.**  
Betraying dugouts in support or reserve, Battalion Headquarters, important buildings, etc.
- (5) **Working Parties.**  
Strength, time and place.
- (6) **Trenches.**  
Position of new. Those being repaired or strengthened, method of construction, how revetted, how drained. Communication trenches, whether organised for defence.
- (7) **Wire.**  
Where it has been made particularly strong or dug in—any gaps or sally ports—the effect of our own artillery fire on it; also any wire behind front line.
- (8) **Listening Posts.**  
Scouts responsible. Paths to them or saps can frequently be spotted from aeroplane photos.

**(9) Saps.**

Most important Scouts should report at once, it usually means an attack.

Ypres salient June 2nd, the Bosche sapped out and constructed a jumping-off trench as per diagram :

**(10) Mines.**

Unusual amount of soil spread out. Blue clay in certain districts. Mining timber, pumping by day and night. Steam arising from shaft. Then, of course, our miners hav. listening apparatus below.

**(11) Trench Tramways.**

Very plain on aero photos.

**(12) Roads.**

Any lines of approach to the front line used by enemy—roads, tracks, by reliefs, transport, etc.

**(13) Aircraft.**

Position and time of hostile aircraft trips over our lines.

**(14) Strong Points.**

Redoubts, sniper posts, defended localities, etc., get bearing.

**(15) Identification.**

Most important. Must not retain souvenirs of importance; must be shown to someone qualified to judge their value. Equipment, uniform, buttons, badges, papers, letters, documents, identity discs, paybooks, etc.

**(16) Dugouts.**

When taking over new frontage report everything one sees, no matter how obvious things may seem to you they may not have been obvious to the people who have been relieved.

**(17) Artillery Fire.**

Direction, number, and size of shell where possible, also watch enemy's habits during bombardment of our lines. Sometimes it is possible to ascertain where their trenches are strongly held. Also report any of our own shells that fall short.

**(18) Lights and Signals.**

Searchlights, wireless, telephones, or telegraph (helio, morse' semaphore); also spy work.

**(19) General.**

Any information concerning the enemy, no matter how trivial it may seem to you.

**(20) Dead Ground.**

Most important, anywhere, not only in No Man's Land, but where ever enemy can mass reserves preparatory to an attack.

**(21) Dummy Trees.**

Keep careful watch for these, particularly if from any tree good observation of our lines can be obtained.

**(22) Dummy Men.**

Snipers occupying well concealed sniping posts must be most careful not to hit any dummy head or box exposed by the enemy, or his position will be given away.

**(23) Dummy Grass.**

The Bosche can possibly imitate grass in the same way that we can, and probably uses it for the same purposes—covering machine gun positions, saps, hides, sniping posts, guns, etc.

Also try and find out all one can about enemy's system of patrols and reliefs, and keep in touch with F.O.O. or Artillery Forward Observing Officer. He usually has very good maps in his possession, and as a rule has names for prominent buildings and landmarks in the Bosche lines which it is useful for the Sniping Officer to know. He can also give ranges to various points, and other useful information.

**(24) Finally.**

When observing, men must be taught to observe intensely.

Must be systematic.

Must not wander aimlessly about all over the enemy country.

Take small sections at a time.

For instance:

Search your own wire (some of our Scouts have remained concealed amongst Bosche wire all day and obtained useful information, Bosche may do the same).

Search No Man's Land.—Take it in sections. Should examine every blade of grass, so to speak.

Search Bosche wire (Sniping Posts). Good place for Sniping Hides and forward Observation Posts.

Watch approaches to dead ground, more particularly early in the morning and before dusk.

Suspect everything one sees.

Must keep enemy under constant observation.

Put brains into telescope.

Place self in Huns' position and think what you would do.

Match cunning with cunning, and then add about 100 per cent.

## 8. SCOUTING.

### (1) Qualifications.

Scouts :

Should not be too big or heavy.

Must be quick and alert.

Men quick in brain and movement.

They require possibly more specialised training in practical

Map reading.

Map drawing.

Sketching.

Reporting.

Particularly in memory sketching (most important). Not always possible for Scout to sit down and make a sketch on the spot, he must memorise ; he must sketch quickly sometimes.

### (2) Reporting.

Careful training must be given on this subject, not only in the lecture room but in the field, this branch of training cannot be overdone.

### (3) Landmarks.

He must take note of landmarks, notice everything in the least prominent in the landscape by day, and remember them. Also note landmarks by night—outlines of trees, buildings, contours, etc., most important.

Scout must find his way about by day or night, which entails a good eye and memory for country—a priceless gift for a Scout.

### (4) Finding Camp or your Original Direction.

Many a man has been lost by neglecting to do this :

Fix compass location of your camp or trenches and, if possible, some fairly prominent landmark near camp.

Look back and try and pick up some prominent landmark in the distant landscape behind camp and fix it in your memory. Keep on looking back and fix your mind on the location of the camp in relation to the landmark.

If one crosses over a high ridge and descends the other side, the original landmark will of course be lost to view. It is necessary therefore to memorise others on the ridge just left. It is advisable to note small landmarks as well.

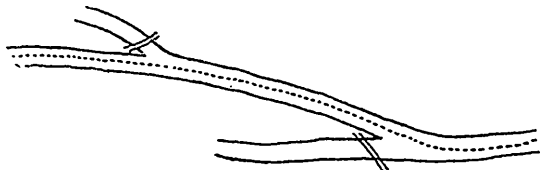
I do not think there is any more important warning to a Scout than to LOOK BACK AND MEMORISE.

**(5) In Forests or Fairly Thick Woods.**

Only safe method is to blaze trees, if there is no sun to guide one. This method, however, can hardly be applied to conditions prevailing in this war.

**(6) Tracks.**

If it is important to keep to certain tracks on your return it is sometimes well to mark them, or roads or paths which have not been taken, by making a small pile of stones or placing pieces of wood by the side of the path or bank where they will not be kicked or trodden down, etc.

**(7) Sun.**

If the sun can be seen all day no one should lose his way. Note position of sun when setting varies according to time of year and latitude.

Note position of camp with regard to setting sun, also position of sun when you start out in the morning.

**(8) Prevailing Wind.**

Remember also that in some countries there is a prevailing wind which blows in a certain direction nearly every day between certain hours.

**(9) Trees.**

In some countries trees will give direction of North and South. Some have moss only on side exposed to South. In Alaska the Northern side of the spruce tree is as hard as iron, while the Southern is quite soft.

**(10) Rivers and Streams.**

Be careful to note direction of flow of rivers and streams.

If you know that you must go down stream to your camp it is always a guide and should be remembered.

**(11) Tracking.**

Scouts should have a knowledge of tracking, know what to look for and how to read tracks and signs.

In this war tracking is difficult owing to the enormous numbers of troops moving and the nature of the ground.



However, always keep your eyes open for signs on the ground. A Bosche sniper's position was spotted by an officer one foggy morning when patrolling down a hedge in No Man's Land. First of all he spotted a handkerchief, then some fresh tracks. He followed these a few yards and found they led into a hollow willow tree, and this is where the sniper had been firing. They got him four nights later.

**(12) Smoke.**

Be careful about smoke. Will give away enemy's position and also your own.

Used sometimes as a ruse in open warfare. Light fire, go a little way off, and get up a tree, etc., and wait.

**(13) Matches.**

On a clear night a lighted match can be seen 900 yards, if nothing intervenes, of course; a cigarette 300 yards, and by day a puff of smoke from pipe or cigarette can be plainly seen from trenches at 200 yards, possibly further.

**(14) Sound.**

On still nights sound travels a very long way.

A man speaking in an ordinary voice can be heard a long way off. This should never be forgotten by Scouts.

Far too much noise is frequently made by troops leaving the trenches on relief; also, they are allowed to light up cigarettes, etc., when too near the front line.

Scouts should report this because it only tells the Hun there is a relief on. If a Scout has a cold or cough he should never be allowed to go out on patrol, etc.

**(15) Strong Wind.**

When there is a strong wind blowing always try and patrol with it blowing in your face or "upwind."

Can hear movements better, and can detect any unusual smells—Tobacco, farm yards, cooking, etc.

It is wise to be specially vigilant on a windy night.

**(16) Ashes.**

Examine ashes, find out what the fire was kindled for, whether for cooking, warmth, or to destroy anything, etc. Notice tracks round fire.

**(17) Food.**

Should be good woodsman, able to cook and prepare bivoaac quickly.

**(18) Swimming.**

Scouts should be able to swim.

**(19) Signals.**

Important for Scouts to know semaphore and also to arrange signals among themselves, particularly when doing night work. In the attack on the Canadian front at Ypres, in June, 1916, this precaution saved the lives of a Scout Officer and his Sergeant.

**(20) Low Ground.**

Wherever possible always keep to low ground, compelling enemy to become outlined against sky.

**(21) First Aid.**

Scouts should know something about first aid, particularly with regard to men who are hit in the stomach or lungs.

**(22) Every Scout should have Pluck coupled with Discretion and Self-Reliance.**

It requires far more pluck to go into danger alone than to "hop the bags" with all your pals. You can't very well turn back then.

A Scout knows the danger, knows he can turn back if he wants to and no one will be any wiser, but he doesn't do it as a rule.

*It is important that no officer or man should, except under exceptional circumstances, be permitted to go over the parapet in command of scouting or reconnaissance parties unless he has been previously trained.*

Scouts should know how to walk with the least possible noise, should "feel" the ground with their feet so to speak, the toes and ball of foot should "slide" noiselessly to the ground before the heel touches. Walk from the thigh rather than from the knee. Scouts should also know how to crawl on the hands and knees, keeping the body well extended and the head low, constantly watching flanks every few yards. Also, they should know how to lie as flat as a pancake and crawl on the stomach with the aid of elbows, forearm, and ball of each foot; heels must be kept flat. The latter is a most important precaution.

A few hours' experience in No Man's Land with an expert N.C.O. or Officer is better than months of training behind the lines.

**9. HOW TO OBSERVE.****(1) How to Look.**

Practical experience and good commonsense will alone make a proficient observer.

It is difficult to discuss the subject adequately in a lecture room, but perhaps a few hints may not be amiss. I shall therefore discuss the subject from the point of view of the big game hunter. We are doing very much the same thing, only we are now hunting the biggest kind of game, namely human lives, the only difference being that one can usually take a chance with the most ferocious of game, but here it is dangerous, any chance given will be accepted.

In trench warfare we are very much like animals. We do the same thing more or less in the same way day after day.

Therefore we will discuss the subject under the following heads.

1. Habits.
2. Signs.
3. Movement.
4. Protective Colour.

**(2) Habits.**

To be successful a game hunter must always study the habits of his animals.

First of all he must pin them down, find out where they live, what districts, etc. This has been done for us here, so we must proceed to study habits.

Find out what time he gets up, namely "stand to."

The best time in the morning to find him in the open.

He, like animals, will usually rest at mid-day, therefore the Observer should rest his eyes and body when he knows no targets are likely to appear.

Then watch for the best time to find him in the evening; game, and the Bosche, move about considerably from 4.30 p.m. onwards.

Find out if he has any REGULAR HAUNTS where he may be watched and fired at.

Having studied the habits of his game for a day or so, the Sniper and Observer will begin to feel a certain amount of confidence as he begins to know something about the habits of his game.

The Sniper now wishes to kill a Hun or two, so he begins to look for

### (3) Signs.

Like animals your game will have particular tracks or trails to or from his working places or feeding grounds.

These tracks will probably take him over exposed places where he may be wholly or partially visible. If so, the hunter will get in his shot.

He may, like the wolf, have night trails to certain spots like a dead carcass. In this case the hunter sets a dead-fall, spring gun, or trap, and usually bags the wolf, etc. We do very much the same thing having spotted an R.E. Dump.

### RATION RENDEZVOUS OR OVERLAND TRAILS.

We set rifle battery or fixed rifle, and the chances are we shall at least "wing" one occasionally, besides getting his "wind up."

### WATER HOLES.

Animals often frequent the same pond, or lake; the hunter finds this out by watching their tracks, and then waits for his game.

Your game frequently runs out behind the parapet and exposes himself while dipping water out of a shell hole. You wait for your game in the same manner.

### CROSSING STREAMS.

Animals frequently cross streams in the same place.

Your game does the same thing, only he crosses on bridges or duck-boards. You observe this, and your Sniping Officer covers the crossings with a fixed rifle or rifle battery at night, and by direct fire in the daylight.

Also under the heading of signs it must be remembered that the position and presence of animals is frequently betrayed by the actions of other animals; also the presence of human being is often betrayed by actions of animals. For instance: Class of thirty officers observing, looking for three men taking cover in an open field but exposed to the shoulders wearing coloured veils to conform to their background,

the most distant man being sixty yards away and the nearest twenty yards. The observers were using telescopes, but none of them spotted either of the three men until a cow strolled along and nearly walked on one of the hidden men. The cow then stopped and gazed in astonishment, with neck stretched out and ears pricked forward. Only one officer noticed the actions of the cow, and he soon found the hidden man. (It is not suggested, of course, that cows are in the habit of wandering about No Man's Land.)

#### BIRDS.

If any unusual flight of birds or a bird occurs when on patrol, keep still, watch and listen. A woodsman or good scout can tell when birds have been suddenly disturbed.

#### RAVENS.

Where ravens exist they should always be watched. They have the habit of circling over movement on ground. The writer has often found moose and bear and other game by watching the habits of ravens.

#### (4) Movement.

The most fatal thing of all for both hunter and hunted. Must be reduced to minimum.

#### OBJECTIVE OR TARGET.

One common fault. Do not rivet all your attention on your objective or target when either hunting or scouting; remember your own movement always. Do not get unduly excited at prospect of shot, etc.

Remember the feet, be careful how one moves them, keep them flat, don't lift them in the air.

As an excellent illustration of perfect movement, patience, and persistence, watch a cat stalking a bird.

#### CARELESS.

Never become careless when scouting, some men as they gain confidence are apt to become careless. Familiarity breeds contempt, etc. Scouts have been heard to say: "Oh, so and so crawls about No Man's Land. I never crawl unless close to their wire." This man soon becomes a casualty.

#### QUICK OR SUDDEN MOVEMENT

Of hands, body or feet is always dangerous. For instance, the waving of a signal flag in parapet, or fluttering of a piece of rag or sand-bag on the wire, attracts attention continually.

If one keeps still it is fairly safe to be in full view of enemy.

EXAMPLE.—A certain Sniping Officer detailed one of his sergeants and two men to go out one misty or foggy morning and examine the Bosche wire and find what a Bosche working party had been doing during the night. Unfortunately the fog lifted suddenly when the three men were only halfway across No Man's Land on their return

journey, so all three of them flopped down on the ground and tried to crawl into shelter. Two of them were in full view from their own trenches all day, and were also in full view from the Bosche lines, because the ground happened to be in front of the Messines Ridge. However, none of the men was spotted. They kept perfectly still. This also illustrates very bad observation on the part of the Bosche.

#### NOISE.

If one hears the slightest suspicious noise when scouting in enemy country, keep as still as death and listen, and be prepared to do this for half an hour or more, because the first one to move should be the one to die, as he will give his position away. Under similar conditions the hunter nearly always gives himself away first. He has less patience than the animal.

#### FLANKS.

Continually watch your flanks. The eyes of a scout must never be still; let them wander everywhere—never forget this.

**EXAMPLE OF MOOSE FEEDING.**—Watch a moose feeding. Every two or three minutes his head is raised (he usually feeds up wind), and he takes a big draught of air through his nostrils. If this seems satisfactory he slowly moves his head from flank to flank and takes a good look, and if satisfied down goes his head again and he continues his meal, and soon. Exactly what a good Scout should do—watch his front and flanks.

#### REMEMBER.

It is a careless Observer or Scout, like a careless hunter, who will nearly always give his position away.

#### BEING STALKED YOURSELF.

Also, when scouting or sniping be careful not to be stalked yourself. Keep your eyes wide awake, watch carefully all round.

The Bosche uses ruses to draw us out sometimes, or to draw our fire, such as dummy heads, dummy bodies, men's packs, and many other things to attract the Sniper or Scout, etc.

### 10. PROTECTIVE COLOUR.

The study of colour and background and practical use of these two things is of the utmost importance to Sniper, Scout and Observer.

It really requires to be demonstrated before men realise there is anything in it.

Protective colour or camouflage cannot be under-estimated. This art is becoming more important each day, and the Intelligence Sections of all Battalions should have some knowledge of the possibilities of camouflage.

The enemy is using an increased amount of it. It has been reported all along the Western Front, and the information is important for our Observers and Scouts. At the Canadian Corps Sniping School a man using camouflage has frequently been placed within five yards of a class of 200 men observing, and has seldom been spotted. There are no bushes anywhere near, he is in the open and the grass is short. Some Schools ignore camouflage, it is a very unwise policy.

### SNIPERS' AND SCOUTS' SUITS

Are indispensable, they hide the outlines of a man's figure, and can be painted to conform to the general colour scheme of the landscape. At the Canadian Corps Sniping School, once during each course it is my custom to place two men in full view from head to feet, 15 yards from a class of officers and men numbering over 200, and these men rarely spot my two snipers. This is purely a matter of protective colour.

Another test for Observers, in order to demonstrate the value of protective colour, is to make a man look over the parapet and still be invisible to a class of Observers standing with 10 yards of him and even closer. This man has frequently spoken to the observers without even then being spotted.

### VEILS.

Snipers, Observers, and Scouts must be provided with a certain number of coloured veils—most important.

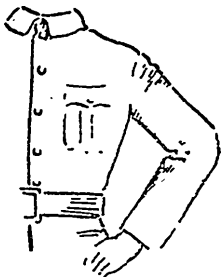
Gossamer veiling the best.

The issue brown veil is not a good shade; it should be either darker or lighter (a certain number of veils are issued by Divisions and are nearly all coloured Brown). Black, brown, fawn, slate.

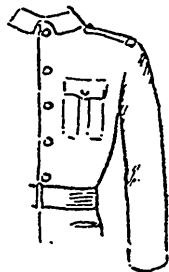
The face must be covered when under observation both DAY AND NIGHT. A man's face at night, unless disguised, can be seen a long way off.

### OUTLINES.

Avoid all outlines, particularly shoulder. Veils and hoods are useful for this, also sniper's suits :

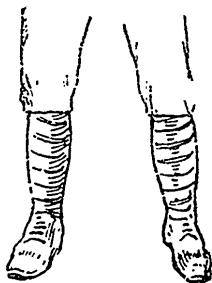


ELBOW (Never contract elbow when under observation close to enemy).



ARM FROM SIDE (Keep arms close to side).

**LEGS TOGETHER** (If the necessity should arise always keep one's legs very close together when near the enemy and under observation.



Cover face and hands, particularly during daylight patrols or scouting.

### **11. SCOUTING.—Leaps and Bounds.**

Men who train Scouts to cover ground in "leaps and bounds" can have had little practical experience themselves, and when I say practical experience I mean scouting in the danger zone, or hunting animals in the woods and forests in peace time. Scouts should never be trained to go forward in "leaps and bounds." Nothing is more dangerous when under observation by the enemy. movement must be reduced to a minimum.

I make particular mention of the above because it is a common error in the training of Scouts behind the lines.

## CHAPTER X.

## INDICATION OF RELIEFS, PENETRATIONS, R.F.C.

## INDICATIONS OF RELIEFS AND WITHDRAWALS OF ENEMY'S UNITS.

Reports from various sources indicate that the enemy is rapidly making changes in the units holding the Western Front, withdrawing them for use in other areas and replacing them with units which have already suffered in these localities.

It is highly important that not only should prompt information be secured of any change of enemy units, but that new units be quickly identified.

In order to detect changes in the form of reliefs or complete withdrawals of enemy's units from the front line, the following outline of indications may be useful for the guidance and information of Observers, especially in the front line system.

## 1. Activity of Front Line Fire, etc.

Uniform increase of rifle fire and machine gun fire may indicate either :

- (1) A covering for a relief in progress.
- (2) The characteristics of a new unit which may be more aggressive or perhaps more nervous.

## 2. Increase of Trench Mortar Fire and Bombing.

- (1) In trench mortars it may mean new registration or the employment of these instead of artillery, which may have been withdrawn or be saving ammunition.
- (2) In bombing without apparent cause, especially in No Man's Land at night, may indicate a new unit of nervous characteristics. Frequent cases of enemy bombing his own wire.

## 3. Increase in Flares.

Increase in the number of flares sent up by enemy along a Battalion front (not locally) with other things being equal usually indicates a relief either :

- (1) To cover a movement of relief already on, or
- (2) As characteristic of a new unit, unacquainted with the locality, possibly nervous.

NOTE.—Conversely, the decrease in fire, bombing, flares, etc., may indicate a new unit of quieter characteristics, or purposely quiet to avoid retaliation, particularly if the unit has been recently in severe fighting and wants a quiet time.



#### 4. Activity of Movement.

(1) Increase of patrols in front of enemy's wire may indicate a new unit either :—

- (a) By aggressiveness in keeping patrol contact, or
- (b) By covering the operations of a unit particularly active in working parties on front line.

(2) Increase of railway, tramway and transport activity, if detected, is a pretty safe guide to spot a relief. Oftentimes the direction of the movement can be seen or heard, and depending upon the time of day or night the movement in or out can be surmised.

#### 5. Activity of Working Parties.

It is difficult to deduce the presence of a new unit by its activity in working unless by comparison with its predecessor as to method, size of parties, etc. The locality in which work is being done may or may not indicate a new unit.

The relief of a unit from the front is generally accompanied by a cessation of working parties for at least one night, whilst getting settled down. This can only be detected by continuous observation both before and after.

#### 6. Noise on Front Line and Approaches.

A close study of noises coming from enemy's trenches as discovered by patrols will usually indicate the nature of movement.

Experienced Observers will frequently be able to recognise the noise made by an ordinary relief.

A relief by troops new to the locality will invariably be noisier than by those accustomed to the trenches.

Listening posts or listening scouts are often of the greatest value, and should not be discontinued.

#### 7. Appearance of New Troops.

Observers frequently send in reports indicating new types of uniform in the trenches. Usually of different colour :—

Blue (Labour Battalion).

Green (Jager), etc.

It isn't likely that new troops can be safely detected by this means. All uniforms of fighting units are so nearly alike nowadays and fade readily, or are dusty or muddy.

The actions of new troops, however, are often indicative of their ignorance of the locality.

They will make more frequent use of periscopes and will oftentimes show their heads over the parapet more than older units.

#### 8. Activity of Mining.

Officers carrying out intelligence duties around the front line should consult mining officers in their trench areas as to indications of increased or decreased mining operations, which will oftentimes give a lead as to changes in units.

## 9. Activity of Artillery.

Enemy's artillery (such as Divisional) in the course of reliefs will either wholly change, gradually by localities or will change personnel only.

In either case there is sure to be some cessation and some erratic operations.

In either case also there will be re-registration and more or less practice in putting down barrage, etc., both of which can be readily detected if the targets and nature of practice be closely observed.

The deductions to be made from the nature of guns and projectiles are technical, and based on a large acquaintance with the enemy's projectiles.

## 10. PENETRATIONS.

Mark VII. Ammunition. Range 100 yards. Service Rifle—Short Lee Enfield.

(1) Tests carefully prepared and carried out by Royal Engineers at Royal Staff College, Camberley, August, 1915.

	Two SHOTS.	
	First.	Second.
1. Wall of sandbags filled with sand ... ..	5"	7"
2. Earth free from stones ... ..	12"	7"
3. Wall of sandbags filled with shingle, $\frac{1}{2}$ " gauge ...	3"	
4. Broken Brick ... ..	8 $\frac{1}{2}$ "	
5. Shingle, $1\frac{1}{2}$ " gauge ... ..	2 $\frac{1}{2}$ "	13"
6. Soft wood (Fir) ... ..	17"	21"
7. Hard wood (Oak boards) ... ..	10"	8 $\frac{1}{2}$ "
8. Coal (house) ... ..	4 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "
9. 14" Brick Wall Stretcher, Range 25 yards ...	4"	
10. 14" " Header ... ..	3 $\frac{1}{2}$ "	
11. 14" " Stretcher ... ..	4 $\frac{1}{2}$ "	
12. 9" " Header ... ..	3"	

(2) From F.S.P.

Chalk ... ..	15"
Sand confined between boards or in sandbags ...	18"
Sand loose ... ..	30"
Hard Wood (Oak) ... ..	38" with grain
Earth free from stones ... ..	40"
Soft Wood (Fir) ... ..	58" with grain
Clay, greasy ... ..	60" vanes

(3) Armour Piercing Ammunition.

K.A.P. or Kynoch's Armour Piercing, which is that type of ammunition issued to our Snipers at the present time. Plate placed in a vertical position on the ground. With the S.M.L.E. at a range of 150 yards, this ammunition will rarely pierce a 5/8in. steel plate of best quality, but the steel at the back of the plate will frequently be fractured, and the steel core of the bullet sometimes imbed itself in the plate.

British Naval  
Lower Wings



British Military  
Upper and Lower Wings



Belgian Lower Wings



French Lower Wings



German Lower Wings



The R.L. Armour Piercing ammunition at the same range is little better than the ordinary small arms ammunition.

German armour piercing ammunition fired from a German rifle at 150 yards, at one of our best plates, resulted in four out of the five shots completely piercing the plate, attributable no doubt to the higher velocity of the rifle.

## 11. ROYAL FLYING CORPS.

### (1) Organisation (Approximately).

Brigade.

Headquarters.

Two Wings.

Four Squadrons to a Wing.

Squadron—

Headquarters.

Three Flights.

Five or six machines to a Flight.

Each Squadron is used for one particular thing only.

### EXAMPLE.

Front line squadron attached to artillery.

Behind for army reconnaissance.

Further back more squadrons for particular information.

Army squadron—fighting machines.

### (2) Squadron.

200 men to operate squadron.

20 wireless operators.

### (3) Repairs.

For each hour of flying a machine requires about 6 hours of work on ground.

### (4) Ascending.

An average machine can rise 1,000ft. in  $1\frac{1}{2}$  minutes.

### (5) Reconnaissance.

Long attached to Army.

Short     "     Corps.

### (6) Registering and Ranging.

9.2.

12" Howitzers

4.5     "

### (7) Bombs.

Two 112lb. bombs, or new machines carry much heavier bomb.

Two to a machine.

It is important for Observers and Scouts to know something about the markings on Allied and enemy planes.

It is, of course, impossible for me to attempt to deal at length with the organisation and work of the R.F.C. at the front, although it is at all times of the greatest interest to Battalion Intelligence Sections.

## CHAPTER XI.

## THE NEW MILITARY LANDSCAPE SKETCHING.

(Invented by W. G. NEWTON, and applied to conditions at the Front and French and Belgian Landscapes.)

**1. THE NEW MILITARY LANDSCAPE SKETCHING.**

This was invented by Lieut. W. C. Newton, of the Artists' Rifles, whose book is published by Hugh Rees, Ltd., 5 Regent Street, London.

This new system of sketching is, I think, being taught gradually throughout the whole British Army and wherever it has been taught has been most enthusiastically received.

**2. LANDSCAPE (Old Method).**

To teach sketching in the old way would require at least two months' constant practice, and even then unless one's pupil had a certain aptitude for the work it would mean two months wasted.

It was soon realised that in these stirring times, when casualties are so heavy, some quicker method of teaching sketching must be devised, hence we have the Newton Method, enabling 99 per cent. to become fairly expert sketchers in a very short time.

To become quite expert requires :

1 hour's lecture.

2 days' practical work in the field.

First of all it is necessary to have a certain number of Conventional Signs. Now these Conventional Signs will vary according to the country one is in. In France and Flanders the landscape is very much the same—poplar trees, willows, stacks, windmills, church steeples, and undulating country—therefore we will draw some Conventional Signs. (See page 94.)

**(1) Instructions.**

Try and do a clear sketch from the start.

Do not expect to have time to polish it up afterwards.

In the field opportunities to re-draw sketches are limited.

When Drawing press on the paper. Start sharply and finish sharply.

Every line should be put in to express something.

A wavering line which dies away carries no convention or information because it is the product of a wavering mind.

**(2) Definition of Sketch.**

(a) Every military sketch has a definite purpose ; it is to give information.

(b) A sketch is a form of report ; it is graphic information.

**(3) For Information**

Clearness is essential, and clearness is attained by two avenues :

- (a) Thought.
- (b) Draughtsmanship.

And of these the more important is *Thought*.

- (a) Thought.

The form of thought required is a power of simplifying, of analysis.

The problem is to direct attention by means of the sketch to some particular point or portion of the landscape ; to underline it, as it were.

But a landscape is a mass of things, crops, and grass and hills and trees and houses and valleys, rivers and ruins.

It is therefore necessary to analyse to bring order out of chaos.

For this purpose there are three main methods of analysis :

- (a) Separation of planes.
- (b) Encircling or framing-in.
- (c) Division of a whole into parts.

These three methods are neither independent of each other nor yet wholly interdependent.

Sometimes all three will be used in the same drawing, sometimes one will be enough.

It is a question, as will be seen, of the object of the sketch and nature of the piece of country, and is, in all cases, a matter of individual judgment and choice.

Before carrying on with the separation of planes there are a few points to remember :

**(4) Outlines.**

This is purely out-line work ; must not forget this. Draw silhouette of trees, houses and everything else. It simplifies drawing, and things are more easily recognisable by their outlines, which hardly ever change.

The less skilful you are the more detail you should *omit*.

**(5) Foreground.**

Hardly ever to be put in because there is a tendency to try and identify objects at a distance by objects near at hand.

This leads to confusion sometimes, as the sketch may not be used from the exact position where it was made.

Also hard for beginners to draw perspective correctly.

**(6) Contrast.**

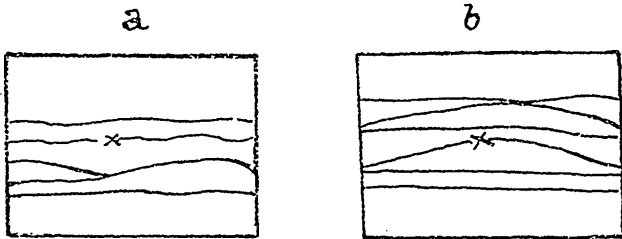
Sometimes necessary to draw attention to a particular point ; in the same way in letter writing we underline certain words for emphasis.

**(7) Roads.**

Not advisable for beginners to show roads unless imperative ; difficult to draw them to perspective.

**(8) Now return to Separation of Planes.**

It is desired to call attention to the point X, and quickly. To save time is always important.



It is plainly a help to the eye to know roughly what sort of distance to expect the object to be.

This can be indicated by drawing the planes.

Note the difference between the apparent positions of X in the Diagrams (A) and (B).

For this analysis we reduce the piece of country as far as possible to something like the scenery of an outdoor exhibition, the ridges and hills and trees cut out of wood, so to speak, and laid the one behind the other.

The sharp line where a field ends against a copse, the silhouette of trees or houses, the edge where flat land begins to rise—all these will help the analysis into planes. But it is in each case a matter of choice which to choose and omit: it must depend on the purpose of the sketch.

**(9) To Sum Up.**

Plane analysis is a dividing up of complex field by means of a series of horizontal but not straight lines conforming to recognisable lines on the actual landscape.

The field of vision is split up into compartments, and the possibility of error lessened (perspective).

**(10) Landmarks or Indication Points.**

Prominent landmarks, or as we call them indication points, are used to draw the Observer's attention quickly to the desired spot; surveyors call the same things Bearing Trees, as in diagram (A).

Always draw Horizon first of all, and work downwards.

**(11) Compass Bearing.**

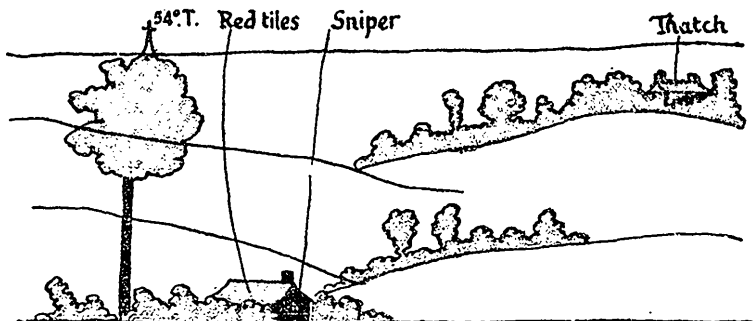
If there should be any prominent landmark on the skyline it might help if one took a bearing on it, but it is not advisable to depend on this for direction on account of mist or fog obscuring the view.

**(12) Finishing Off.**

The Title or Purpose of sketch is the first thing to look for: this is always written on top.

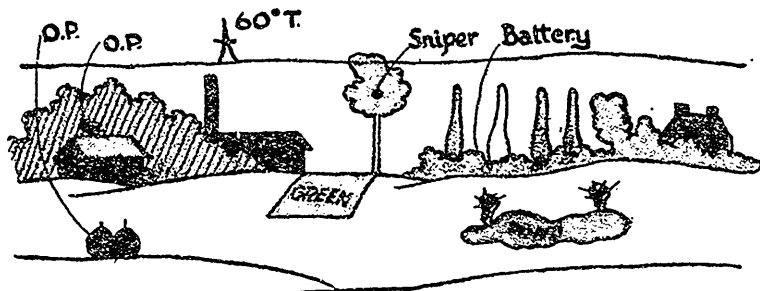
Diagram A.

Sketch showing indication points, steeple, prominent tree, and thatched cottage.



SKETCH SHOWING SNIPERS' POSITIONS, ETC.

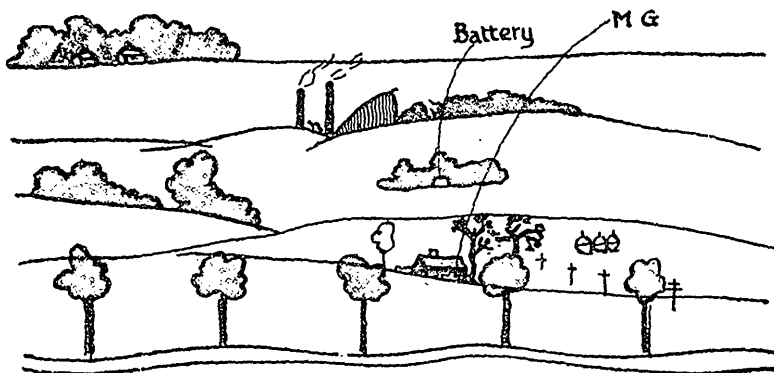
Rough drawing to indicate method of signing name and giving position, state of weather, etc.



Position : 60 yds. W of X Roads. NEVILL A. D. ARMSTRONG,  
Looking North (Important).  
Weather Clear (Important).

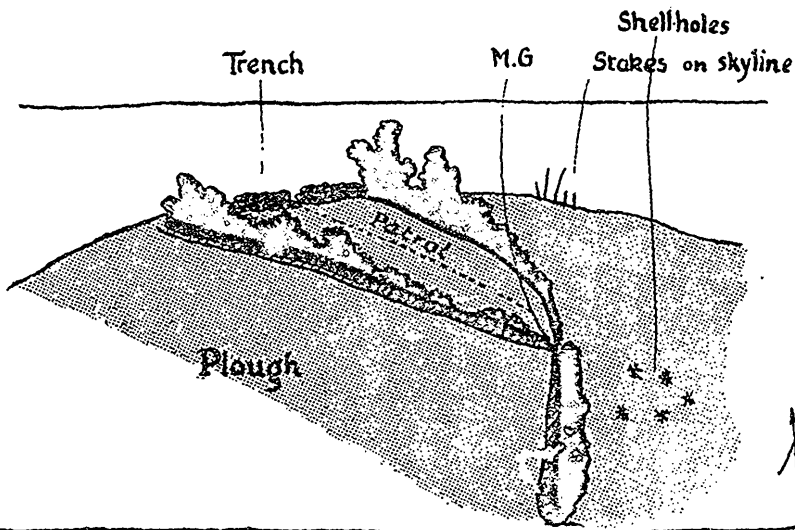
Capt.  
16th Bn., Can. Inf.  
30/12/16.





Memory Sketch handed in by Scout

Sketch by Scout showing Machine Gun Position, etc.



Memory\_Sketch.

**(13) Position.**

Your own position in lower left-hand corner, stating also direction you are looking when sketching.

Lower right hand corner : Name, weather, date.

**(14) Artillery.**

This system of sketching is very useful indeed for Artillery Officers, and also when taking over trenches at night by Snipers and Observers.

**(15) Periscope.**

Sketch through periscopes and telescope, or field glasses ; very useful, and sometimes the only safe method.

**(16) Open Warfare.**

Most important in any open warfare when maps may become scarce or useless, denoting positions of forward troops, etc. ; vide the Somme Offensive.

## CHAPTER XII. CONVENTIONAL SIGNS.

(1) The authorised conventional signs as shown hereon are to be adhered to for all maps, reports and photographs, and no unauthorised sign is to be adopted for any object already designated by an official sign.


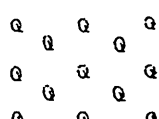
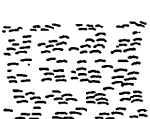









(2) Except in the case of maps prepared for reproduction it is optional for the draughtsman or officer issuing the map, instead of using a conventional sign, to write or print clearly in ordinary English what he wishes to represent. Thus, he may write the word *train* instead of using the conventional sign.

(3) With the exception of special secret signs, this sheet replaces all former issues of conventional signs (*i.e.*, Maps 3974, Ic/6712/17 and Ic/6712/19), which are embodied in this.

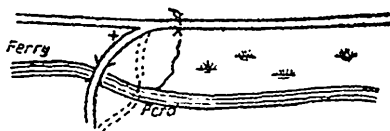
(4) The signs shown below are drawn suitably for the 1/10,000 scale, unless otherwise stated. In printed maps the colours shown are to be adhered to; *but for sketch maps, reports, etc., any colour may be used.*

(Signed) L. E. KIGGELL, Lieut.-General, C.G.S.

G.H.Q., 12 April, 1917.

Hedge, Fence or Ditch	...	...	...						
Ditch with Permanent Water	...	...	...	5w.	3p.				
(Write width and depth if possible).									
	Wood.	Orchard.	Brushwood and Undergrowth.						
Woods, Orchards, etc.									
		Church,	Wind Mill.	Water Mill.	Any trig. point.				
Conspicuous Points (Position of point is centre of circle. Dot shows that point is trigonometrically fixed).									
		Standing.	Ruined.						
Houses	...	...	...						
Cutting, Embankment									
Faults in chalk country									

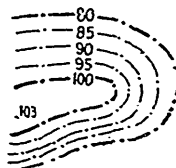
Bridge, Culvert, Ferry,  
Ford, Marsh and Shrine



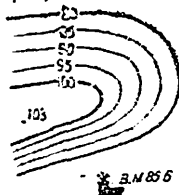
Contours,  
Spot Heights,  
Bench Marks.

(All heights are shown  
in metres).

1/10,000.



1/20,000.



Large Scale Maps. 1/100,000.

Fenced.

Unfenced.

		Fenced.	Unfenced.	1/100,000.
Roads	1st Class ...	====	-----	====
	2nd Class ...	====	-----	====
	3rd Class ...	====	-----	====
	4th Class ...	.....	-----	====
Footpaths,		.....	-----	====
Cart Tracks		.....	-----	====
Railways	Normal Gauge, Double	====	-----	==== STA
	Normal Gauge, Single	====	-----	==== HALTE
	Light ... ..	.....	-----	==== (along road)

NOTE.—As a rule, railways printed in black are those which existed before the war ; in red, those which are laid for trench warfare.

### Artillery Activity.

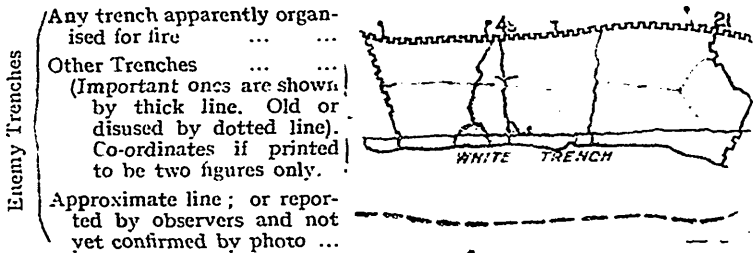
GUN. HOWITZER. DOUBTFUL.

The large and small Signs are alternative. The former represent Batteries, the latter single Guns. Number and Calibre to be written, and Direction of Fire shown by Arrow, if required



If printed on a Trench Map, use a colour distinct from Red.

Active—Solid or Hatched. Inactive—Open Outline.



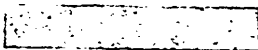
British Trenches ... ..



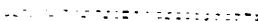
Wire Entanglement or Other Obstacle ... ..



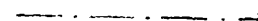
Ground cut up by Artillery Fire ... ..



Enemy's Tracks ... ..



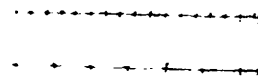
Buried Pipeline or Cable ... ..



Airline ... ..



Temporary Railways: { Trench Tramways  
 { Metre Gauge Railways



Dumps, Stores, or Depots:—

Emplacements:—

Supply

Gun

Ammunition

Machine Gun or M.G.

Gas











Trench Mortar or T.M.


Petrol










A.A.

Bomb

Observation Posts or O.P.

Dug-outs		Listening Posts	 L or L.P.
Earthworks		Mine Graters	
Hutments		Fortified	
Conspicuous Haystacks		Organised Shell Holes	
Searchlights		Engineer Parks	

Tank Traps 

Aerodromes	...	...	...	...	...	...	
Airship Sheds	...	...	...	...	...	...	
Balloons	...	...	...	...	...	...	
Barges	...	...	...	...	...	...	
Electric Power Stations	...	...	...	...	...	...	
Explosions	...	...	...	...	...	...	
Factories.—Ammunition					Gas		
Fires	...	...	...	...	...	...	

Army,

Corps.









Division.

Other Units (write name).

Headquarters







Brigade

Important Points	}	Locks Controlling Inundations ...		
		Railway Bridges ... ..		
		Road Bridges ... ..		
Railway Administrative Centres	... ..			
Railway Traffic Offices	... ..			
Railheads	... ..			
Reservoirs or Pumping Stations	... ..			
Telephone and Telegraph Offices or Centres	... ..			
		Eastward.	Westward.	Unknown Direction.









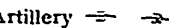


Trains.—Direction of Movement shown by Funnel



Transport.—

	Mechanical	Horse.
Moving		
Stationary (i.e., parks)		

Troops—

Moving in		Infantry 		Holding line						
Column of		Cavalry 		or in action.						
Route		Artillery 		Post 		Patrol 				

## DISTINGUISHING FLAGS.

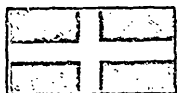
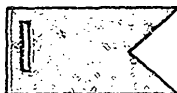
1. GENERAL HEADQUARTERS



2. ARMY HEADQUARTERS



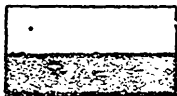
3. CORPS HEADQUARTERS

4. DIVISIONAL HEADQUARTERS  
(Sometimes with number of Division in white)

5. BRIGADE HEADQUARTERS



6. SIGNALS AND TELEGRAPHS



7. POSTAL



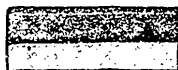
8. FIELD CASHIER.



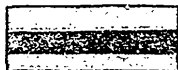


## ARM BANDS.

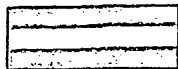
1. GENERAL HEADQUARTERS, C.-IN-C.



2. ARMY HEADQUARTERS



3. CORPS HEADQUARTERS



4. DIVISION

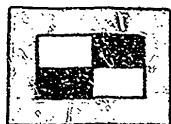


5. BRIGADE



## GERMAN FLAGS.

1. ARMY HEADQUARTERS G.H.Q.



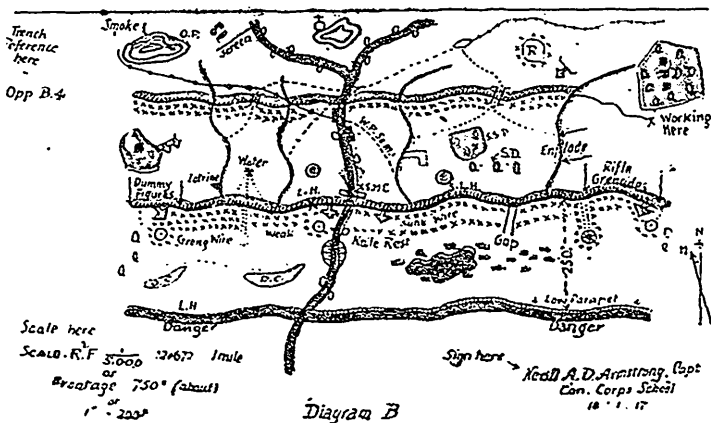
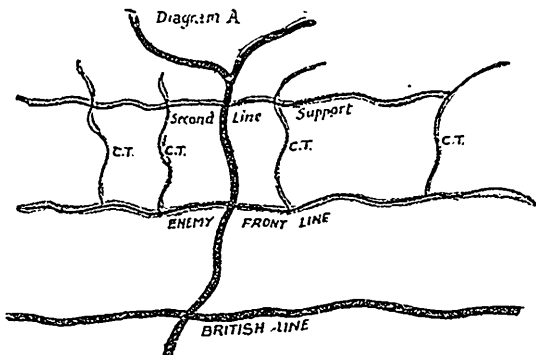
2. ARMY CORPS HEADQUARTERS



3. BRIGADE HEADQUARTERS



The following two diagrams represent working maps:—  
 Diagram A.—Represents skeleton map issued to Snipers, Observers, and Scouts, and  
 Diagram B.—Represents the same map after a few tours in the front line.



Among other things this working map should show enemy—

1. Loopholes. Snipers' posts.
2. Machine guns (known or suspected).
3. Communication trenches' tracks to or from or in or out of, known to be used (good target).
4. Places where work is proceeding (always a good target).
5. Any other likely places for targets and time obtainable.
6. R.E. Dumps, Stores, etc. (from aeroplane photos).
7. Rendezvous for rations (from aeroplane photos).
8. Listening posts and paths used to them.
9. Range card to all good targets.
10. Dangerous places. These are only marked in our own front line, such as low parapet, breached parapet, dangerous loopholes (refer Chapter II.).
11. Information regarding enemy's attitude.
12. What sort of snipers they have, when most active, and where (what part of our trenches they cover).

## CHAPTER XIII. SNIPERS' POSTS AND LOOPHOLES.

### 1. POSITION.

Decide first of all what you want it for :

- (1) Observation, sniping, or both purposes.
- (2) Whether to command considerable field or some special point.
- (3) Don't trust to luck.
- (4) When placing the plate in position be sure that the loophole will cover the desired target. Be careful to set plate at required angle: this is important.

### 2. POINTS TO BE CONSIDERED.

- (1) Should make as many loopholes as possible.
- (2) Must make dummy ones as well as real ones to mislead enemy.
- (3) An even well-built parapet very difficult for concealment of loopholes.
- (4) An uneven or broken parapet, like the Bosche, far the best for loop-holes and observation posts; creates shadows, patches, etc.; easy to put in any kind of loophole.
- (5) For dummies use old cans, boots, black or white paint, fake holes, rat holes, old hats, etc., etc.

### 3. FRONT LINE PARAPET.

#### (1) Disadvantages.

- (a) Most carefully searched by enemy.
- (b) Therefore requires more careful concealment.
- (c) Sometimes difficult to build owing to thickness or rotten condition of parapet.

#### (2) Advantages.

- (a) Closest to enemy lines.
- (b) Sometimes the only place.

### 4. PARADOS AND TRAVERSE.

#### (1) Advantages.

- (a) Less easily detected.
- (b) Not so easily searched as front line.
- (c) Gas from rifle difficult to detect owing to smoke from braziers and certain amount of mist which exists between parados and front line.

#### (2) Disadvantages.

Must of course be higher than parapet.  
If higher usually stripped by Hun shells, but the sniper can construct a few reserve loopholes which are very useful to fire from occasionally.  
If, however, Huns do not bother parados and good command can be obtained, it is an excellent position for observation post or loophole.

**(3) Traverses.**

There should always be some good loopholes constructed in traverses in both front and support lines in case of accident. In case of a raid by the Huns into our front line a couple of snipers could make things very unpleasant.

Also in daylight a bombing party could be held up.

**5. SUPPORT, COMMUNICATION TRENCHES AND RESERVE TRENCHES.****(1) Advantages.**

(a) Least watched or searched by enemy.

(b) Easy of approach.

(c) A sap from a communication trench very often provides an excellent position for a sniping post or observation post.

**(2) Reserve Trenches.**

There should also be a certain number of loopholes built in all reserve trenches in case of attack.

**(3) Disadvantage.**

Further from the enemy.

**6. IN FRONT OF PARAPET.****(1) May be used—**

(a) With trenches far apart.

(b) If ground between trenches is high.

**(2) Advantage.**

(a) Difficult for enemy to locate owing to fire being masked from the parapet.

(b) Most difficult to spot if "dug in."

(c) Enemy's parapet can be thoroughly searched for loopholes.

(d) Not difficult to conceal owing to broken nature of ground and shell holes.

(e) Often gives a clear skyline shot.

(f) Easy to run out a sap if there are any disused trenches or excavations in front of parapet.

(g) Can be used effectively from position in your own wire, in grass, etc.; most difficult to spot.

**(3) Disadvantage.**

Cannot get out by day or get back unless there is a sap.

**7. POINTS IN REAR OF LINES.**

Afford best sniping posts.

Should be well reconnoitred to find best places, and if carefully concealed most difficult for the Hun to locate.

Trees, houses, etc.

## 8. APPROACH AND MOVEMENT.

Obtain daylight approach if possible :

- (1) Most convenient, as it can be occupied or left at any time.
- (2) Reliefs can be made.
- (3) If detected can get safely away.

If Daylight Approach impossible—

- (1) Make post as comfortable as possible on account of long watch.
- (2) Have room for an observer.
- (3) A good rest for the rifle, telescope, and an easy firing position applies to all hides (sitting position is good).

## 9. COVER.

Two considerations :

1. From fire.
2. From view.

One must not be sacrificed for the other ; must not spoil concealment for protection.

## 10. EXCLUSIVENESS.

Posts should be used exclusively by snipers and observers. (This should be a Battalion Order.)

Should be put out of bounds to everyone except those entitled to use them, particularly sentries and visitors in the front line.

Loopholes are frequently being betrayed through idle curiosity.

Most difficult to maintain exclusiveness of loopholes in front line parapet.

## 11. PRECAUTIONS.

(1) Do not use new loopholes too soon after construction, wait a day or two and let them " weather " down a bit, then try a single shot and see what happens.

(2) Watch gas from your rifle. Shows most on damp or misty days. This is also increased or decreased according to the ammunition used. Must be most careful when using Loopholes in front line.

(3) Always mask face when under observation by the enemy.

(4) Avoid movement in daylight ; even in open if a man keeps still he is difficult to see.

(5) Don't smoke or have fires in snipers' posts, or candles ; use Tommie cookers. Chew gum or tobacco if restless.

(6) Always remember to use gags and curtains in your loopholes and observation posts. Pull down your curtain before you pull out your gag. Sandbagging bad for curtain, light shows through ; ground sheet best.

(7) Use dummies, decreases the risk of detection. Should not be too close or too obvious, should be 10 feet away at least from real loophole. Take a good deal of trouble when preparing your dummies.

(8) If post or loophole is discovered, drop it and post warning to others, hardly ever safe to return ; sometimes done, but unwise. Best plan to block up the position and do away with all risk.

(9) Never use rifle with highly polished barrel; cover with sacking, tape, brown paint, or mud, etc.

(10) Don't use ordinary peak caps; use masks, sacking, veils, and woollen caps.

(11) Avoid wearing anything that glitters or shines.

(12) When taking over new trenches always endeavour, before using loopholes, to get out in front and examine concealment. This is most important. One never knows what the last occupant of the post may have done. Many things can happen.

## 12. OPPORTUNITIES FOR CONSTRUCTION.

### (1) Loopholes.

At night.

When parapet is breached by shelling, or on misty or foggy days.

### (2) Construction.

Must be practised behind lines when at rest.

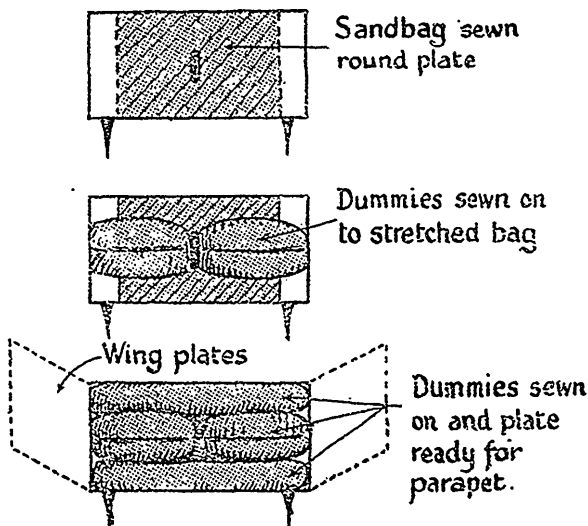
Build them first of all in daylight, then at night.

Cannot expect to construct them in the front line in the dark until they can be built in daylight.

## 13. LOOPHOLES.

No. 1.—Used principally in R.E. Parapets.

Direct fire.

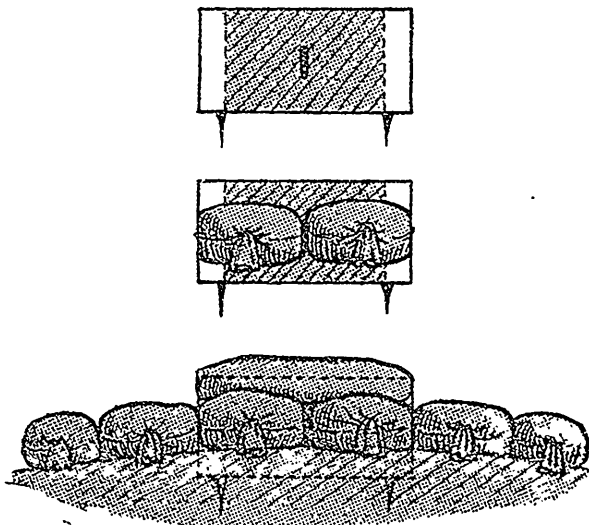


The accompanying diagrams have been inserted in these notes because each one is standardised, so to speak, and can be obtained by quoting the numbers from O.C., Special Works Park, R.E., Mimerieux, France.

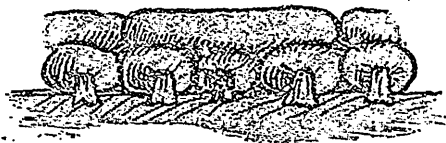
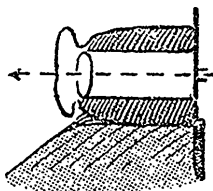
In one or two instances the number and description of diagrams on foregoing page coincide with the numbers of the standardised diagrams, particularly in regard to plates 1, 2, and 3. I have allowed these plates to appear twice in case at any time it may be necessary for Snipers to make the dummies themselves.

Dummy bags must conform to appearance of parapet, and must not be filled with either straw or hay as this material soon loses its shape if subjected to slightest pressure. Old bags or rags make the best filling, and dummy bags must be filled very tightly, particularly the corners.

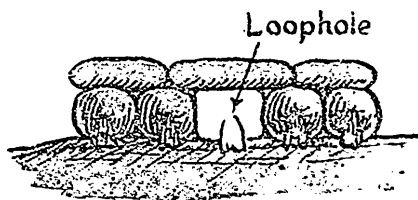
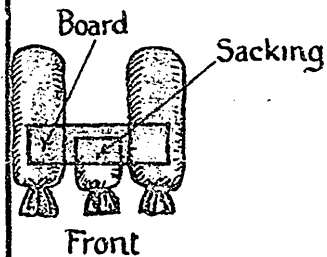
#### No. 2. Fitzgerald Plate.



## No. 3. Dummy Header.

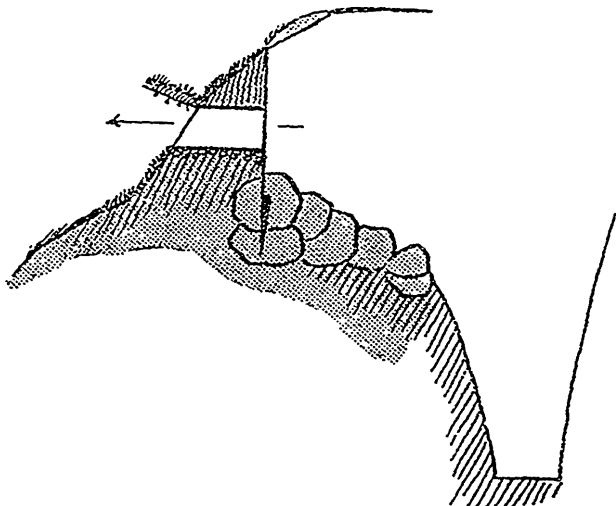


## No. 4. Between Two Headers.

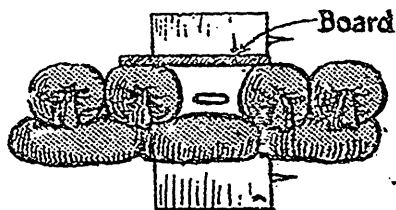
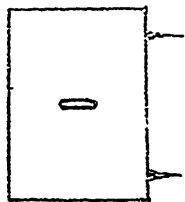


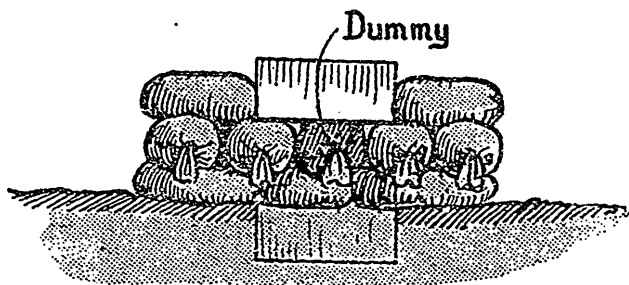


No. 5. Mouse Trap for Earth Parapet.



No. 6. Loophole with Plate turned round.  
For T.S. (Telescopic Sight.)





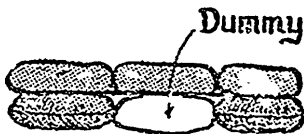
## GOOD IN PARADOS.

No. 7.



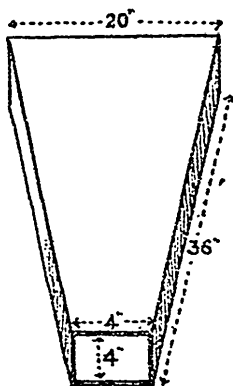
No. 8.

Looking down on parapet



Front view.

## No. 9. Observation Box.



Earth Parapet.

This box can be placed on top of parapet let in about 1 foot or 18 inches and gives excellent view.

Not easy to pick up ; several can be use on the parapet.  
Aperture concealed with wire gauze.

This box can be used anywhere—

- In sandbags.
- In grass.
- In earth.
- In chalk.

Gives wide field of vision.

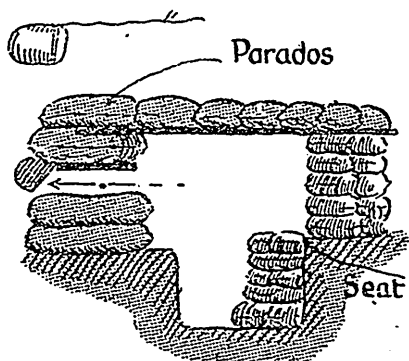
Very easy to construct and place in position.

Most difficult to detect.

## No. 10.—Observation Loophole (Dummy Header).



Sandbag with portion  
of one side cut off to  
leave bag end.

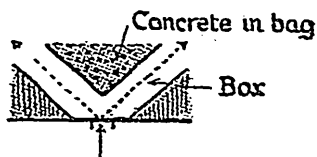


As the O.P. appears in parados

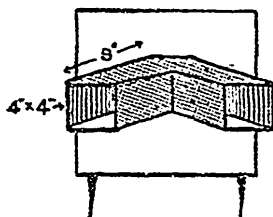


No. 11.—Box Loophole for Cross Fire.

Ground Plan.



LOOPHOLE



The two apertures are disguised with shutters of invisible gauze.



*As Loopholes would appear in earth parapet.*

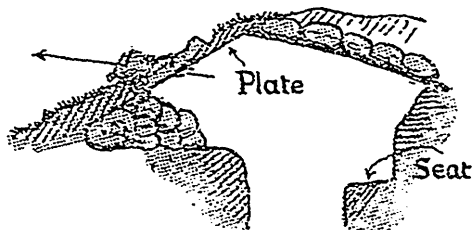
Two or three of these boxes in a Battalion front line parapet would completely cover No Man's Land, also giving good protection to the Sniper.

**No. 12.—Rum Jar (for Observation)**

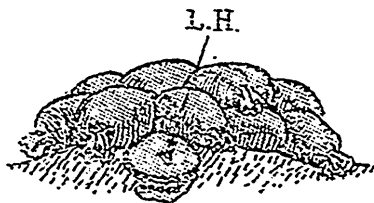


With bottom knocked out of jar and bottom of sandbag cut open.

**No. 13.—Old Boot (for Earth or Chalk Parapet)**



**No. 14.—Old Hat.**



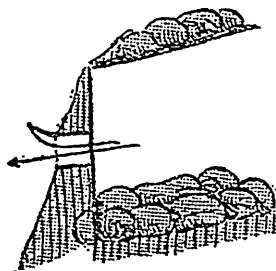
This one is difficult to spot provided the hat is an old one.

## No. 15.—Oblong Tin.

Biscuit Tin, Huntley & Palmer's, etc., for Earth and Chalk Parapet.



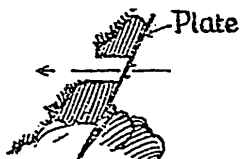
Lid of box is painted with tar and earth and gravel thrown on while wet.



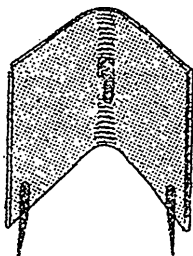
Lid pushed open from behind with rifle and closed by pulling wire inwards.

## No. 16.—Sod of Grass.

Cut fairly thick and placed in front of plate.



- No. 17.—Bent Plate. (for Telescopic Sight).  
Ordinary steel plate, only get workshops to bend it.



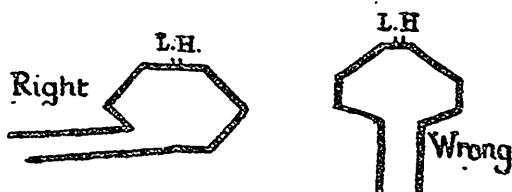
Back view

Easier to place in position than ordinary flat plate and easier to conceal. Bullets more easily deflected.

#### 14. CONSTRUCTION.

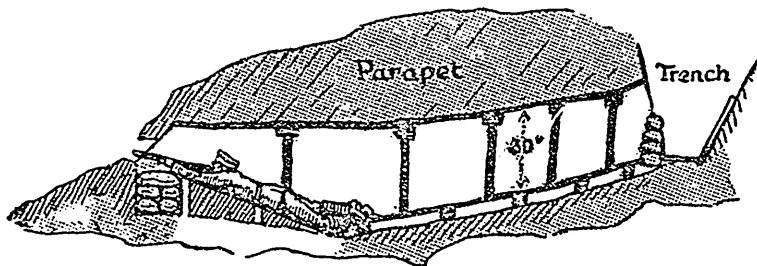
##### Prone Position.

Should always be built or excavated obliquely to line of fire or sight.

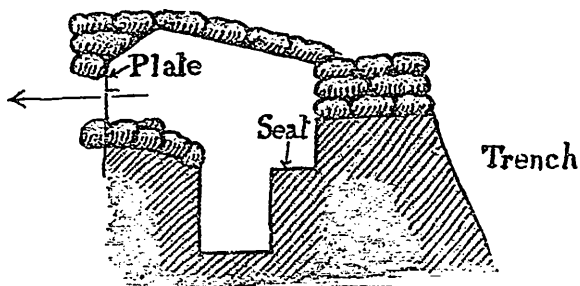


##### Sap.

When sapping out for a prone sniping position the last six feet should be inclined upwards or else the necessary incline could be arranged with boards or bags.

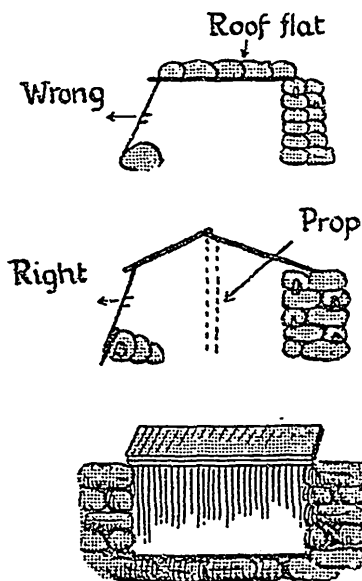


Parapet.  
Sitting position.



Head Space.

Common fault when constructing Loopholes and Observation Posts is to put overhead cover flat instead of sloping your boards or tin upwards from plate.

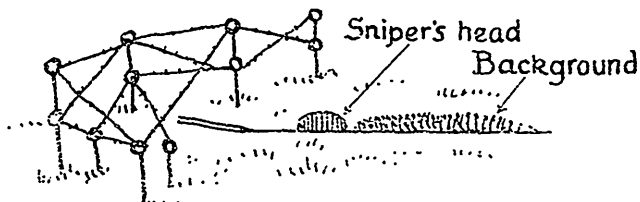
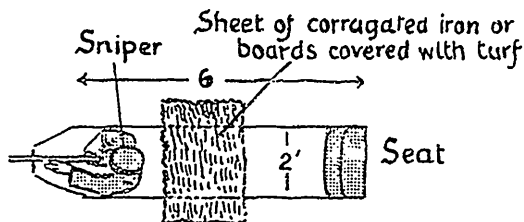
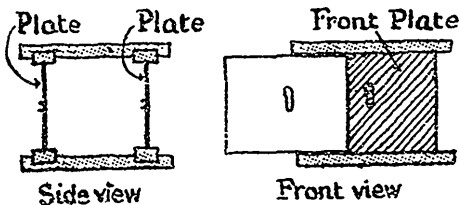


Front view shewing head cover sloped upwards.



**Sniper's Hides.**

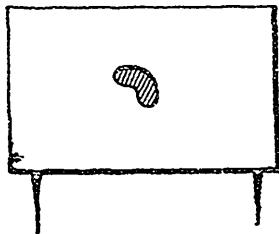
Ground plan, excavated near outer edge of wire entanglement in front of parapet.

**Double Plate.**

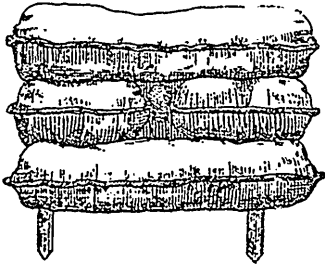
Stationary plate in front and movable plate behind. Gives very good protection but very heavy, and unless placed on solid foundation will settle or tilt either forward or backwards, thereby destroying the field of fire.

**The "Kidney" or Universal Loop-hole.**

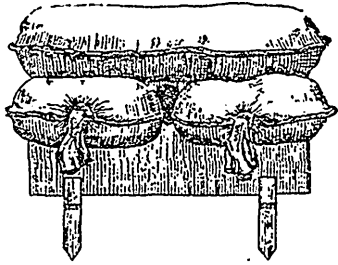
Any make of telescopic sight can be sighted and fired through this aperture; this type of plate was advocated by the 2nd Army School of Sniping.



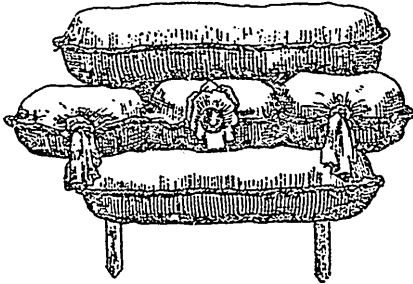
15. TYPES OF PLATES, Etc.  
No. 1. Concealed Plate.



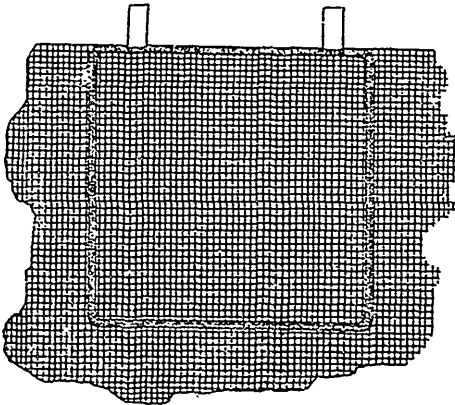
No. 2. Fitzgerald Plate.



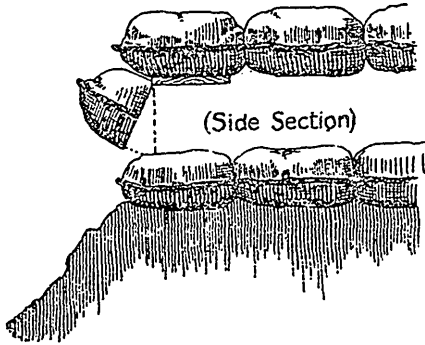
No. 3. Header Loophole.



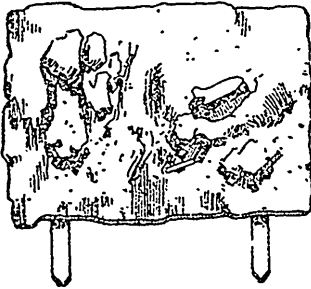
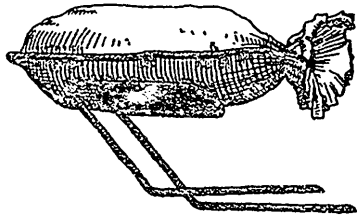
No. 4. Loophole Lid (treated with Grass, Earth, etc.)



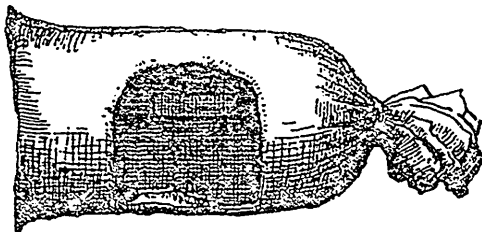
No. 5. Dummy Header.



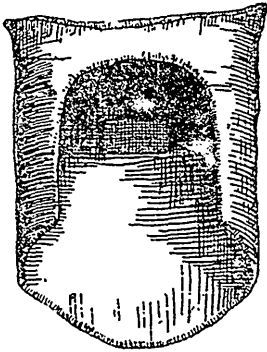
No. 6. Parapet Cover—Sniper's Post.

No. 7. Dummy Header  
(for Periscope.)

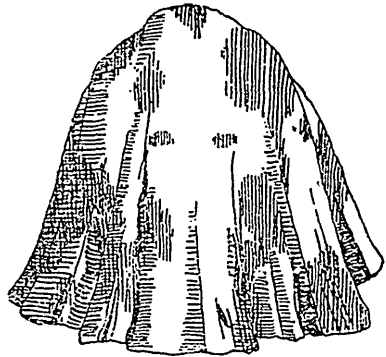
No. 8. Dummy Stretcher Bag. (Direct View.)



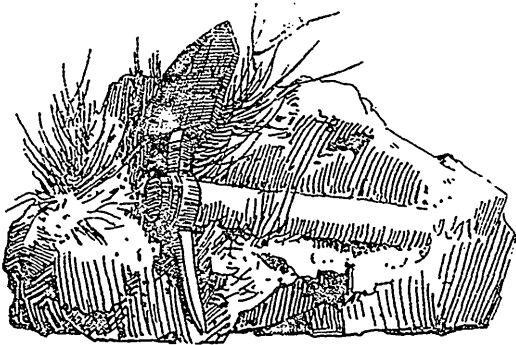
No. 9. Dummy Header Bag.  
Direct View.



No. 10. Sniper's Hood.



No. 11. Common Object O.P.



No. 12. Gauze Frame for O.P. or Sniper's Post.



## CHAPTER XIV.

## AEROPLANE PHOTOS—WHAT TO LOOK FOR.

**1. AEROPLANE PHOTOGRAPHS.**

Examination of aeroplane photos should be directed on :

- Railways.
- Tracks.
- Crossing places.
- Bivouacs.
- Watering places.
- Gun Emplacements.
- Actual defensive organisations.
- Closed works.
- Trenches.
- Communication Trenches.
- Machine Gun Emplacements.
- Wire entanglements.
- Old tracks cut by new tracks.
- Crossing places over streams and rivers, etc.

**2. General.**

In examining aeroplane photos it is a great help if the ground covered by the photos be reasonably well known.

Also the position of ruins of various kinds or similar landmarks.

To the trained eye the whole hostile organisation is visible except such things as machine guns, trench mortars and guns, which have been dug in and covered over.

**3. Trench System.**

**NO MAN'S LAND.**—In studying a photo which shows No Man's Land and the hostile trenches, examination should begin as near the British lines as possible, and tracks leading from the enemy wire towards our trenches should be looked for.

In this way the usual routes of patrols can be ascertained and frequently listening posts can be observed where tracks come to an abrupt end.

Next in order comes the examination of saps, if any, and a careful comparison with previous photos of the same locality is needed in order to be able to note extension, if any, and whether any two saps show signs of forming up.

Frequently one of the first signs of a contemplated hostile attack is given by photos showing a series of saps at regular intervals on a certain section of the front; instance the enemy's attack on Observatory Ridge, June 2nd.

The next series of photos will probably show these saps with T. heads, and shortly afterwards these trenches will probably prove to have been joined up, whereby a jumping off point close to our lines is obtained.

Again, where no attack is contemplated saps are frequently the forerunners of the contemplated straightening of a re-entrant in the hostile lines.

Elsewhere saps are frequently used as advanced machine gun emplacements and as such can be extremely dangerous to attacking troops.

The foregoing remarks give a small idea of the importance of carefully checking saps and reporting on their progress.

#### 4. Wire.

Next in order comes the wire, and this frequently is a difficult point.

It is often quite impossible to locate the presence of wire at all if the ground has been much shot up.

A good method to be employed, provided the position of the enemy trenches has not changed, is to look back for a photo taken when the snow was on the ground. The snow covering the inequalities on the surface of the ground due to shell fire throws the wire into relief.

#### 5. Front Line.

Next comes the enemy's front line trenches, which should be carefully examined as to state of repair, etc.

The depth of blackness of the shadow shows whether they are in good repair or not.

Records, i.e., Divisional reports, should be looked up, and the definite location of machine guns should be noted, and the enemy's parapet carefully examined at the stated point.

In this way, too, suspected machine gun emplacements can sometimes be definitely confirmed.

In general, however, it is very difficult to locate machine gun emplacements from aeroplane photos alone.

The same thing applies to trench mortar emplacements.

#### 6. Support Line.

Passing to the support trenches, the state of repair and depth of communication trench between front and support lines should be noticed, and additional communication trenches looked out for.

Wire is frequently easy to locate between the front and support lines, and its breadth can generally be estimated.

The chief points to be looked for in the support lines are dugouts and machine gun emplacements.

From the support lines communication trenches and tracks will lead back into the second line proper.

In the intervening space Battalion and pioneer dumps are generally to be found, and form an excellent target when near the line for indirect machine gun fire and for artillery fire.

### 7. The Second Line.

Nearly always the wire in front of the second line can be easily located, because as a rule the ground is not shot up, and particular attention should be paid to tracks leading through it, as by this means the gaps in the wire can be located ; very important information in view of an attack.

### 8. Tramways, Dumps, etc.

Trench trams can be looked for up to the trenches in immediate support of the front line trenches, and frequently by following their course dumps can be located which might otherwise have escaped notice.

### 9. Battery Positions, Posts, etc.

Going further back, battery positions and command posts should be looked for.

All these are given away by their tracks and frequently the number of guns in a battery is obtainable by noting the radiation of the tracks.

The marks of buried cables frequently assist the identification of command posts.

And finally, the proximity of a trench tram to a maze of tracks is one of the surest indications of the presence of a dump.

### 10. The Third Line and Heavy Batteries.

Further back the third line of trenches will be observed, and a quantity of wire is generally to be found.

The positions of heavy batteries are also to be looked for.

A great aid to the location of heavy batteries, is that the force of the explosion when the gun is fired makes a white score or scorch on the ground.

Also, if the battery is on the edge of a wood the guns will be betrayed by the fact that the explosion when the gun is fired strips the leaves and minor twigs, and thereby gives a ragged and irregular appearance to a section of the side of the wood as compared with the uniformity of appearance the side of a wood generally has.

### 11. Rearward Railways, Depots, etc.

Large supply dumps appear, and very often it is possible to tell the type of material dumped.

Light Railways will be seen, and by following these towards the front line the commencement and organisation of the trench tramways can be grasped.

Further back again, ammunition depots generally appear in the shape of strong huts enclosed in and sometimes isolated with sandbag partition in front of the door.

Other kinds of depots will be seen, and from their proximity or otherwise to railways an idea as to their particular use can be formed.

## 12. Towns, etc.

In the towns some ten or twelve miles back the railway stations should be examined, the number of trains and trucks in the station and its approaches noted and counted.

Attention should be paid to the number of depots around the station, from which an idea as to the importance of the particular station under examination can be obtained.

The next point to look for is the number of light railways leading into the station, and to note any additional ones constructed.

## 13. Shadows.

Shadows form one of the chief aids in the interpretation of aeroplane photographs.

Frequently the shadow will show the approximate height of the remains of a ruined building, its shape, whether it is roofless.

They show all standing buildings and hutments, and the time the photo was taken can be approximated to within an hour or so.

A clear photo showing trenches taken on a sunny day will show a distinct shadow of the trench, and a careful examination will show the nature of the defensive organisation in that trench.

The time of day the photo is taken and the nature of trees casting the shadows can be learned.

## 14. General.

Practical application and patience plus a judicial use of his imagination and a good magnifying glass are the essential points.

The student can only be taught what to look for and what they will look like; beyond this point he must depend on himself.

The principal point however is in the student using his intelligence, and not, for example, looking for battery position in an open field.

Selected photos are handed to the class, who try and spot the various positions mentioned in lecture; this is good practice.



## APPENDIX I.

### OBSERVATION.

Build a model trench and make it resemble as much as possible the enemy trenches (in front of positions from which men who come to your schools are drawn).

In this model trench or near it build every type of loophole you know of, being very careful about outer concealment.

Also put in as many good observation posts as possible.

Also sap out under parapet in one or two places and build sniping positions, both in prone and sitting positions. If the parapet is grass covered concealment will be easy, but if soil, concealment must be arranged carefully, particularly in hot weather, when dust from explosion may be seen.

Excavate sap, say 60 feet in length, leading to own wire, where dig a sniper's hide and camouflage the sap.

Put in several observation posts and sniper posts in the parapet; more difficult to spot here.

Set up several different kinds of periscopes and disguise them and try and get class to spot them. Should be fairly well exposed over parapet to give class a chance.

Also set up a sniperscope rifle and fire several rounds at intervals.

#### To Proceed—

Class should be halted from 60 to 100 yards from the trench; not more than 100 yards.

Then the instructor should proceed somewhat on the following lines:—

Addressing the class he will say. "This trench is supposed to be the enemy trench in front of your lines. He has bothered us continually with good sniping, he obtains good observation by various methods which we have been unable at present to discover, he appears to be working a great deal in his trenches, and a good deal of movement is observed. Your O.C. Snipers is sending you out into No Man's Land to make a thorough reconnaissance. You dig in at night and observe the following day, taking a note of everything seen."

For this work the class should be divided into pairs, one observing and one reporting what observer sees; each pair will prepare a sketch of the parapet first of all, marking down anything they imagine they can see. They should be allowed half an hour for this work.

When sketches are finished the instructor blows a whistle which is a signal for trained men in the trench to carry on with the instruction, which may be on the following lines.

Fatigue man fires blank through each loophole.

In some cases he is careless (purposely), moving his shutters obviously, allowing light to show through loopholes, protruding his rifle too far through loophole, blowing up sand and earth in front of loophole, etc.



Then large column of smoke will arise from front line, followed by flames, a few seconds later a man semaphores saying, "Telephone dugout on fire, watch for signals."

This tests the class in semaphore.

Dummy periscopes are exposed, and men look over the parapet wearing different disguises.

If possible Bosche helmets and caps should be produced and worn.

Movement should be tried, shifting sandbags carefully, also a careless sniper throws up his curtain when getting into his post, this slight movement is quickly seen.

Men should expose dummy heads occasionally to see if they are spotted in the report.

Another semaphore message is sent. "Communication trench blocked, send working party." Shortly after sending the message a working party should be seen entering the trench armed with picks and shovels. Later, boards should be carried along trench, earth thrown over the parapet, and pick exposed over parapet by man working, also hammering of stakes can be heard, etc.

Then an alarm is sounded by the beating of a tin can, etc., followed by a shower of bombs all along the trench, out into the enemy's wire. This is meant to convey the idea that the Bosche is very nervous and gets his "wind up" quickly and frequently bombs his own wire.

When this part of the performance is completed, it is wise to take the class round all the loopholes and observation posts, and explain each one in turn.

Finally it has been my practice to give a demonstration of dummy heads, and how difficult it is to detect them from the real thing if carefully handled.

The class should stand about 30 yards from trench and dummies and real heads exposed over the parapet, usually two or three at each exposure, something like sketch.

NOTE.—When real men look over the parapet their faces should be made as inanimate as possible, and their eyes slightly closed.

About 6 exposures should be given, with two or three heads in each exposure :—

- (1) Two dummies.
- (2) One real, one dummy.
- (3) Two real.
- (4) Dummy walks along trench, stops, looks over, and walks back.
- (5) Same thing as 4, but with different head dress.
- (6) Three dummies are walked along trench. If this is carefully done, almost impossible to detect they are dummies.

The class mark down the exposures on a piece of paper, as follows, always beginning from their left :—

- (1) D.D.
- (2) R.D.
- (3) R.R., and so on.

When the demonstration is finished the order in which they appeared is read out, and the class, if they make a single mistake in any

of the exposures, are required to cross out the whole of that exposure because it would denote in sniping that they would have fired at that particular head and given their position away.

If these heads are carefully exposed there is no doubt they will draw the fire of Bosche snipers.

There are several methods in use for detecting the position of an enemy sniper if he hits the head, provided it is a clean hit and not a ricochet.

The following method has been demonstrated practically on a great many occasions and the position of the Bosche Sniper spotted in less than one minute. Quickness in this method is facilitated if snipers will practise when out in rest billets; a square tin can will take the place of a dummy head.

One man will expose head very carefully, holding it tightly against parapet, or board, or placing it in a square socket; another man stands close by with a long narrow periscope.

Directly the bullet passes through the head the man will hold the periscope about one foot behind head and look through the two holes, being careful to place the hole where bullet entered exactly in centre of hole where it emerged; this has been demonstrated with men firing in an open field on open ground, the spot having been marked with small stick or other object, and then the firer has moved away quickly and has been directed back to the spot by man looking through holes with periscope.

In my opinion it does not matter about the head being left exposed for 30 seconds or so. It will be very difficult for the Bosche to know if he has made a hit, also if he fires again and hits, you will get two lines on his position.

And in any event if he does spot that it is a dummy his position will be given away, and he will have to move and find some other place, which is not always easy.

Diagram A shows the correct method centring the holes, and

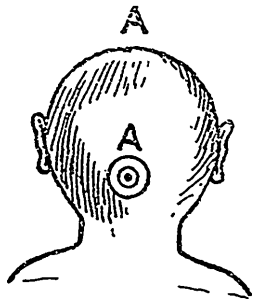
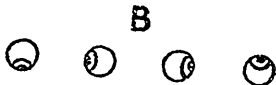


Diagram B incorrect methods.

The small black spot in centre of the holes in Diagram A represents Bosche loophole or Bosche head, if sniper is in the open.



## APPENDIX II.

## THE TRAINING OF SCOUTS AND SNIPERS—TACTICAL SCHEMES.

## 1. QUICK RECONNAISSANCE OF ENEMY'S POSITION.

Reference Map, 36c  $\frac{1}{40,000}$

## (1) General Idea.

The enemy has been attacked and has been driven out of his front line trenches, and is retiring Westwards.

We have reached our objective (his front line), and are in occupation of these trenches on a frontage of about 800 yards.

The opposition to our attack has been weak, therefore the O.C. attacking force is of the opinion that our line could be advanced still further without much opposition.

The enemy support line is known to be on the forward slope of the high ground immediately in front of our present position, distance about 700 yards.

Time 4 a.m.

Daylight, 5 a.m.

## (2) Special Idea.

Before ordering a further advance the O.C. Battalion requires definite information regarding enemy's dispositions.

Does he hold the support line in force or only lightly as a ruse to check our advance?

If the support line is not being held, where has he taken up his next line of defence?

Information on these points is required immediately.

Time is vital.

Any further attack should be launched before daylight.

Action decided upon by O.C.

O.C. Battalion sends for the O.C. Scouts, explains situation and details him to locate enemy's dispositions, together with memory sketch, or map, or landmarks.

## (3) Orders issued by O.C. Scouts.

Location of flanks: South, Cuchy-au-Bois, Milestone 9K; North, Cluchy-au-Bois, Milestone 8K.

Boundaries: West, a line at right angles to the two milestones until enemy encountered.

Scouts will move off at ten-minute intervals in twos.

Only in case of great personal danger or to achieve their mission are they to fire.

Be particular to note everything seen.

Note landmarks.

Be certain they can make memory sketch if necessary.

If certain that their (the enemy) old support line is not strongly held, information should be sent back immediately by one scout, the other remaining if necessary.

On returning to Headquarters, scouts will note on blackboard hour and minute of their return.

Scouts for purposes of instruction can write their report on reaching the lecture room, also finish their maps.

It is expected that the enemy may have at least one flying or moving patrol, and will no doubt have sentries and possibly snipers and scouts towards daylight.

In order to make the reconnaissance reasonably difficult it has been arranged that :

If any Scout can approach sufficiently close to an enemy patrol (not further than 15 yards) and order him to " Hands up," the captured man must immediately go with all possible speed wherever the Scout may direct. If Scouts approach within 60 yards of an enemy they will be fired on, and must give themselves up and get out of sight as quickly as possible.

Red and white flags will denote the trenches which are being strongly held by the enemy.

Coal oil cans, if seen, will denote machine gun positions.

The enemy or defending patrols, sentries and snipers will take note of everything they see, make rough sketch map and mark movements of British scouts, etc., and send in reports as frequently as possible to enemy headquarters (their own).

O.C. defending force will note time of receipt of despatches.

O.C. defending will be notified when reconnaissance is completed for the day.

Attacking sections will not impart information to each other ; they must all work independently for the work to be of any value.

Defending force will be in position by 11.30 a.m. Zero.

**Note.**

The most feasible method of approach in order to obtain the above desired information should first of all be decided upon by the instructor, and this approach should be left unguarded so that the scout or scouts who have the best eye for ground will be successful in getting the information.

## 2. TACTICAL SCHEME—SCOUTS.

### (1) Reconnaissance and Mapping.

Map Reference, 36B.

14th February, 1917.

### (2) General Idea.

Enemy has been attacked and is falling back rapidly Northwards. The retirement has been so rapid that our Scouts and Snipers have lost touch with his rearguard.

His main body is expected to be somewhere in the vicinity of Lillers.

Our forces are advancing on a frontage extending from Marest H.23.d.5.5., to Sains-les-Pernes, about C.18.6.

### (3) Special Idea.

From information received a strong enemy patrol or rearguard screen is operating or has taken up a position in the neighbourhood marked in attached rough map, namely B.27.28 H.3.4. (These squares having been previously enlarged by each student to scale of

1

10.000

The Western Boundary being the Sashin-Bailleul-les-Pernes road.

The Eastern Boundary being Pernes-Aumerual road, or for 50 yards on either side of these roads.

The attacking scouts, once having located them to keep touch, to send back information as speedily as possible, to send back a sketch map noting topography, landmarks, roads, trails, likely enemy observation posts, machine gun batteries, dead ground, etc.

If strong enough, to cut off enemy's patrol and prevent information of our movements reaching the enemy.

To prevent enemy patrols penetrating our own screen and thus gaining a wide view of surrounding valley. Enemy patrol commanders' headquarters will be stationary and marked with a red and white flag.

### (4) Defending Force.

Will endeavour to prevent our Scouts from obtaining any information.

From penetrating their line or cutting them off.

Rear Guard, from having any of their Scouts taken prisoner.

Defending patrols will also prepare map of country.

SCOUTS, DEFENDING FORCE.—O.C., Lieut. Hunt.

Sections 3, 5, 7, 8. Total, 16 men.

ATTACKING FORCE.—O.C.s, Lieuts. Harvey and

Lister. Sections 2, 4, and 6. Total, 12 men.

Time: SCHEME COMMENCES 9.30 a.m.

Stops Noon.

At noon officers will rally all those Scouts who have not already reported and return to billets.

BATTALION HEADQUARTERS (ATTACKING).—Snipers'

Lecture Hut.

### (5) Reports.

Prepared reports of the morning's operations by each Scout will be completed by 9 a.m. next day.

## APPENDIX III.

TACTICAL SCHEME FOR THE EMPLOYMENT OF  
BATTALION INTELLIGENCE SECTION IN ATTACK.**1. RECONNAISSANCE SCHEME.**

To practise employment of Intelligence Section for Offensive Operations.

The Intelligence Section to include Scouts, Observers, and Snipers.  
Map Reference Sheet 36b.

**(1) General Idea.**

Enemy has been heavily attacked and is withdrawing in a North-Westerly direction towards Bois-de-Bailleul and Nedonchelle.

Our Battalion has attacked from the outskirts of Pernes, up the valley marked by two roads :

1. Commencing at H.10.b.6.5.
2. Commencing at H.10.b.2.2., thence North-Easterly to their point of junction at H.3.a.5.1.

**INFORMATION.**

Our Battalion has reached its final objective, and is consolidating on the approximate line

H.3.d.8.8.

H.3.d.5.2.

Our right flank is a line running N.E. from the first L in Ville (Bois-de-Ville) to the figure 2 in B.27.

Our left flank is an approximate line running N.E. from

H.3.d.2.0. to

H.2. central.

**(2) Special Idea.**

**SNIPERS.**—To cover consolidation and protect our men from German Snipers.

**SCOUTS.**—To regain touch with the enemy and supply all useful information.

**OBSERVERS** —To establish themselves in good observation posts and watch and report all movements of enemy.

**DETAILS**—Before Zero hour the Battalion Intelligence Section assembled close to Battalion Headquarters in dug-outs.

**OBSERVERS.**

The Battalion Observers were established in Battalion battle observation posts in communication with Battalion Headquarters.

On first objective being won troops signalled with white lights, and Observers notified Battalion Headquarters.

COMBAT REPORT

\*\*\*



**SCOUTS.**

The Scout Officer immediately sends forward four Scouts who on reaching captured trench make hurried reconnaissance, establish temporary observation posts and report centre, then signal (by previous arrangement) "All clear," and (if in daytime) one Scout returns to original trench and guides up Intelligence Section, under an N.C.O. Intelligence Officer should remain with C.O. as long as possible or else in immediate communication with him.

**OBSERVERS.**

Observers should not close down or quit established observation posts until attack advances beyond field of vision. Whilst two Observers (depends on numbers) remain in Battalion battle observation post, remainder will go forward with Intelligence Section and establish new observation posts if possible in captured trenches, and report frequently to report centre.

Company Observers will report to Company Commander frequently.

Platoon Observers, if any, report to Platoon Commander.

**SNIPERS.**

Battalion Snipers, particularly those armed with telescopic sights, will go forward when Intelligence Section moves forward, but should not be employed in sniping until the final objective is gained and consolidation commences. On final objective being taken all snipers go forward and are given roving commission. Those armed with telescopic sights should take up position rearward of consolidated line, and be prepared to engage longer range shots, and to endeavour to pick out special targets. The remaining Snipers should push out on the flanks and creep forward cautiously and watch for enemy machine guns and enemy Snipers, and sometimes work in conjunction with Scouts.

**SCOUTS WHEN FINAL OBJECTIVE TAKEN.**

Scout reports to Intelligence Officer, who immediately goes forward to new line with four or five Scouts and an Observer.

Makes reconnaissance of new line, reports to Company Commanders.

Establishes map location of units, or location by landmark.

Establishes position of units on flanks, whether connected up or not and with whom.

In conjunction with Company Scouts the Battalion Scouts push forward and endeavour to keep in touch with the enemy; frequently the Battalion Scouts act as guides to offensive patrols after or during consolidation, particularly in the case of wooded or difficult country.

Scouts on return if possible report to Company Commander, giving particulars of anything of importance on his immediate front.

After preliminary reconnaissance by Scouts the Scout Officer should make reconnaissance of new "No Man's Land," and locate likely positions for posts or observation line. Report or help in posting men in these positions.

**INTELLIGENCE OFFICER—**

- Reports to Battalion Headquarters.
- Examines quarters selected for Scouts.
- Receives reports from Scouts, verifies important information.
- Prepares summary of intelligence for Brigade.

**NO. 1 SYNDICATE ATTACKS (BLUE I.S.)****Task.**

Carefully note details of Special Idea. Arrange men in conformity with suggestions made. Receive reports from Observers, Snipers, Scouts, Company Commanders, and any other source; make personal reconnaissance and prepare summary of intelligence for Brigade. Give of course location of enemy position. Each member of Intelligence Section to forward a report of some sort.

**NO. 2. SYNDICATE DEFENDS (RED I.S.).****Task.**

Location of flanks to apply to both syndicates.

Act on defensive and post men accordingly, making use of machine guns, Snipers, Patrols, Observers.

Take note of all movement when seen, particularly careless movement, and report nature of it.

Snipers to fire at all good targets and report where seen, what part of body aimed at and range.

Scouts generally to try and keep in touch with enemy patrols, snipers and attitude.

Landscape sketches to illustrate reports will be useful.

Enemy Intelligence Officer to receive all reports and prepare summary giving disposition (this report for Battalion C.O. not for Brigade).

---

**INSTRUCTIONS.**

Enemy patrols, snipers, etc., to fall back on viewing men carrying red flags.

Machine guns (use rifles) will fire three rounds rapid at all good targets, and should be spotted by noise of discharge or gas. Machine gun not to be captured, can move position.

If any member of blue force approaches too closely to machine gun (50 yards) a red and white flag will be raised, when Blue Force must retire from view.

Scouts may take prisoners, but those who effect capture must be either equal in number to or greater than the captured.

Scouts not to be recaptured while making a capture.

Prisoners to report immediately on capture to point indicated to them, not to talk and stop and smoke.

Prisoners to be made by surprise ("Hands up!")

Snipers will not take prisoners or be taken prisoner.

If Snipers or Scouts come under deliberate fire of Sniper they must retire from view and begin again.

Officers on either side will not be taken prisoner, but they must use all possible care as to exposure when on reconnaissance.

General line of enemy defensive position will be denoted by flags.

### **EQUIPMENT.**

Observers will take telescopes—also shovel each and compass.

Scouts—Field glasses, compass, disguises.

Snipers—Rifles, blank ammunition, disguises.

All equipped with water bottles.

Overall suits can be obtained at Quartermaster's Stores.

Zero hour to be arranged.

### **Signals.**

When final objective gained Scouts to signal back with flares, and Intelligence Officer carries on.

### **Distinguishing Dress.**

Red forces to wear hats reversed.

### **No. 1 Syndicate Blue.**

Detail O.C.'s.

### **No. 2 Syndicate Red.**

Detail O.C.'s, and suggest forward limit of protective screen.

## **3. ESTABLISHMENT.**

### **THE INTELLIGENCE PERSONNEL THROUGHOUT THE CANADIAN CORPS IS NOW BEING ORGANISED AS FOLLOWS :**

#### **Infantry Brigade.**

BRIGADE HEADQUARTERS.—Staff Captain (Intelligence).

OBSERVERS (12) (to include two German speaking O.R.'s).

AEROPLANE PHOTO MAN (1).

DRAFTSMEN (2).

CLERKS (1).

The two German speaking O.R.'s referred to above will be used as Observers, and when prisoners are taken, employed in securing accurate and rapid identification. They will be trained by an Officer from the Intelligence Corps in Elementary Organisation of the German Army.

Twelve Observers will include a reserve, which can replace deficiencies in Battalions when required.

#### **Infantry Battalions.**

INTELLIGENCE OFFICER (1).—Will be responsible for siting, equipment and maintenance of Battalion Observation Posts, collection, co-ordination, and distribution of Battalion Intelligence; artillery liaison and co-operation, training of Observers and Snipers.

SCOUT OFFICER (1).—Patrolling and training of Battalion Scouts.

OBSERVERS (8).—A minimum.

SCOUTS (8).—Battalion; for special reconnaissance. Companies to train Scouts for defensive and offensive patrols.

SNIPERS (8).

AEROPLANE PHOTO AND DRAUGHTSMAN (1).

#### 4. COLLECTION AND COLLATION OF BATTALION FRONT LINE INTELLIGENCE.

Procedure when organised as recommended in Diagram A :—

BATTALION OBSERVERS.—Daylight shift, 8.00 a.m. to 4.00 p.m. Winter.

##### OBSERVER'S NOTES.

Time	Notes	Date
8.00 a.m.-4.00 p.m.		December 30th, 1917.
8.00— 8.30	Quiet.	
9.00— 9.30	Ditto.	
9.30—10.00	77's on front line, vicinity Hull Road. Trench Mortars on front line, vicinity Acheville Road.	
10.00—10.30	77's on front line, vicinity Acheville Road. Trench Mortars on front line, vicinity Acheville Road.	
10.30—11.00	77's on front line, vicinity Acheville Road. Trench Mortars on front line, vicinity Hull Road.	
11.00—11.30	77's, vicinity Quarries.	
11.30—12.00	Quiet. Four 77's to front line and Acheville Road.	
12.00—12.30	Considerable 77's on Quarries, few 4.1's on back country.	
12.30— 1.00	Shelling Quarries with 4.1's.	
1.00— 1.30	Ditto	
1.30— 2.00	Ditto.	
2.30— 3.00	Still shelling Quarries, quit at 2.40.	
3.00— 3.30	Light 77's bombardment on support line, Quebec and Tongray trenches.	
3.00— 4.00	Quiet. Trench Mortars active off our area to the right.	

At 4 p.m. the above notes compiled by different Observers on duty during the day are summarised by the Corporal in charge of Observers as follows :—

##### OBSERVATION REPORT.

To Intelligence Officer.  
154th Battalion.

No. 2 Post.  
7.30 a.m. to 5.30 p.m.

##### ENEMY ACTIVITY.

Artillery.

Artillery a little more active than usual all day. During afternoon and evening enemy put over several prolonged bursts with light and heavy guns directed principally on front line and quarries. Most of the shelling was confined to forward area.

Trench Mortars. During the morning a few trench mortars were put on our front line.  
 Machine Guns. Very quiet, a few bursts during early morning and again towards evening.  
 Aircraft. Nil.

## OUR ACTIVITY.

Artillery. Very quiet all day.  
 Machine Guns. A few bursts during day—very quiet.  
 Aircraft. Nil.

(Signed) H. A. HARRIMAN, Corpl.  
 Battalion Observers.

---

 SNIPING REPORT.

To Intelligence Officer, 154th Battalion. 30/12/17.

ENEMY SNIPING. Very few shots fired with no casualties to us, not at all aggressive.

OUR SNIPING. Visibility bad in early morning and again during the afternoon. A few targets were engaged in the Bull Ring, and in the vicinity of T.16.b. One hit being observed, the casualty remaining where he fell for over an hour before being removed.

(Signed) J. JONES, Corpl.  
 Snipers.

The next proceeding is for the Battalion Intelligence Officer to summarise all the information at his disposal, including that which he has received from his Observers and Snipers, and from other sources, and forward his report to Brigade Headquarters as soon as possible. Should not be later than 6.30 or 7 p.m., as follows:—

## SUMMARY OF INTELLIGENCE.

154th Battalion.

To 20th C.I.B. From 6 a.m. to 4 p.m.  
 Map Ref. 36c. S.W. 4. 1/10.000 30/12/17.

## ENEMY ACTIVITY.

1. Artillery. During the day enemy put about 200 rounds of 77's along Toast-Totnes, Quebec and Front Line. About 50 5.9's in vicinity of T.22.a, and some shrapnel in vicinity of T.16.b.
2. Trench Mortars. A few light trench mortars on left company frontage; some in our wire. About 2 light trench mortars per hour during the day in vicinity of T.17.a.95.40.

- |                  |  |
|------------------|--|
| 3. Machine Guns. | Quiet.   |
| 4. Sniping.      | Nil.   |
| 5. Aircraft.     | No planes observed.  |
| 6. Movement.     | Very little movement observed during the day owing to poor visibility. |

## OUR ACTIVITY.

- |               |   |
|---------------|---|
| 1. Artillery. | A number of 18 pounders fired, landing in the vicinity of Acheville and in rear.      |
| 2. Stokes.    | Nil.  |
| 3. Sniping.   | One hit observed at T.15.a.s.6. Body removed later in the day. Man carrying a shovel. |
| 4. Aircraft.  | Nil.  |
- Visibility poor.

(Signed) A. MACKENZIE, Lieut.,  
For O.C. 154th Battalion.

The Intelligence dealt with up to this point covers observation to about 4 p.m. In order that the enemy may be kept under continual observation, a night shift is required for the observation posts, both Battalion and Brigade, covering the period from 4.30 p.m. to 7.30 a.m.

Now, during this time, our Scouts obtain useful information, carrying out a system of patrols all night. Very frequently most valuable information is obtained during the night, therefore Brigade require of the Battalion Intelligence Officer a patrol report, which must reach Brigade not later than 8.30 a.m.

Firstly an example of notes by a Night Observer:—

## OBSERVER'S NOTES.

From 5 p.m., 30/12/17, to 7 a.m., 31/12 17.

- |             |   |
|-------------|---|
| 5.00— 6.00  | Very quiet. 3 Light trench mortars on Right Battalion Forward Area.   |
| 6.00— 6.30  | Very quiet.   |
| 6.30— 7.00  | Several bursts of enemy machine gun fire along whole front.   |
| 7.00— 7.30  | Two 4.1's on our rear area, and one burst of enemy machine guns.  |
| 7.30— 8.00  | Battery in front of observation posts fired 20 shells over enemy's line.<br>2 bursts of enemy machine guns.<br>One 4.1 on our rear area.                                  |
| 8.00— 8.30  | Very quiet. Occasional bursts from our machine guns.  |
| 8.30— 9.00  | Several short bursts of enemy machine guns along front line.<br>Battery in front of observation post fired 35 shells.<br>About thirty 4.1's along front and support area. |
| 9.00— 9.30  | Several bursts from our machine guns.   |
| 9.30—10.00  | Bursts from enemy machine guns.   |
| 10.00—10.30 | Battery in front of observation post fired 40 shells.   |

- 10.30—11.00 Battery in front of observation post fired 2 shots.  
8 light trench mortars on Right Battalion Front.
- 11.00—12.00 2 short bursts from enemy machine guns.  
3 short bursts from our machine guns.
- 12.00—12.30 Battery in front of observation posts fired 10 rounds.  
Short bursts of fire from our machine guns, followed by short bursts from enemy machine guns.
- 12.30— 1.00 Short bursts from enemy machine guns.  
Short bursts from our machine guns.  
Battery in front of observation posts, 10 rounds.
- 1.00— 2.00 Very quiet.
- 2.00— 2.30 Ditto.
- 2.30— 3.00 2 light trench mortars on Right Battalion Front.  
2 bursts from our machine guns
- 3.00— 4.00 6 light trench mortars on Right Battalion Front.  
5 bursts from our machine guns.
- 4.00— 5.00 Battery in front of observation posts fired 25 shots.
- 5.00— 6.00 A few bursts from our machine guns, otherwise very quiet.
- 6.00— 7.30 Very quiet.

(Signed) P. LEGGE  
H. ADAMS

Observers.

This, summarised by Observer N.C.O , will be addressed as follows :

#### NIGHT OBSERVATION REPORT.

To Intelligence Officer,  
154th Battalion.

Night of 30th/31st December, 1917.  
No. 2 Post, A.6.b.80.70.

#### ENEMY ACTIVITY.

1. Artillery. Not very active, approximately thirty-five 4.1's being fired all night. These were scattered along whole front area.
2. Trench Mortars. Very quiet. 21 light trench mortars on Right Battalion Front Area.
3. Machine Guns. Fairly active all night, firing short bursts intermittently.
4. Aircraft. Nil.
5. Flares. Usual White. Below normal.

#### OUR ACTIVITY.

1. Artillery. Very active all night. Approximately 250 rounds fired over enemy's lines. These were 18 pounders and 60 pounders.
2. Machine Guns. Fairly active all night, firing intermittently.
3. Aircraft. Nil.

CORPL. P. LAMB,  
Observers' Section.

The foregoing summary, together with the patrol report, is now incorporated in the summary of intelligence or more commonly called the Patrol Report, which has to be made up by the Battalion Intelligence Officer, and forwarded to Brigade Headquarters by 8.30 a.m., as follows :—

## SUMMARY OF INTELLIGENCE.

154th Battalion.

To 20th C.I.B.

From 4.30 p.m. to 6 a.m.,

31/12/17.

## ENEMY ACTIVITY.

1. Artillery. Less active than usual. Between 4 p.m. and 8.50 p.m. only a few 4.1's scattered over area. At 12.30 a.m. four 4.1's on back area, and between 1.30 and 5 twenty-two 4.1's on back areas.
2. Trench Mortars. Normal. About 20 medium trench mortars on Tot and Totnes between 5 p.m. and 9 p.m., and about 25 about midnight around same area.
3. Machine Guns. Quiet. Occasional bursts throughout the night.
4. GENERAL—  
Flares. Only a few white flares.  
Gas. About 20 gas shells at 5.25 a.m., on T.16.b.

## OUR ACTIVITY.

1. Artillery. Our 18 pounders were fairly active during the night on enemy front line and supports.
2. Machine Guns. Usual harrassing fire.
3. Patrols. A patrol of 4 O.R. left our front from T.17.a.49 at 10 p.m., and worked along outside our wire towards our left flank. This Patrol came in at T.10.d.4.3 at midnight, reporting our wire to be in fairly good condition except in a few places where enemy trench mortars had slightly damaged it. No enemy were encountered and Patrol had nothing unusual to report.

Wind—E. Very mild. Gas alert on.

J. DUNCAN, Lieut.,  
Intelligence Officer.  
For O.C. 154th Battalion.

The next report to come in is from the Machine Gun Company for each Brigade, as follows :—

## 15TH CANADIAN MACHINE GUN COMPANY.

Report for 24 hours ending 6 a.m., 31/12/17. Harassing fire.



Gun	Target Map Reference		Time		S.A.A. Exp'n'd	Remarks
	From	To	From	To		
Abdulla	T.5.d.7.8	T.5	6 p.m.	11 p.m.	6000	
Antelope	T.6.d.80.82	T.6.d.82.00	5 p.m.	6 a.m.	6000	
Betty IV.	T.4.a.58.85	T.4.a.72.95	p.m.	5.30 a.m.	6000	
S.A.A. on Hand. 195,000.		Total Fired. 180 000.		Brought up, 30,000.		

Enemy Attitude—Shelling, etc. Shelling and Machine Gun Fire very slight.

E. R. JOHNSON, Lieut.  
For O.C. 15th C.M.G. Co.

The foregoing reports will have covered a period of 24 hours, from 7 a.m. to 7 a.m., and if it happened to be a two or three Battalion front similar reports would be received from each Battalion Intelligence organisation by the Brigade Intelligence Officer, who now segregates and then collects all important information, together with correct map references, and forwards it when completed to Divisional Headquarters. If the frontage is held by two Brigades, each will forward a summary to Division. The Brigade summary is arranged under the following heads:—

6th Canadian Infantry Brigade.

#### SUMMARY OF INTELLIGENCE—No. 5.

From 6 a.m., December 30th, to 6 a.m., December 31st, 1917.

.....  
Visibility—very poor.

#### OUR ACTIVITY.

Artillery.  
Trench Mortars.  
Machine Guns.  
Sniping.  
Aircraft.  
Patrols.  
Left Battalion.

Right Battalion.

#### ENEMY ACTIVITY.

Artillery.  
Trench Mortars.  
Machine Guns.

Sniping.  
Aircraft.  
Movement.  
Targets.

A. K. MACKENZIE, Lieut.,  
For G.O.C. 6th Canadian Inf. Brigade.

#### Next Procedure.

At Divisional Headquarters the Brigade summaries, together with other important intelligence, are condensed and issued the following day to Corps Headquarters, Brigades and Battalions, and other formations as follows:—

#### 6TH CANADIAN DIVISIONAL SUMMARY.

##### OUR ACTIVITY.

Artillery.  
Machine Guns.  
Patrols.  
Sniping.  
Aircraft.

##### ENEMY ACTIVITY.

Artillery.  
Trench Mortars.  
Machine Guns.  
Sniping.  
Aircraft.  
Movement.

—, Lieut. Col. G.S.,  
6th Can. Div.

The following formula is a Divisional Artillery Summary of Intelligence covering twenty-four hours, whose information is collected very much in the same manner as Battalions. They have their own Observers and observation posts, with Forward Observation Officer with the Infantry, and Liaison Officer at Brigade, to ensure co-operation and taking on of targets quickly, etc.

Canadian Divisional Artillery.

#### DAILY SUMMARY OF INTELLIGENCE.

10 a.m., December 28th, to 10 a.m., December 29th, 1917.  
Visibility.

##### 1. NIGHT HARASSING FIRE.

- (a) Right Brigade.
- (b) Left Brigade.
- (c) Expenditure.

##### 2. WIRE CUTTING.

##### 3. DESTRUCTION OF TRENCHES AND SPECIAL TARGETS.

##### 4. SNIPING.

## 5. INTELLIGENCE.

- (a) New work.
- (b) Unusual occurrences.
- (c) Aerial activity.
- (d) General report on enemy activity.
- (e) General movement.

—, Lieut.  
Reconnaissance Officer, C.F.A.,  
For Brigade Major, Canadian Division.

It is hoped that the foregoing notes and diagrams may be of some service to all those responsible for the collection of and quick transmission of accurate information through their Battalions to Brigade and Division.

Personal experience shows that many Battalions collect intelligence without any system, and without sufficiently careful supervision by officers and N.C.O.s in command of Intelligence Sections. Observation and information is of little value unless accurate, men must be continually checked and trained. Observers and Scouts cannot be trained in a day. Only the best men available should be used, and every officer and man must be intensely keen on his work. This applies in a marked degree to intelligence work. The Intelligence Officer and his N.C.O. must be tireless while in the line. There is little time for rest. Accuracy and efficiency from everyone in the Intelligence Section must be expected and demanded. This keenness and proficiency must not stop with the Battalion Intelligence Section. The Brigade Intelligence Officer should be well trained. He should have had training in the lower formation first, to be really an expert. He should know every phase of the game, should understand the difficulties and possibilities, and know how to give good advice and help to his Battalion Intelligence Officers.

He should really be responsible for instituting a good system in his Brigade, and instruct the officers in its adoption.

Systems vary so much in the Battalions in the Corps, regarding the collection of information, that I have ventured at some length to explain one method which works very well indeed. There are many others possibly equally good and better, which differ to a certain extent from the foregoing, owing possibly to a different organisation of the Intelligence Section.

I am quite confident, however, that the organisation of the Battalion Intelligence Section, as outlined in these notes will, taking everything into consideration be found to produce the most efficient results.

(The above notes were written before the new organisation came into force.)

N.A.D.A.

