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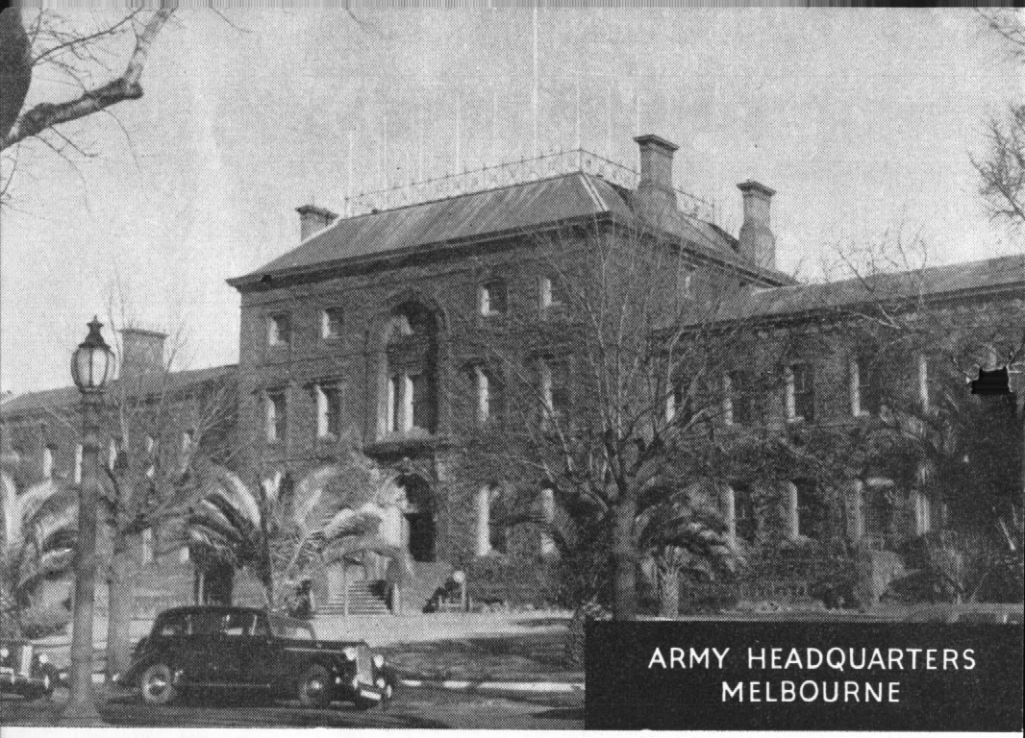

AUSTRALIAN ARMY JOURNAL

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The

ROLE AND ORGANIZATION

of the

ARMY MEDICAL SERVICE

Colonel J. Glyn White, OBE, ED, MB, BS,
Deputy Director-General of Medical Services.

This is an authoritative article written for the "Australian Army Journal" by the Deputy Director-General of Medical Services at the request of the Director of Military Training. It is designed to present a comprehensive picture of the role and organization of the Royal Australian Army Medical Corps, which should be known to officers of all arms.—Editor.

Roles.

The roles of the Royal Australian Army Medical Corps may be stated briefly as:—

(a) Advice on the prevention of disease and the maintenance of the health of the troops.

(b) Evacuation and treatment of sick and wounded casualties.

(c) Advice on the positioning of medical units.

(d) Supply and replenishment of medical stores.

Execution of these roles requires a variety of units, ranging from General Hospitals organized, staffed and equipped on a scale comparable to that of a large public hospital, to Field Ambulances working with the forward troops. Not only is medical knowledge and skill required in order that satisfactory advice may be given to keep troops fit and healthy and to provide proper care and attention for the sick and wounded; but a high degree of administrative ability is necessary to cope with the problems of accommodation, feeding and transport, as well as the provision of vast quantities of drugs, dressings, instruments and appliances.

Maintenance of Health.

Before proceeding to elaborate these roles in greater detail, and to describe the organization and units required to carry them out, it is desirable to stress the fact that

the medical service is NOT responsible for the health of the troops. That is definitely the responsibility of unit and formation commanders. The medical service is responsible for advising these commanders on the measures necessary for the prevention of disease and the maintenance of health. The commander to whom the advice is given must balance it against operational requirements and accept responsibility for the action he decides to take.

Advice of this nature is constantly available to commanders at all levels through the medical staff of formations and the medical officers attached to units. In addition there are medical units—Field Sanitary Sections and Malarial Control Companies, for example—trained and organized to give technical advice and assistance on measures necessary for the maintenance of health.

Evacuation and Treatment.

The organization for the evacuation and treatment of casualties is based on three primary considerations, namely:—

(a) The necessity for providing adequate treatment in order that—

(i) Suffering may be alleviated.

(ii) Casualties may be restored to health and returned to duty as soon as possible.

(b) The necessity for clearing casualties from the forward area as quickly as possible in order that the more advanced echelons are not overburdened with more cases than they are designed to hold and treat.

(c) Economy of effort by providing facilities for the treatment of relatively minor casualties in the more forward echelons, and thus avoiding unnecesary strain on the transportation system.

One difficulty to be met in providing an adequate, but at the same time economical, system arises from the fact that neither the flow nor the types of casualties are constant. At times when little fighting is taking place very few wounded will be coming back, and perhaps only a few sick. Then there may be a sudden outbreak of disease, caused perhaps by the troops moving into a contaminated area. The next week it might be a totally different type of disease. And the week after that the medical services may have to cope with a large number of wounded, many of whom require urgent surgical attention. Sometimes a high sickness rate coincides with a high rate of battle casualties, whilst at all times the services have to cope with the ordinary ailments —appendicitis, etc.— which attack men in war as they do in peace.

To meet these varying conditions the medical services in the field must be flexible in two respects. They must be able to meet the varying conditions of loading with, on the one hand economy of effort, and on the other proper attention to casualties. They must be able to provide at short notice skilled attention varying from delicate surgical operations to complicated medical diagnosis and treatment.

Medical Units.

Working from front to rear we encounter the following medical personnel and units:—

Regimental Medical Officer.

The Regimental Medical Officer is a member of the Royal Australian Army Medical Corps attached to a unit for the purpose of advising the Commanding Officer on all matters affecting the health of his troops, and giving immediate medical attention to unit casualties. Normally the RMO, both in and out of action, establishes a Regimental Aid Post to which the sick and wounded are brought for attention and, if necessary, for evacuation. Even when not in action the RMO does not hold in the RAP or unit lines any but very mild cases of sickness or injury because the medical facilities at his disposal are strictly limited. A casualty requiring extensive or prolonged treatment is immediately evacuated.

The Field Ambulance.

Field Ambulances are provided on a scale of three to each infantry division and two for each armoured division. Each of these units consists of a headquarters and one company of three sections. Each of these sections is designed to form a Casualty Collecting Post (CCP) to receive casualties sent back from units by the RMO, give them immediate attention, and arrange for their further evacuation to the Advanced Dressing Station (ADS), which is formed by the HQ of the Field Ambulance.

At the ADS casualties, in addition to receiving somewhat more extensive treatment than they have hitherto been given, are divided broadly into two categories—those who do not require much more treatment and are likely to recover quickly, and those requiring prolonged treatment.

The Field Dressing Station.

The Field Dressing Station (FDS) is a mobile, self-contained unit comprising a headquarters and two sections. Each section can operate independently if necessary.

FDS's are Army troops allotted on the scale of one per infantry, armoured and airborne division, and two per corps.

The primary role of the divisional FDS is, by holding all cases of a minor nature, sick, exhaustion and wounded, to prevent unnecesary wastage of the division's fighting strength.

In addition to other functions, the corps FDS can be converted into an Advanced Surgical Centre by the attachment of one or more Field Surgical Teams (FST's) and Field Transfusion Teams (FTT's). An Advanced Surgical Centre is established only when it is impossible to site a Casualty Clearing Station far enough forward owing to the tactical situation or the terrain. The corps FDS can be used to form a gas treatment centre, an exhaustion centre, or any other special treatment centre. It can also be used to filter off cases from the main stream of casualties and thus relieve the strain on the Casualty Clearing Station.

The Casualty Clearing Station.

Casualties which have not been held for treatment and early return to duty at the ADS are forwarded by that unit to the Casualty Clearing Station (CCS). This unit has accommodation for 120 patients in beds and 80 on stretchers. The function of this unit is to:—

(a) Provide essential major surgical treatment in the forward area. It is at this unit

that most of the urgent surgery is carried out).

(b) Provide treatment and accommodation for cases requiring further evacuation.

(c) During quiet periods, to retain mild cases until they are convalescent. To relieve congestion on the CCS one or more FDS's may be used for this purpose.

The General Hospital.

Casualties which cannot be held at the CCS, either because they require prolonged treatment or because of pressure of loading, are evacuated to a General Hospital. Here again the same sorting process takes place. Casualties not likely to recover for a considerable time are forwarded to General Hospitals on the Lines of Communication or at the Base. Here some will be restored to health, whilst the worst cases will be transferred to hospital ships for movement to hospitals outside the theatre of operations.

On discharge from a General Hospital casualties go to a Convalescent Training Depot, where, by appopriate physical training, they are made fit for duty. They then go to re-inforcement depots for return to their units.

Transportation.

Battle casualties are collected and brought to the RAP by the regimental stretcher bearers. There they are picked up by the ambulance cars of the Field Ambulance and taken to the Casualty Collecting Post, and from there to the Advanced Dressing Station.

From the ADS casualties are moved to the Casualty Clearing Station in the ambulance cars of the MT Company, RAASC (motor ambulance). From the CCS casualties are moved to the General Hospital by the same unit, or by railway ambulance trains if such are available. Further rearward movement is effected by MT, by rail, or by hospital ship, depending on circumstances.

Depending on the conditions obtaining in the theatre of operations, all the transport echelons behind the Advanced Dressing Station may be replaced by air transport, or air transport may be superimposed to relieve the strain on surface transport. Similarly, any of the treatment centres between the ADS and the Base may be by-passed by air transport, to relieve the loading on these centres and to get the serious cases back to the big hospitals as quickly as possible.

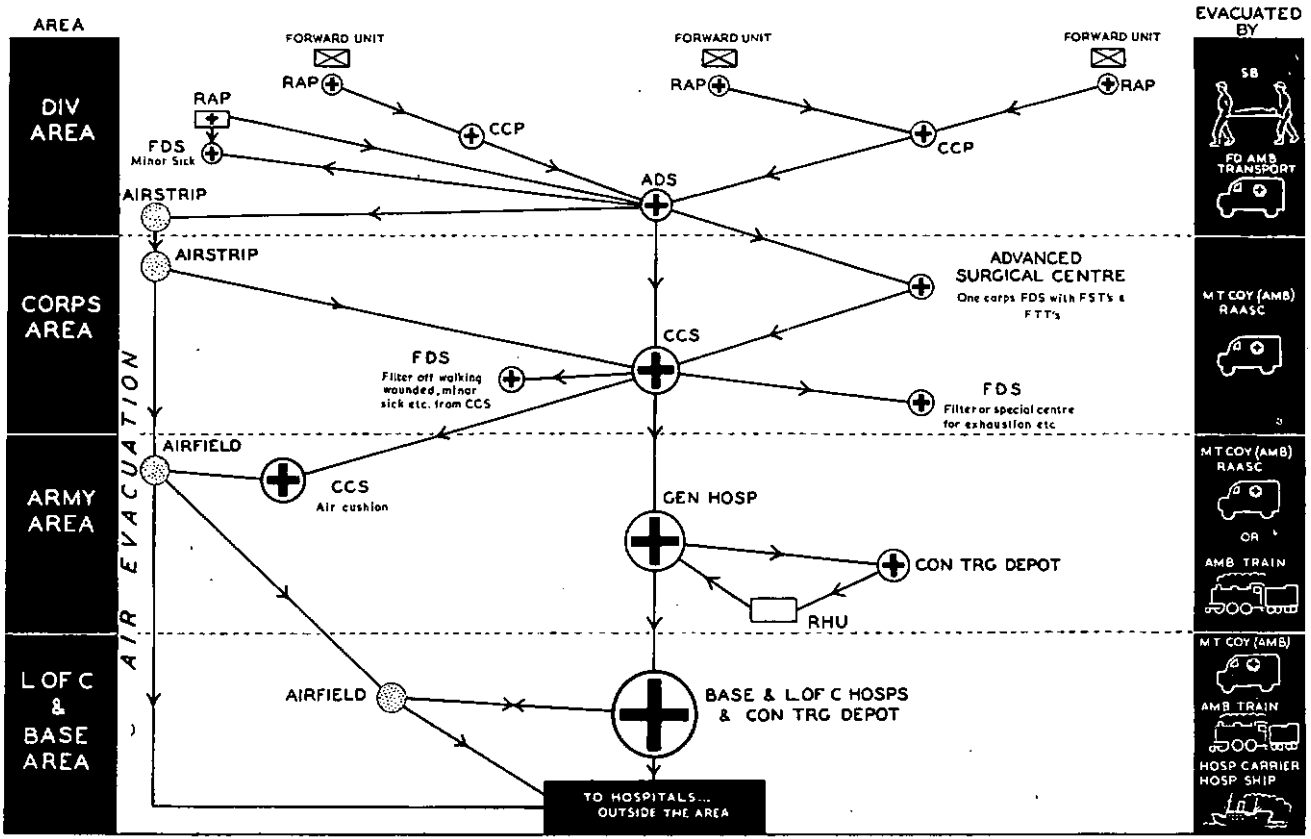
The system of evacuation outlined in the foregoing paragraphs, and shown diagrammatically on page 9, is extremely flexible and can be made to fit almost any set of conditions. Both treatment and transport echelons can be expanded, contracted or overlapped to meet varying operational pressures of loading and geographical conditions.

Conclusion.

In a paper of this nature it is not possible to go into all the details of the RAAMC's activities. It can be said, however, that any soldier who becomes a casualty, any sort of a casualty, from severe wounds to an unusual illness, will receive in a military hospital professional attention, including specialist attention, no less competent than he would be able to obtain in civil life.

RESTRICTED

CASUALTY EVACUATION SYSTEM

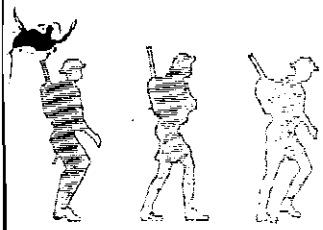


Many of the doctors and nurses of the RAAMC are, in civil life, at the very top of their profession. To their work in the Army, in peace and war, they bring all the accumulated knowledge and skill of the medical profession in its mission of alleviating suffering and restoring the sick and injured to health.

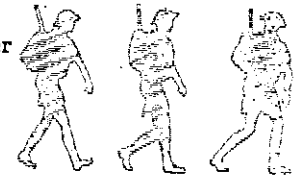
NEW RADIATION DETECTION DEVICE.

The United States Army Department has announced that production has started of a new type of radiation detection device known as a "Radiac." The radiac is intentionally made less sentitive than the Gieger counter and is designed to detect and measure relatively large concentrations of radiations such as would result from an atomic bomb blast. It is suitable for use by both military and civilian organizations, and is made with standardized parts.

THE INFANTRY SECTION
in
DEFENCE



Major-General S. H. Porter
DSO, ED.,
GOC 3rd Division.



What is Defence?

Defence is very little removed from Attack. Instead of advancing and striking at the enemy, we may choose to prepare a fire trap for him and allow him, temporarily, the opportunity of moving to strike at us. What we really do is to invite him into the trap in order that he may be destroyed in the process. We improve our odds of winning by:—

(a) Choosing a good "killing ground"

(b) Preparing our fire positions.

(c) Assuming an aggressive state of ambush.

Our aim is that he should "come and get it" as a prelude to our going to "hand it out." The "It" is a merciless thrashing.

How Do We Start?

Usually the section will be on the move with its normal protective-aggressive deployment as depicted in the paper, "The Infantry Section." (Australian Army Journal, No. 13.) The Section Leader will be given a role of positioning his section (his LMG, in fact) to cover a certain approach. He will reconnoitre the area which his platoon commander has allotted to him with the object of siting his LMG. He will seek:—

(a) A good field of fire in relation to his task.

(b) A reasonable field of view.

(c) Natural cover from enemy observation.

(d) Natural obstacle value which may be afforded by the terrain.

He may have to compromise with (b), (c) and (d) in favour of his field of fire. By positioning his section in the area allotted to him and preparing a defensive post he will incidentally contribute to the platoon defence plan.

Having chosen the best position for his LMG, he will test the ground for its suitability for digging and heed the natural drainage in the area. Once the LMG has been positioned other members of the section will place themselves, as usual, for its all-round defence, and commence digging the first stage of a section post. The first stage consists of holes in the ground—one for each man.

Before digging has gone far the position of each weapon pit will be checked by the Section Leader and the platoon commander.

(a) The Section Leader will ensure that flanks and rear are adequately covered and that the pits are neither too far apart nor too concentrated. The careful clearing of fields of fire may save spreading the section with consequent difficult construction of communication trenches.

(b) The platoon commander will ensure that each section is mutually supporting.

Men do not like unnecessary work, so care should be taken to find faults at an early stage.

As soon as possible a sentry group or screen will be posted forward of the post to guard against enemy interference during digging. Sometimes this responsibility is assumed on a company or battalion level, but, if it isn't, the Section Leader will post a sentry group, and relieve the pair of men so posted frequently enough to ensure that all holes are developed evenly.

At this stage the scene will look something like Figure 1.

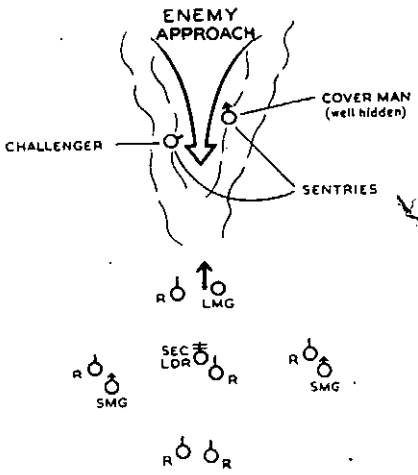


Figure 1

What is the First Stage of Digging?

The answer to this question is simply to dig in such a manner that a fire position is constructed for each man in the quickest possible time. The fire position must also provide protection against:—

(a) Bombing.
(b) Shelling.
(c) Crushing by tanks.
(d) Small arms fire.
(e) Assault weapons.

We must disregard many of the outdated methods of commencing the task, simply because most of them have ceased to have practical value. Often they created false security and were too long in reaching the stage which provided the requirements stated above. The "slit trench" was ideal when completed, but dangerous when partially completed. The Buffs were crushed to death as they lay in their three-feet deep slits in Libya in 1942. The effort of digging the slits would have been better applied to digging deep holes with mouths so small that men could crouch in them with safety, should tanks over-run their positions. More important still is the fact that it is difficult to fire in all directions from a slit which is constructed for lying and facing one direction only.

The best approach to the task of digging a deep slit trench is to dig a "post hole" or "fox hole" and later to enlarge it so that it beomes a deep slit. Meanwhile a man may crouch

in it and engage the enemy in any direction. It is better to rest above ground, with sentries posted for warning, and to have a "post hole" type of pit to man in the event of any type of attack.

Action of Section Leader.

What does the Section Leader do as soon as his men have commenced digging? Several tasks await him, namely:—

(a) Notify Platoon HQ—"No. .. Section in position."
(b) Issue a roster for sentries (usually verbally).
(c) Plan the work for the early stages of development of the post, including—
  (i) Improvements to fields of fire and range cards.
  (ii) Ration and ammunition particulars.
  (iii) Improvement of obstacles and wiring.
  (iv) Disposal of spoil.
  (v) Camouflage.
  (vi) Dummy posts and deception.
  (vii) Hygiene.
(d) Revise administration and discipline, particularly track discipline and passive air defence.
(e) Arrange feeding and resting.
(f) Acquaint himself with the positions and plans of adjacent sections.
(g) View his post from likely enemy approaches.
(h) Plan the development of the post.

Development Beyond Stage One.

The first rule to observe when developing works whether digging or wiring is that of respect for Nature. Disturb vegetation as little as possible and conform with Nature's

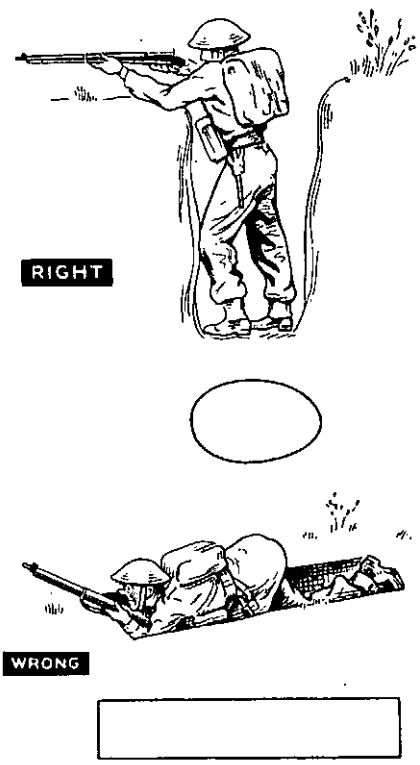


Figure 2

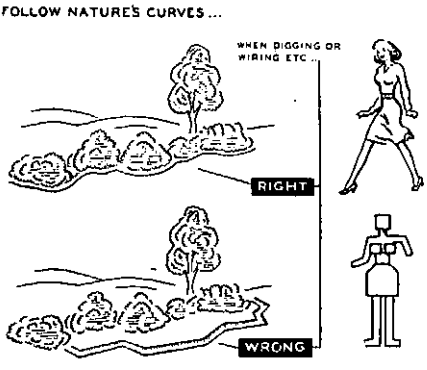


Figure 3

curves. Follow the line of contours where possible and dig around patches of natural growth. Do NOT dig on the reverse side of bushes in such a fashion that they must be cut down to provide a field of fire. On the other hand, remember that, with natural growth as a background, silhouetting is avoided.

Once each man has dug his pit to the required depth the best sequence of work is:—

(a) By digging away from the front lengthen each pit, until it becomes a slit.

(b) Join each pair of slits, NOT by digging in a straight line, but rather in an irregular "V," so that blast will not travel along the communication trench.

(c) Dig meandering crawl trenches to join each pair of slits.

(d) Construct rest areas with overhead cover, one sleeping bay where a man can lie comfortably to each pair of slits. These are best constructed at the end of one of each pair of slits, where they may serve as bomb shelters yet allow free movement in the weapon pits.

(e) Construct stores bays and latrines.

(f) Deepen crawl trenches to convert them up into communication trenches, so that any portion of them may be used as an alternative fire position.

(g) Improve facilities as time permits and use light camouflage merely to break outline as work proceeds.

In diagrammatic form, the progress may appear as shown in Figure 4.

Several factors may alter the deployment of the section and hence the shape of the post. The main ones are the strength of the section and the security actually needed on one or more flanks. An idea of the layout of a post in a section of less than ten may be gained by disregarding one of the loops in the diagram (c) above. In other cases, pits dispersed in an approximate triangle are usual. Lack of time usually results in a major effort being applied to communication trenches running astride the main axis, but at all times, the post must be capable of all-round defence.

There are no hard and fast rules for disposing of spoil, provided that it is removed or "smeared" so that there is nothing to draw attention to

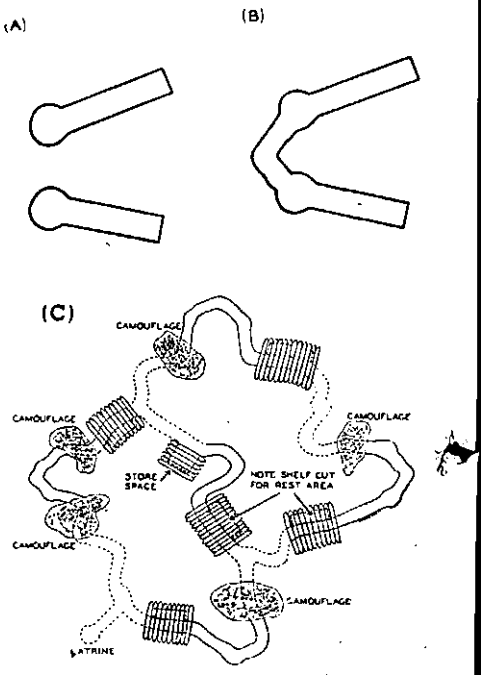


Figure 4

the post. Several methods used by troops during the last war were:—

(a) Dumping in bushy patches.

(b) Construction of dummy posts.

(c) Piling in a rear area under a camouflage net.

(d) Transportation in sandbags on a "banana wire" or rough flying fox. This method is most practical when digging on a slope.

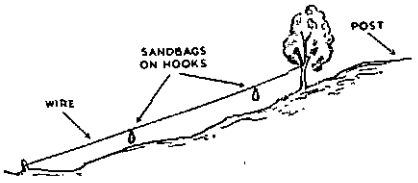


Figure 5

Camouflage.—In fortress areas particularly, and in all exposed areas, a camouflage net should be erected before work commences. This is to guard against enemy air observation. The net should be high enough to allow work to proceed under it. When the post has been completed, it should not be necessary to retain the net if a commonsense policy of deceptive camouflage of the work has been followed. When in close contact with the enemy it may not be possible to erect high nets, so that digging by night and camouflage by day is best.

Beware of:—

(a) Using green vegetation which dries out and becomes conspicuous.

(b) Camouflaging so heavily that freedom of movement is sacrificed.

(c) Wearing exposed tracks with uncontrolled traffic, so that the position of the post is marked by converging tracks.

After all, concealment is best, and is easily attained by following the advice in earlier paragraphs.

Overhead cover.—To be of any use overhead cover should cause a projectile to burst outside a post and not in it. This is attained by covering a post with a "burster course" consisting of hard substance such as rock or stout logs. Under this course there must be a cushion of earth, in sand bags for preference. The whole must be supported by strong bearers.

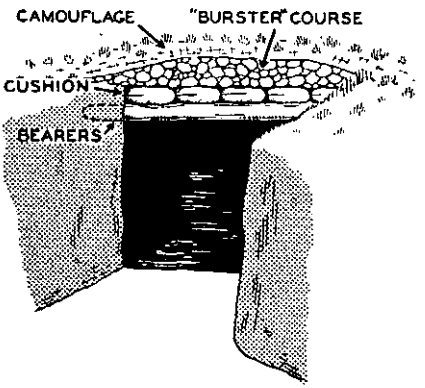


Figure 6

Wiring.—The object of all obstacles is to slow the enemy up in the beaten zone of our weapons while he is still unable to attack us with grenades. He must be made to encounter the obstacle with surprise, otherwise he will seek to demolish it before approaching. Thus, when wiring, use the concealment of vegetation or folds in the ground so that the enemy is unable to approach the obstacle by a covered approach.

Experience has proved that a low anti-personnel type of wire

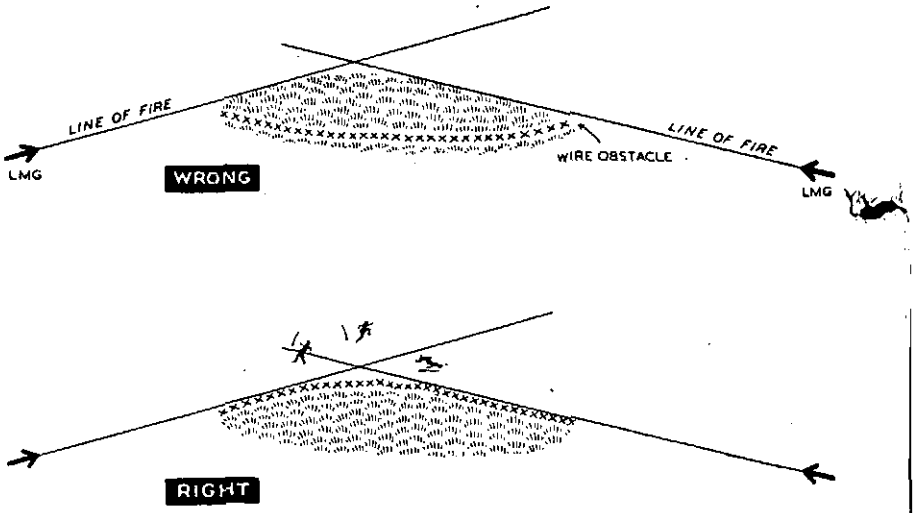


Figure 7

obstacle with adequate depth is effective. It has the advantage of being easy to conceal and is difficult to demolish by crushing or blowing up. Its features are loose wiring at about knee height, and spreading from fifteen to twenty feet or more. It is comparatively easy to construct, especially in bushy country.

Let us now examine the post in the light of the Principles of War:—

(a) **The Selection and Maintenance of the Aim.**—From the section point of view, the aim in a defensive task, as in attack, is to bring fire to bear on the enemy with the object of destroying him. This post is definitely a fighting post.

(b) **Maintenance of Morale.**—Its efficiency in giving the section an odds on chance of victory is its contribution to morale.

(c) **Offensive Action.**—It is planned to provide a hostile reception for the enemy, and to trap him.

(d) **Security.**—Its layout and construction combines security and offensive spirit.

(e) **Surprise.**—Its ground-level pits and its general features cater for concealment.

(f) **Concentration of Force.**—Its communication trench system allows mobility and a concentration of weapons at a threatened flank.

(g) **Economy of Effort.**—There is no unnecessary work in it, while the priority of tasks provides for essential work being executed in due priority.

(h) **Flexibility.**—The planning and execution of work are part of a flexible scheme which is

easily adaptable to any set of circumstances.

(j) **Co-operation.**—The Section is able to fight as a team.

(k) **Administration.**—While the observance of this principle largely rests with the Section Leader, this type of post facilitates administrative control.

In addition, there are some commonsense features in the scheme of development of the post which are based on the psychology of the average soldier:—

(a) There is shelter for half of the section members, under which they may sleep with security during the hours which are rostered for resting. This same shelter will protect the whole section during artillery and air bombardments, when the enemy is obviously not at close quarters.

(b) Weapon pits are open, so that complete freedom is allowed for action to all sides.

(c) Communication trenches are also alternative fire positions so that, should a weapon pit be neutralized with enemy fire, the occupant may side-step and hit back.

(d) The fact that the original deep slits run parallel to possible lines of approach of the enemy allows complete freedom of action for throwing grenades during close combat, without exposing the thrower. If men are required to expose themselves by leaning out of a trench in order to obtain freedom of arm action, it is unlikely that any grenades will be thrown with effect when the enemy is at close quarters.

A Few Points on the Conduct of the Defensive Battle.

Before the enemy may launch a set piece attack he must discover the whereabouts of our LMG and other positions, so that he may neutralize them with fire in support of his assault troops. This he will attempt to do by patrolling or by launching encounter attacks. Thus our first concern must be to keep his patrols at a distance and provide him with false impressions as to our actual positions.

We may do this by a combination of the following:—

(a) We must perfect our use of camouflage and concealment.

(b) We must post a screen and, on a platoon level, carry out counter patrolling.

(c) We must develop alternative fire positions outside our post, from which our LMG may open fire at enemy patrols. We will also use these and other alternative positions in order to delude the enemy during the period of his gaining contact.

(d) Alternative fire positions must be so constructed that, while they afford our men cover when they engage the enemy, we are able to fire into them from our main post. Very often, natural cover only will suffice for an alternative position. We must not make duplicate posts which the enemy may use against us.

(e) We must construct a few dummy posts, but care is

needed here, too. Dummy posts must not be so close to our real positions that we may be endangered by enemy fire aimed at the former. They must not be so obvious that they attract attention during the early phases of contact, and thus inform the enemy of our digging activities in the area.

(f) We must post our SMG's to cover short approaches from flanks where a volume of fire at short range is likely to be needed.

(g) When the main attack is launched we will fight from our main posts until ordered to cease fighting—not before!

Screens—Sentries.

When posting pairs of sentries, one man should be detailed to challenge while the second covers the party challenged. The challenger should be in rear of the "cover man" so that the quarry is halted under the muzzle (usually a SMG) of the cover man's weapon. The latter remains silent and concealed until identification or otherwise is established. This technique is very important that men should be carefully trained in it.

"Wars may be fought with weapons, but they are won by men. It is the spirit of the men who follow and of the man who leads that gain the victory." . . .

General George S. Patton, US Army.

An Analysis of . . .

THE SUB-UNIT COMMANDER

Captain P. A. Mayer, Canadian Army.

"Finally, knowing the vanity of man's effort and the confusion of his purpose, let us pray that God will accept our services and direct our endeavours so that when we have done all we shall see the fruits of our labours and be satisfied."

The closing words of Brigadier O. C. Wingate's Order of the Day, 17 February, 1943.

Introduction.

In order to set out the qualities for any particular professional task, it is always best to define the task, for from it one can appreciate the standard which the applicant must reach in order to fill the post. The task of the infantry company commander and the platoon commander is to lead a group of men in a co-ordinated effort to close with the enemy and destroy him. From this task, then, it is clearly seen that whosoever leads must have qualities that will inspire those under him to the highest performance of duty under all the varying conditions of battle. The leader must be resourceful, mentally alert; he must learn quickly, be able to judge and appreciate the problem soundly, think it over clearly, and with logic.

—*From Canadian Army Journal.*

It would be well now to examine the various qualities which give the good commander his power of leadership. These qualities are really basic factors which help the leader in the successful management of his men and of himself and, as such, are pre-essentials to good leadership.

Professional Knowledge.

The good sub-unit commander knows his own command down to the smallest detail; he will also know everything about his own battalion, from the operational and administrative viewpoint, and the framework (up to divisional level) into which it fits. He will thoroughly understand the workings and capabilities of the other arms which will support him in battle, especially applying his thoughts to the organization and use of armour and artillery. The characteristics of each

arm from which he may expect support will be firmly lodged in his mind. To this knowledge, which will have been acquired by constant and enthusiastic study long before he actually commands men, the good commander will credit his battle experience.

Human Understanding.

This is the real key to man-management, yet in itself it calls for certain qualities, which, if the commander does not possess, he must acquire. It implies the need to understand and respect the soldier as an individual, but this can only be done by patient and tolerant study of the individual. The good officer seizes every chance to learn as much about each man under him as he possibly can. The main aids to human understanding are patience, cheerful tolerance, enthusiastic interest, a dignified adaptability (the commander never forgets that he holds the King's Commission) and forcefulness without any trace whatsoever of domination.

Common Sense.

This is the individual's normal power of understanding and reasoning which he uses to grasp and discern the matters of everyday life. The ordinary applications of this quality, coupled with the professional knowledge which the average officer possesses, is generally enough to draw out the conclusions and bring about sound decisions.

Sincere Enthusiasm.

Enthusiasm "on the job" is absolutely essential. There can be no play acting when an officer is under the curious eyes of men who can tell easily whether their leader's enthusiasm is just being "put on" or whether it is the real thing, derived from real interest in the value of the job to be done. The good leader's enthusiasm, if it is sincere and tempered with determination, is contagious and as such becomes a quality beyond price towards building up morale within the sub-unit.

Unselfishness.

This quality implies an unswerving devotion to the work at hand no matter how disagreeable it may be, and to the welfare of his men for whom he must be willing to give, if necessary, all his spare time. The unselfish officer will take the utmost trouble to put right every minor detail which affects the welfare of his troops.

Sense of Responsibility.

Every man is born with some sense of responsibility. Some will accept it and develop it, others will shirk it. Only those in the first category can be leaders. This quality calls for one hundred per cent. willingness to meet the obligations which rank and position demand and the trustworthiness to carry them out to the best of one's ability in the way prescribed by higher authority.

Determination and Drive.

Sense of responsibility is invariably accompanied by determination and drive. This means adopting an energetic and aggressive attitude towards the allotted task and persisting in seeing a job through to successful completion. Determination without the drive to maintain momentum in any given venture is quite useless.

Personal Courage.

This quality derives its importance from the fact that it is the courageous example that inspires. Men will follow a leader who accepts personal risk in the line of his duty, and the example set by his actions under fire is not only a winning factor in battle, but very often offsets and may excuse the absence of some of the less important qualities of the leader.

Self-Management and Consistency.

These must be dealt with together, for without the first the second cannot exist. Self-management implies a full control by the commander of his personal feelings or emotions, a disciplined disposition and a power of calm concentration on the work before him. Once master of himself, a man becomes consistent; steadiness will prevail under the most trying conditions and the leader will find his thoughts and actions automatically canalized to the confident management of the situation facing him. Moreover, his personal fears will be successfully concealed.

Decisiveness.

The ability to make a "snap" decision and take action promptly sometimes may mean the difference between heavy and light casualties, success or failure. The good leader must not hesitate in sizing up the situation, and having done so he must make use of all his professional skill to provide a firm plan for his men to follow. Once the plan has been made, the good leader sticks to it, never losing sight of his ultimate aim.

Firmness, Justice and Fair Play.

These are difficult things to define, insofar as they apply to the average officer, they mean the same thing. The best way to make absolutely sure that these are observed is to acquaint the men you command with those facts of AMR & O which are applicable. As the soldier must know to what extent he is liable according to existing regulations, so the good commander must be one hundred per cent. sure of his knowledge of military laws and punishments. However, it is advisable for him to spend a little time in recapitulation before dispensing justice. The offender must know he is being tried and punished by "the book." Personal feelings must never interfere with the case in the slightest degree. An important factor which governs the amount of punishment is the man's record prior to the offence. The soldier will look for firm justice and fair treatment in regard to duties. By taking a close interest in his command, the commander can make certain that the soldier gets both.

Physical Fitness.

This is most essential to the leader in training and fighting. He must be able to endure the rigours and hardships of the field in training and under fire. The good commander has ambition to excel physically, to do things as well or better than the men under him.

Sense of Humour, Cheerfulness.

Finally, the good commander has a sense of humour. He is able to see the lighter side of situations and maintain his cheerfulness despite fatigue, which is undoubtedly the

greatest demoralizing factor with which the fighting man has to contend. The man who hears a cheery word of encouragement from his commander in battle, especially when the "going" is rough, is quick to pass that cheer on. Cheerfulness is contagious. The good leader dispels gloom, exploits cheer.

Conclusion.

If the leader can acquire these qualities to a fair degree, then he will be able to muster sufficient mental power to sort out his problems. No matter whether his problem is administrative or operational, he will be able to weigh it and regard it in its proper light with imagination and with reason.

Without discipline and order freedom degenerates into licence and chaos.

—*Socrates*

THE BRITISH EXPEDITION

to

GREECE, 1941

The late Field-Marshal Earl Wavell, GCB, GCSI, GCIE, KCB, CMG, MC.

WHEN the Anglo-Danish Society did me the honour to invite me to address it in Copenhagen in October, 1948, I chose as my subject the campaign in Greece in the spring of 1941. I did so because it is a most interesting piece of history both from the political and the military aspect, of which the full story is not generally known or appreciated, and which has in fact sometimes been misrepresented.

Also the treatment accorded to Greece by her friends and by her enemies will have, I think, a particular interest for this country.

It was possible, of course, to give only the barest outline of the story in a single lecture. It begins on the 28th of October, 1940, with perhaps the most wanton and unprovoked of all the Axis aggressions, the delivery to President Metaxas at 3 a.m. of the Italian ultimatum. This was promptly rejected; and Greece on that day joined the British Empire as the only other nation actively engaged against Hitler and Mussolini.

As you know, the Greek people at once put aside all political differences and rose united to meet the invasion. Fighting with the utmost gallantry, they not only drove the greatly superior Italian invaders back across their frontier, but a long distance into Albania. The British, from their scanty resources, sent several air squadrons to the assistance of their new ally and old friend, but only such ground troops as were required for the service of the air squadrons.

Greece, completely victorious on her north-western frontier, was now menaced on her north-eastern. The Germans, who had been in occupa-

—*From the Army Quarterly, UK.*

tion of Rumania since October, were obviously preparing to enter Bulgaria. From the British point of view this implied a threat to the port of Salonika and to our control of the eastern Mediterranean, which we still maintained in spite of the much superior numbers and weight of the Italian Navy.

My personal part in the story begins in January, 1941, when I received instructions from London to visit Athens and to offer the Greek Government certain forces of field artillery, anti-aircraft artillery, anti-tank artillery and armoured troops, to assist in the defence of Salonika and eastern Greece. I flew to Athens in the middle of January and made the offer on behalf of the British Government. At that time my troops in the Western Desert, after defeating the Italians at Sidi Barrani, had captured Bardia and were preparing to attack Tobruk. The units I was to offer to the Greeks represented a large proportion of my meagre technical arms, and had the Greeks accepted the offer I should have had to stop my advance at Tobruk. I was, therefore, relieved when Metaxas refused the assistance. He said that what we could give would not suffice to stay a German attack, but would give the Germans an excuse to make the attack. I returned to Egypt and gave orders for the prosecution of the advance in the Western Desert, which resulted early in February in the virtual annihilation of the Italian Army in Cyrenaica.

Meanwhile President Metaxas, who had greatly impressed me as a wise and determined leader, had died at the end of January. I have always thought that this took the heart out of the sorely pressed Greek defence. Metaxas may have been an arbitrary politician, but he was a very stout-hearted and skilful director of his country's defence at a critical hour.

The next act in the drama from my point of view was a message that Mr. Anthony Eden, the Foreign Secretary, and General Sir John Dill, the C.I.G.S., were flying to Cairo to consult the three Service Commanders about a fresh offer to Greece. The new Premier, Mr. Korizis, had appealed to Great Britain for help early in February.

After some delay, due to the hazards of flying in the Mediterranean at that time, Mr. Eden and Sir John Dill arrived in Cairo on the 19th of February. After discussions in Cairo, at which the Commanders-in-Chief of the three Services—there was no unified command—concurred in the plan to support Greece against a German invasion with all the resources which could be spared, Mr. Eden, the C.I.G.S., and myself flew to Greece on the 22nd of February.

At this stage I should correct two statements which have been widely spread:—

(a) That the military leaders were forced into the Greek commitment against their will for political reasons; and

(b) that but for the Greek adventure our forces could have cleared up the North African coast for good and all.

Neither of these assumptions is true. The Service Chiefs recognized the dangers of the Greek expedition,

but believed that there was a reasonable chance of defending Greece against German attack, and that, from the point of view of the general strategy of the war, it was worth while to take considerable risks to maintain a hold on the northern shores of the eastern Mediterranean. As for the advance to Tripoli, Italian opposition could be discounted as small and likely to be easily overcome, and nothing was at this time known of the despatch of German forces to Africa; but even so our own resources were not equal to the task. Our armoured vehicles were worn out by an advance of 500 miles; we had not enough mechanized transport to maintain even a small force for an advance of another 500 miles to Tripoli; and both in the air and on the sea we were still numerically inferior to the Italians alone, without any German reinforcement. It would have been an intolerable strain on the Navy to maintain a military and air force at Tripoli when even Benghazi could not be used as a port for lack of A.A. artillery and other resources.

Our deliberations on Greece took place outside Athens at Tatoi Palace. The most important feature was a clear and able statement by the Greek Commander-in-Chief, General Papagos, on the line to be held against a German attack from Bulgaria. He said that the fortified frontier line, known as the Metaxas line, was the strongest, but was too extended now that all the Greek divisions except three had been withdrawn for employment in Albania. The line of the Struma, held by the Allies in the First World War, had the advantage of covering Salonika, but was also too extended, unless the Yugoslavs came in as allies, when we must cover Salonika, as otherwise it could be difficult to supply their needs. The strongest line was one which ran from the sea by Mount Olympus—the Veria Gap—Edessa—to Kajmakcalan on the Yugoslav frontier. General Papagos estimated that this line might be held with a minimum of five well-equipped divisions. It was generally referred to as the Haliacmon line, from the name of a river which formed part of it. It was naturally strong. Mount Olympus was impassable for large military forces; the Veria Gap, through which ran the main road, could be easily fortified, as could the hills between it and the Yugoslav frontier. This left flank depended, of course, on the Yugoslav attitude. The political appreciation of this was that though we could not count on the Yugoslavs as allies, we could reasonably count on their resisting any attempts by Germans or Bulgars to pass through their country to attack Greece; while the military leaders, with memories of the Serbian resistance in the First World War, believed that the Yugoslavs would at least impose a very long delay on any enemy movement through their hills.

We agreed with General Papagos that there was a good chance of holding this Haliacmon line with the forces available, provided that the Greek troops in western Thrace and Macedonia (three good divisions) were at once withdrawn to it; another division withdrawn from Albania to support these; and the British force (two Australian divisions, one New Zealand division, one Polish brigade, one British armoured brigade and other troops,

including two medium artillery regiments) set in motion at once from Egypt to Greece. It was therefore decided after a discussion lasting an afternoon and an evening that the British and Greek forces of 7⅓ divisions (4 Greek and 3⅓ British) and one armoured brigade should be assembled on the Haliacmon line with all possible speed and should begin fortifying it. Since Papagos thought that the line could be held with five divisions, we had thus a reasonable margin of safety; we had, or thought we had, secure flanks on the sea and on Yugoslavia; and we assured ourselves that if we acted at once and speedily we could assemble our forces before the Germans could pass through Bulgaria and reach the Haliacmon line. It seemed, therefore, an acceptable military operation. The chief danger, as we saw it, was enemy air superiority, which might even make our supply by sea hazardous. Admiral Sir Andrew Cunningham (now Lord Cunningham of Hyndhope), the Naval C.-in-C., and Air Marshal Sir Arthur Longmore, the A.O.C.-in-C., saw this danger, I think, more clearly than I did; but they never hesitated in supporting the general plan.

From the political point of view we secured obvious advantages. By supporting our ally, Greece, we encouraged others to resist, for instance, Turkey and Yugoslavia. It would help to convince the U.S.A. and the rest of the world that we meant to fight it out to the end, and would raise our prestige. If we could impose a check or long delay on the Germans, it would help to gain the time we neded so sorely to develop our resources.

So satisfactory had appeared our talks that we returned to Cairo next morning, when Mr. Eden and General Dill left for Ankara to inform the Turks of our decision; to seek their agreement for the diversion to Greece of equipment due to them; and to discuss the possibility of their supporting Greece by armed force in the event of a German attack. The Turks entirely approved our decision to support Greece, but would not agree to commit themselves to action; I suppose they were wise from their point of view and possibly also from ours in the long run. They were, in fact, in no state to undertake an offensive war, and were in some apprehension that they themselves might be attacked.

Now comes the crux of the whole drama. When the British members left the conference at Tatoi we all understood that General Papagos was going to issue orders forthwith for the withdrawal of the three Greek divisions from Macedonia and of one from Albania and for their establishment on the Haliacmon line. He had himself in his able exposition of the situation emphasized the necessity for all possible speed. He has since maintained that no decision was to be taken until the attitude of Turkey and Yugoslavia were determined. That was certainly not the British understanding. It was admittedly a hard decision from the Greek political point of view to abandon western Thrace and Macedonia without a fight; and it may be that when the point came the decision proved too hard to take.

Whether there was a misunderstanding or whether political considerations in Greece over-rode mili-

tary decision, certain it is that when Mr. Eden and Sir John Dill paid an official visit to Athens on the 2nd of March, the day after the Germans moved into Bulgaria, they found that no orders had been issued for the withdrawal of the Greek divisions; and General Papagos now maintained that it was impossible to withdraw them with Bulgaria in German occupation. He also said that the Albanian situation made it impossible to withdraw the promised division from that front.

I was summoned to Athens, where we spent the best part of three days in deliberation on the changed situation. It was impossible to persuade the Greek High Command to change their mind on the withdrawal of the Macedonian divisions, which, they maintained must now fight it out on the Metaxas line, though they would obviously be overwhelmed there. All that we were offered for the Haliacmon line was one and a half, eventually raised to three, second-line divisions, a poor substitute for the four first-line divisions on which we had based the original plan. We had now to decide in the changed circumstances to withdraw our offer or to continue, accepting the much greater risk. Rightly or wrongly, all the responsible heads, political and military, in the Middle East, decided to carry on with the plan. All the Commanders-in-Chief were agreed on this.

I think it may have been psychological and political considerations that tilted the balance in the end over the military dangers. To have withdrawn at this stage, on grounds which could not have been made public, would have been disastrous to our reputation in the U.S.A. and with other neutrals, would have ended all hope of Yugoslavia joining the Allies and would have shaken our ally Turkey. Our plan had been endorsed by the Dominion Governments whose troops were involved. And there were practical difficulties in any reversal of plan; the troops were on the move and a change would have caused confusion.

I was sure at the time, and I am sure still, in spite of what resulted, that the decision we took at our Embassy in Athens in that first week in March, 1941, was the only one consistent with the political requirements of the moment, with military strategy and with our national honour.

It may be of interest to know that on our return to Cairo we consulted General Smuts, to whom Mr. Eden had telegraphed asking him to come to Cairo and help us with his invaluable advice. We went over the whole ground with him. He entirely approved of our decision, and telegraphed in this sense to London. The decision was that of the men on the spot, and the doubts came from London, where the Prime Minister and Chiefs-of-Staff were apprehensive of a commitment so much more hazardous than that which they had approved ten days earlier. From the point of view of immediate advantage they were probably right and the men on the spot wrong; while as regards ultimate results the men on the spot were, I think, right; a curious reversal of the usual understanding, that the men on the spot take a short-term view and those at a distance a long-term one.

I should also make it clear that there was never any question of

our urging the Greeks to resist a German invasion against their better judgment. They always affirmed categorically that they would fight the Germans if they entered Greece, whether or not we gave them assistance.

The spotlight must now be shifted to Yugoslavia. During the whole period that the Foreign Secretary had been in the Middle East, he had been in constant touch by telegram, through our Minister in Belgrade, with the Regent of Yugoslavia, Prince Paul, who was supposed to favour the Allied cause. The answers received had been evasive and disappointing. So the British Minister, Mr. Ronald Campbell (now Sir Ronald Campbell, our Ambassador in Egypt), was summoned to Athens early in March and given a letter to the Regent. As a result an officer of the Yugoslav General Staff came to Athens incognito. His mood was pessimistic and he was uncommunicative about the Yugoslav plans for mobilization and deployment—possibly because, as events showed, these were almost non-existent. The Yugoslavs could, if prepared and ready, have ended the Italian resistance in Albania by attacking their flanks and rear, as well as resisting the Germans in the east.

During the next fortnight Mr. Eden made strenuous efforts in a meeting with the Foreign Minister at Cyprus to persuade the Turkish Government to urge the Yugoslavs to take all possible steps to meet a German attack. Turkey was already mobilized; and, though the Yugoslavs assured us that they also were, later events showed how incomplete their mobilization was. Our Embassy in Belgrade, in close touch with Mr. Eden, did what they could to encourage the tougher elements in Yugoslavia to resist—and not without success, as the coup d'etat proved. But the Turks persisted that their military weakness precluded anything more than sympathetic neutrality; while the news, on the 24th of March, that the Yugoslav Government had signed the Tripartite Pact seemed to end all hope of help from that quarter. Mr. Eden and Sir John Dill accordingly departed for England. But while their plane was detained by bad weather at Malta news was received of the Yugoslav coup de'etat which overthrew the Government and made Yugoslavia a potential ally. They promptly decided to return to Athens.

Although the C.I.G.S. was, after some difficulty, allowed to pay a visit to Belgrade incognito, and a staff conference was held on the Greek-Yugoslav frontier, such was the confusion, political and military, in Yugoslavia, that it was quite impossible to arrange any co-operation. Mr. Eden and Sir John Dill finally left Cairo to return home on the 7th of April, the day after the German attack on Greece and Yugoslavia began.

Such is in outline the story of the genesis of our expedition to Greece. I hope to have shown you three things: That Great Britain and the Dominions—for the greater part of the expeditionary force consisted of Dominion troops—at a time when the British Empire stood in the greatest peril—came to the help of a smaller nation in spite of all risks; secondly, that the Greek adventure was not forced on the military chiefs by the politicians, as it

sometimes is alleged; and, thirdly, that the operation as originally planned at Tatoi on the 22nd of February was by no means as hopeless as the outcome made it seem.

I need not say much about the fighting. The Germans were obviously much better informed than ourselves on the disorganization and powerlessness of the Yugoslav army, the sudden and complete collapse of which exposed the flanks both of the British-Greek army on the Haliacom line and of the Greek army in Albania. Little more than a fortnight sufficed to end the campaign, and the end was obvious some time before that. Our small air force was soon driven out of the skies; and our troops were almost entirely deprived of air cover during their retreat to the Thermopylae line and then their re-embarkation. We had fortunately foreseen the possibility of an evacuation and had prepared a plan at an early stage. But the harbour at Piraeus had been blocked by bombing and we could remove no heavy equipment. Our losses were heavy, and the striking force we had built up with such pains in the Midle East during 1940 was almost destroyed. A month later we had to evacuate Crete with further losses, after practically destroying there a German airborne force.

At the same time Egypt was in peril from Rommel's attack in the Western Desert, where the withdrawal of our force for Greece had left us too weak, but was saved by the gallant defence of Tobruk; a dangerous revolt in Iraq was fortunately quelled by our last remaining reserve; and a little later by scraping the bottom of an apparently empty dish sufficient troops were collected to save Syria from German occupation. All this while the Italian Empire of East Africa was being liquidated by British, South African, Indian and African troops. Those were busy days in the Middle East.

In conclusion, what was the ultimate effect of our Greek campaign on the strategy of the war? Presumably had we chosen to abandon Greece we could have consolidated our position in Cyrenaica, though it would have still been the scene of bitter fighting and we could not have advanced to Tripoli without much further reinforcement; we should have had the troops to counter Axis plans in Iraq and Syria with less anxiety and difficulty. So much we should have gained. But I do not believe that we could have held Crete with Greece in the possession of the enemy.

On the other hand, the evidence is clear that our intervention in Greece delayed the German attack on Russia by several weeks and thus saved Moscow from falling in the winter of 1941. Though the German forces employed in Greece and Yugoslavia were comparatively small, they included a high proportion of armoured troops who had to drive long distances. It was the delay in returning and reconditioning these that caused the postponement of the attack on Russia. This cannot, of course, be claimed as a justification of our decision in March, since we knew nothing at that time of Hitler's contemplated treachery towards his ally—though we may have had our suspicions. Our decision was taken on other grounds. I will quote some words spoken by

the Prime Minister, Mr. Winston Churchill, in the House of Commons on the 7th of May, 1941, after the end of the Greek campaign:—

"Looking back on the sad course of events, I can only feel, as the Prime Minister of New Zealand has so nobly declared, that if we had again to tread the stony path, even with the knowledge we possess today, I for one would do the same thing again, and this is the view of all my colleagues in the War Cabinet and on the Defence Committee."

In conclusion, I trust that whenever Great Britain has to take a similar decision, she will again take the bold, the generous and the honourable course, and will "engage the enemy more closely," in the words of the naval signal, whatever the odds.

The West, impoverished and menaced, must now decide whether it will turn again or not to the source of its strength and restore its moral and spiritual community. The situation resembles that of the sixth and seventh centuries, when another great thrust came in arms out of the East. Christianity had to renew itself or die. It did not die.

Paul McGuire.

What's in a name?

Lieutenant-Colonel C. W. Watson-Smyth,
Australian Staff Corps.

THE provocative article, "Abbreviate and Waste Time," in the eleventh issue of the Journal gives rise to further thoughts on some of our traditional abbreviations and the titles or designations from which they stem.

Let us turn the pages of the telephone directory of any formation headquarters, large or small, and study the designations of some of the staff appointments. We come first to the General Staff, and find that the designations of the various staff appointments are simple and logical. We may find a Brigadier, General Staff, or more frequently these days a Colonel of the same ilk, whilst the lesser fry are designated by the prosaic, but lucid phrase, General Staff Officer, with appropriate grading. Here we must carefully note that Major X, in GS Branch is not a Deputy Assistant Chief of the General Staff, although such a grandiose title might well give him high standing with his wife's relations. No, he is just a GSO 2, or even more simply, a G 2.

Turning over the pages will bring us next to the Arms attached to the General Staff. Again we have logical simplicity with our Staff Officers, Armour, RA, RE, and Sigs, in their various grades. A critical eye might fall on a small GS directorate at AHQ, while we find GSOs instead of SO Inf!

But now we turn to the Administrative Staff. No longer do we find the logic and brevity of the General Staff. It might appear to the stranger that the Adjutant-General and Quartermaster-General were surrounded by a mass of assistants, deputies and deputy-assistants cluttering up their offices.

An assistant to an executive presumably assists the latter in his function or duty, and this implies close association. To apply this interpretation to Major Y, who is Deputy Assistant Adjutant and Quartermaster-General in some brigade group in an overseas theatre is stretching the implication too far. Incidentally Major Y's designation runs to six words totalling no less than seventeen syllables. Of course, a designation such as this is never expressed fully in writing, much less verbally. Its authorized abbreviation, moreover, is itself abbreviated to the brief but meaningless DAQ.

Let us take a leaf out of the General Staff Directory, so to speak, and re-designate our administrative staff officers, for that is what they are, no less, whether they serve the Adjutant or Quartermaster-General or represent these officers (as op-

posed to assisting or deputising for them) on the staff at AHQ or lower formation headquarters. We have our Brigadiers and Colonels (Administration) and even Administrative Officers. What could be more logical, then, than the designation of their subordinates as administrative staff officers? Our friend Major Y, referred to above, would be an ASO 2, or in colloquial form, an A 2. AAGs and AQMGs would become ASOs 1 and at least there would be no doubt as to which letter the plural "s" should be attached. Our humble, but hard-pressed staff captain becomes an ASO 3, whether he is "A" or "Q." One might argue that "Q" Branch should have its QSOs. But a single letter abbreviation must represent a word, and in this case it would not be fitting unless the designation was reversed to read SO (Q), which would be in discord with GSO and ASO.

In MGO Branch and the Directorate of Design and Development in the Department of Supply and Development there are "technical officers" on the staff. Some of our more intellectual officers attend technical staff courses at the Military College of Science in England and are subsequently referred to as "TSOs." Staff appointments of an essentially technical nature could be appropriately designated as "TSO 1 (2 or 3)" regardless of whether their incumbents held the symbol "p t s c." Graduation at a staff college is not a pre-requisite for a general staff appointment.

The Administrative Services could likewise designate their staff officers and representatives on staffs in the same manner as those Arms attached to the General Staff without detriment. We would then have a Staff Officer (Ordnance), Grade 2 (SO Ord 2) instead of the well-worn name of DADOS, and perhaps a SO (ST) 2 in place of DADST. Our medicos would blazen their office doors with such letters as SO Med 1, which could hardly be mistaken for some medical degree.

Tradition is apt to die slowly when it is unwanted or obsolete, but all too rapidly when time and circumstance demand its retention. Our lengthy administrative staff designations are a relic of the New Model Army formed by Cromwell in 1645, and are no longer appropriate to their appointments. This is one tradition that could well be discontinued. After all, what's in a name?

THE LOGISTICAL PLANNING

—of—

OPERATION OVERLORD

Lieutenant-Colonel Frank A. Osmanski, General Staff Corps,
United States Army.

This is the last of three articles on the logistical planning of Operation Overlord, reprinted by courtesy of the Military Review, USA.

Part III.

Strategic Guidance.

The COSSAC and SHAEF strategic logistical planners imparted strategic guidance in logistics matters to, among others, the major commands of ETOUSA by employing, or being prepared to employ, the following means:—

Standardized outline logistical planning factors.
Strategic logistical studies.
Logistical planning directives.
Administrative instructions.
Allocations of logistical resources.
Staff visits.
Review of logistical plans and policies of lower headquarters.

Early in its existence, COSSAC developed outline logistical planning factors based originally on ROUNDUP findings and on experience reported from operations in the Mediterranean, which were successfully revised and improved on the basis of statistical data emerging from actual operations in Europe. It is considered that it would have been ideal had these factors, or improvements on them as recommended by other logistical planning staffs and approved by SHAEF, been made available for universal use throughout the theatre. As it was, however, these factors were used exclusively in SHAEF while other logistical planning staffs used various other factors, which usually differed in their derivation or need for interpretation before use.

The usual medium employed by COSSAC and SHAEF to impart stra-

tegic guidance in logistics matters to subordinate headquarters and to the theatre services was studies of the form which are known at the Command and General Staff College as the Strategic Logistical Study. For lack of a better name, they were then called an Administrative Appreciation, a term borrowed from the British to replace the awkward contemporary American equivalent of the Eestimate of the Supply and Evacuation Situation, since renamed Administrative Estimate.

These COSSAC and SHAEF documents differed from the strategic logistical studies taught at the Command and General Staff College only in that they were almost entirely an estimate of the situation, and their directive feature was only implied or even omitted. COSSAC produced an early administrative appreciation in three parts, the first part dealing with the development of lines of communication inland from the assault beaches separately for the US and British and with the inter-allied administrative boundary to D + 90. The second part dealt with a proposed system of logistical liaison and control by which each succeeding higher headquarters in turn insured that its more comprehensive plan for the development of the lines of communication was not prejudiced by earlier work performed on the ground by subordinate headquarters which had entered first. The third part discussed and decided basic logistical policies such as levels of reserve, provision and use of defensive and offensive chemical equipment, means of medical avacuation during the successive stages, scales of water consumption to be used for planning, and disposal of salvage and scrap.

SHAEF produced two administrative appreciations, one in June, 1944, and the other in November, 1944, the outline form of which closely parallels that for the Logistical Estimate taught at the Command and General Staff College (see Chart 13).

COSSAC and SHAEF rarely issued formal logistical planning directives. The Administrative Appreciations were distributed widely to all strategic planners, both operational and logistical, for information and guidance. No directive was expressed. However, because of the close contact with other US and British logistical planners which was maintained by the Chief and the Deputy Chief (the former being American and the latter British) of SHAEF G-4 (Log Plans Branch), there was normally the understanding among all concerned that a directive was implied and intended in the appreciation.

On one occasion, however, SHAEF did issue a full-fledged formal logistical planning directive. That was on 5 February, 1945, under the subject: Administrative Preparations for Spring Offensive. It directed that Com Z prepare for the logistical support of 15 to 18 US divisions (including two airborne) north of the Ruhr as well as of eight static divisions in the area west of the Ruhr and on the near bank of the Rhine; and for 24 US divisions, expanding finally to 35 to 40 US divisions, south of the Ruhr. Ostensibly, therefore, G-4 (Log Plans Branch) SHAEF had not overlooked the contingency realized in the Remagen bridgehead. Indeed, Com Z even anticipated the support of such contingency by the timely pre-

paration of its emergency (XYZ) truck transportation plan.

COSSAC and SHAEF also issued Administrative Instructions (SHAEF called them Administrative Memorandums). COSSAC covered the policies developed in Part III of its Administrative Appreciation (see Chart 14), whereas SHAEF dealt with such matters as local procurement, use of civilian labour, and ration scales for prisoners of war and displaced persons.

At critical times, notable in the fall of 1944, when transportation bottlenecks were limiting tactical operations, SHAEF imparted strategic guidance by the allocation of tonnages to the Army Groups, Air Forces, and Communications Zone. On the basis of this allocation, train paths, rolling stock, truck companies, pipehead capacities, and air supply could be allotted. The method used was, in co-ordination with G-3, who indicated the relative priorities of support to be accorded the several armies in the field, to apportion the available forward movement capacities equitably to the consuming commands (see outline in Chart 15).

Representatives of the G-4 (Log Plans Branch) SHAEF made regular staff visits to the Army Groups, Com Z, and the Armies to assure themselves that logistical planning was progressing favourably, and to collect from current operations those logistical data that might be useful in improving or developing

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ANNEXES AND MAPS

ANNEX 'A'—SUMMARY OF MANEUVER (prepared by G-3)

'B'—TOPOGRAPHY AND COMMUNICATIONS (prepared by G-2)
- General
- Roads
- Railroads
- Inland waterways
- Airfield sites
- Ports
- Major obstacles of terrain
- Water supply
- Depot sites
- Accommodation
- Enemy logistical installations

*'C'—ESTIMATED PORT CAPACITIES
*'D'—MAINTENANCE AND RESERVES FOR GROUND FORCES
*'E'—MAINTENANCE AND RESERVES FOR AIR FORCES
*'F'—TRANSPORTATION TONNAGES (incl. Railway Construction, Port and Railway Operating and Workshop, and Port Construction and Repair)
*'G'—ENGINEER TONNAGES (incl. Road Construction and Maintenance, Bridge Materials, Water Supply, Airfield Construction, Building Materials, Bulk POL Construction, Industrial gases, etc.)
*'H'—COAL REQUIREMENTS (incl. Train heating and warming, Hospitals, Railways, Workshops, and Minimum Civil Relief)
*'I'—ORGANIZATIONAL EQUIPMENT (preshipped and accompanying)
*'J'—CIVIL RELIEF (other than coal)
*'K'—MISCELLANEOUS SMALL REQUIREMENTS (incl. Navy, Red Cross, RAMP, PW, DP, USO, Press, etc.)
*'L'—BULK POL
*'M'—LOCAL RESOURCES (incl. coal, Construction Materials, local farm produce, and local manufacture for military use)
*'N'—CONSOLIDATED TONNAGE TABLE (developing both gross and net requirements for import)
*'O'—RESERVES TO BE ACCUMULATED IN FORWARD AREAS PRIOR TO MAJOR OFFENSIVES
*'P'—MILEAGE CHART (mileages between principal locations in Zone of Advance)

MAPS
- 'Q'—PHASE LINES AND ADMINISTRATIVE BOUNDARY
- 'R'—MAIN TRUCK ROUTES
- 'S'—PRIMARY RAILROADS
- 'T'—PIPELINES
- 'U'—NAVIGABLE INLAND WATERWAYS
- 'V'—ADMINISTRATIVE AIRFIELDS
- 'W'—DEPOT AREAS
- 'X'—KNOWN ENEMY LOGISTICAL INSTALLATIONS

*—Annexes C to P are presented as tables.

Chart 13

LIST OF ADMINISTRATIVE INSTRUCTIONS ISSUED BY COSSAC (SUPREME ALLIED HEADQUARTERS)

COSSAC issued 12 Administrative Instructions under the heading SUPREME ALLIED HEADQUARTERS (in anticipation of arrival of General Eisenhower, who later desired the headquarters known as SUPREME HEADQUARTERS, ALLIED EXPEDITIONARY FORCE):

No. 1—ADMINISTRATIVE STAFF
(based on Part II of COSSAC Administrative Appreciation: The System of Administrative Control and Liaison)

No. 2—*THE LINES OF COMMUNICATION/COMMUNICATIONS ZONE*
(based on Part I of COSSAC Administrative Appreciation: Administrative Layout of the L of C/Communications Zone)

No. 3—*A G-1* SERVICES

No. 4—ENGINEER SERVICES

No. 5—*PETROL, OIL, AND LUBRICANTS / CLASS III SUPPLIES*

No. 6—*ACCOMMODATION / SHELTER*

No. 7—GPA AND LABOUR

No. 8—MEDICAL

No. 9—*SUPPLIES AND TRANSPORT / QUARTERMASTER AND ORDNANCE AND REME / ORDNANCE SERVICES*

No. 10—*MOVEMENT / TRAFFIC*

No. 11—TRANSPORTATION *STORES / CLASS IV SUPPLIES*

No. 12—MISCELLANEOUS
(covered weights and measures, levels of reserve, anti-gas equipment, offensive chemical equipment, salvage, disposal of captured matériel, firefighting, reports, etc.)

(Instructions Nos. 3 to 12 inclusive were based on Part III of COSSAC Administrative Appreciation: Policy and Methods to be Employed in all Administrative Matters of Common Concern to British and US Army Groups.)

Chart 14

the necessary logistical planning factors. These visits were periodically reciprocated and tended to foster congenial personal relationships among the theatre logistical planners.

The logistical planners of COSSAC and SHAEF sat with the strategic operational planners for the critical review of the operational plans of subordinate headquarters. In the case of plans and policies that were entirely logistical in nature, the COSSAC and SHAEF logistical planners of themselves consolidated and returned critical comment on, and required revision of, the plans or policies originally submitted.

The Planning Staff of COSSAC and SHAEF was under the direct supervision of G-3 and consisted of representatives of the G-3 (Plans) section, the G-2 (Plans) section, the Naval Plans section, the Air Plans section, the G-4 (Plans) section, and such other planning agencies, including the several services represented at COSSAC or SHAEF, as might be necessary. In the earlier days of planning, when operational requirements were paramount, the operational planners, guided generally by G-2 and G-4, would conceive a plan after which it then became the task of the G-4 planners to test this plan for the logistic feasibility and to outline a logistical plan for its support. However, during the later phases of post-Overlord operations, when strategy was well manifest in the course of operational events and logistical limitations became more critical, a planning conference was usually opened with the question posed to the G-4 planner, "What can we do logistically?"

The G-4 planner attending the meeting had to be prepared to reply essentially in terms of the numbers of divisions which could be supported forward of railhead at so-many miles. For example, in planning for operations across the Rhine

in October, 1944, the logistical planner's reply to this question was:—

"By the end of that month, logistical facilities would be adequate to support the Twenty-first Army Group and 20 divisions of the Twelfth Army Group in combat short of the Rhine and sufficient reserves would have been accumulated to support 10 of the 20 divisions of Twelfth Army Group across the Rhine immediately. Or, there were sufficient supplies on hand to maintain a total of some 25 US divisions short of the Rhine on a hand-to-mouth basis without further accumulation of reserves. Furthermore, not until Antwerp was captured and put into use would logistical reserves be adequate for the support of large-scale operations across the Rhine."

When actual operational developments or a new concept of strategy required that G-4 planners write a new administrative appreciation on the basis of which to transmit revised strategic quidance to the major commands, the G-4 planner asked the G-3 planner first to produce what was called a Planning Forecast. These planning forecasts were brief outlines of future operations as foreseen at that time. They consisted of a simple sketch-map on which phase lines at 30-day intervals were drawn, the predicted dates of capture of major ports were given, and the approximate disposition of forces in terms of divisions was indicated. There also was a brief summary in writing of the nature of operations during each of the phases indicated, with a notation as to whether normal combat, regrouping, or rapid advance was expected to be in process. On the basis of these forecasts, G-4 was able then to produce the administrative appreciations described above.

G-4 planners collaborated with the G-3 planners in reviewing, examining, or otherwise studying plans conceived by lower headquarters. At times, they even formulated plans in tactical detail when the over-all success of strategy depended for the moment on immediate tactical success. An impressive illustration of how the G-4 planner co-operated with the G-3 planner in reviewing a plan presented by lower headquarters is found in a plan submitted by First Allied Airborne Army for Operation ARENA.

The plan for ARENA envisaged landings by four to six airborne divisions in the Kassel area, followed immediately by the landing of five to six air-transported divisions. The entire force was to be landed during the period of one week and to be sustained by air supply for up to 21 days. The object of this plan was to effect an early penetration into the heart of Germany and thereby to establish an airhead from which offensive operations could be conducted either for the capture of Berlin or for the assistance of either the northern or the southern prong of the pincers that would encircle the Ruhr. The G-4 logistical planner, after detailed study of the logistical aspects of this operation, concluded that it was logistically unsound. Although admittedly bold, the plan was too risky in that the security of its forces was predicated on logistical success in every minute and complex detail without a margin of reserves or other measures of safety. The G-4 logistical planner accordingly recommended that the plan be disapproved.

Outline of
SHAEF ADMINISTRATIVE APPRECIATION
POST-OVERLORD OPERATIONS

INTRODUCTION
(summary of recent events or revised strategic concept which requires a new logistical estimate and plan)

OBJECT
(purpose, usually "To formulate plans and policies for the logistical support of operations during the period .....")

STRATEGY
(brief of planning forecast, illustrated on map showing phaselines and anticipated dates of capture of major ports)

INTELLIGENCE
(enemy capabilities to react which will affect such logistical factors as rate of advance, degree of "scorched earth," interference with our lines of communication, etc.)
(topography and communications)
(climate and weather)

LOGISTICAL FACTORS

Ports and port capacities
Shipping
Build-up of troops
Estimated requirements
- Ground forces
- Air forces
- Transportation equipment and supplies
- Engineer equipment and supplies
- Coal
- Organizational equipment (incl. boxed vehicles)
- Civil relief
- Miscellaneous (incl. Navy, Red Cross, RAMP, PW, DP, USO, Press, etc.)
- Total gross requirements

Bulk POL
Local resources (construction materials, coal, foodstuffs, etc.)

Total net requirements for import
(Total gross requirements less local resources, with bulk POL shown separately)
Estimated Forward movement
- Maintenance of combat zone
- Reserves to be built in forward areas
- Miscellaneous traffic (incl. tactical moves, replacements, administrative vehicles, ambulances, etc.)

Estimated rearward movement
- Salvage
- Assemblies for repair
- RAMP, PW, and DP
- Casualties
- Captured war matériel
- Coal (from mines in forward areas)
- Redeployment
- Leave parties

Inland transportation capacities
- Road
- Rail
- Inland waterways
- Pipeline
- Air

COMPARISON OF REQUIREMENTS AND CAPACITIES

Net import requirements and import capacities
- Ports — MULBERRY
- Bulk POL — Beaches
- Air

Forward movements with inland transportation
- Rail)
- Pipeline) primary
- Road)
- Inland waterways—secondary
- Air—emergencies

Rearward movement
- Effects on inland transportation
- Effects on import capacities

CONCLUSIONS

Cessation of beach maintenance
Port development
Levels of reserves
Use of inland waterways
Air supply
Exploitation of local resources
Preshipment of organizational equipment

Transportation needs
- Locomotives and rolling stock
- Bulk POL facilities
- TC truck companies

Operating personnel
- Signal communications
- Cancellation of airborne operations
- Barges and tugs

Service troops and labour

LOGISTICAL POLICIES

General
Port development
Rail development
Coal production
Civil relief scales
Use of service troops, local labour PW, and tactical troops for logistical purposes.

Reserves in forward areas
Exploitation of local resources
Airfield construction
Responsibility for ports and lines of communication

LOGISTICAL PLAN

Allocation of ports
Development of advanced bases and forward depot areas

Development of lines of communication
Administrative boundary
Emergency supply measures

OUTLINE OF SHAEF TONNAGE ALLOCATION STUDY
SHAEF TONNAGE ALLOCATION No.....
TO COVER PERIOD ..... TO .....

OBJECT
("..... to approve requirements of tonnages between the various agencies concerned for the period ..... to ..... inclusive, on which allocation of transportation resources can be made prior to .....")

SECTION I--PROJECTED OPERATIONS.

ORDER OF BATTLE
(showed present and projected composition of armies by type divisions for period under consideration)
SUMMARY OF MANEUVER
(forecast front line at beginning and end of period using an attached map and summarized contemplated operations by each army)
RATE OF ADVANCE
(predicted average rate of advance in miles per day during period; for each sector if different)
TACTICAL PRIORITIES
(indicated relative operational activity of armies)
ENEMY, TERRAIN, AND WEATHER
(in chart form compared obstacles opposing the several armies)

SECTION II—SUMMARY OF CURRENT SUPPLY POSITION

(For each Army Group briefly reviewed status of supply in each class and compared relative supply status of Army Groups in a chart.)

SECTION III—BIDS OF ARMY GROUP AND COM Z

(Stated an analyzed the bid for tonnages submitted by each Army Group and Com Z, concluding with a recommendation for approval or amendment.)

SECTION IV—ESTIMATED CAPACITIES OF LINES OF COMMUNICATION

(Reviewed average daily tonnages delivered by lines of communication to each Army Group during preceding month, noted any prospect for improvement or deterioration, and concluded with an estimate of what could be done during the period under consideration.)

SECTION V—LOGISTICAL ESTIMATE OF THE SITUATION

ANALYSIS AND COMPARISON OF BIDS AND ESTIMATED CAPACITIES
(Chart developing surplus or deficiency for each agency)
CONCLUSION
(Indicated where logistical support should be emphasized and indicated how much of the capacity of lines of communication behind the Army Groups with a surplus should be shifted to the support of that Army Group with a deficiency)
IMPLEMENTATION
(Indicated what reallocation of transportation resources might be necessary and what logistical expedients should be utilized to effect the shift of logistical support to the Army Group requiring it with highest priority)

SECTION VI—RECCOMMENDATION

(Recommended action to be taken to achieve proper logistical support during period considered and transmitted findings and allocations of tonnages to Movements and Transportation Branch for final executive action.)
(SHAEF Allocations of Tonnages Nos. 1, 2 and 3 are microfilmed on 35mm film, AG Microfilming Job Number 600-12, Reel 1 of "Historical Documents World War II")

Chart 15

As an illustration of how the G-4 planner assisted the G-3 planner at SHAEF in detailed tactical planning, an operation called LUCKY STRIKE, conceived by SHAEF about 20 June, 1944, was designed to accomplish in effect the same objective as that of the more elaborate and better plan for Operation COBRA—the operation for breaking out of the Normandy beachhead area. This operation was developed to the minutest logistical detail within the G-4 (Plans Branch) SHAEF.

G-4 (Plans) SHAEF periodically cautioned the G-3 planners against moves that were ill-advised from a logistical standpoint. For example, although an early capture of the city of Paris might appear desirable for political and phychological reasons, the G-4 planners argued that the civil affairs commitments entailed in subsisting the city after its capture would be equivalent to supporting eight US divisions in combat.

Conclusions.

It would appear, then, that the functions of strategic logistical planning are the following:—

Generally, to direct, and where necessary, to dictate, the course of strategy;

To asist in determining the basic decisions of strategic plans—attack or defence, objective area, target date, axis of advance, and relative disposition of major forces;

To designate the base and to guide the development of the lines of communication from which logistical support will be provided;

To plan the concentration and the mounting of the forces engaged in the operation;

To devise logistical expedients upon which the success of over-all strategy may depend—artificial ports, bulk POL facilities, landing devices, and rapid rehabilitation of ports and communications;

To assist in insuring the successful execution of the strategic plan by planning the provision and control of large-scale emergency logistical measures—supply by air, reserve supplies, pre-packed or preloaded supplies capable of expeditious delivery to critical areas by surface or air transportation, and the crash-landing of ships and aircraft;

To provide the long-range basis for procurement action and, in part, the long-range basis for troop flow, project planning, and the allocation of manpower and material;

To provide the basis for the allocation of critical logistical resources either on a long-range or current scale—port capacities, transportation, air supply, controlled items of equipment, and service troops;

To provide the basis for, and to co-ordinate, the logistical planning of subordinate headquarters;

To study in detail the logistical implication of operations, which, although strategic in concept, are dependent for a critical moment on total tactical success—amphibious operations, river crossings, capture of ports and major cities;

To adjust the long-range logistical plan to current developments when the latter require special logistical expedients to exploit them or emergency measures to support them, and to re-adjust logistical arrangements or re-allocate logistical resources accordingly;

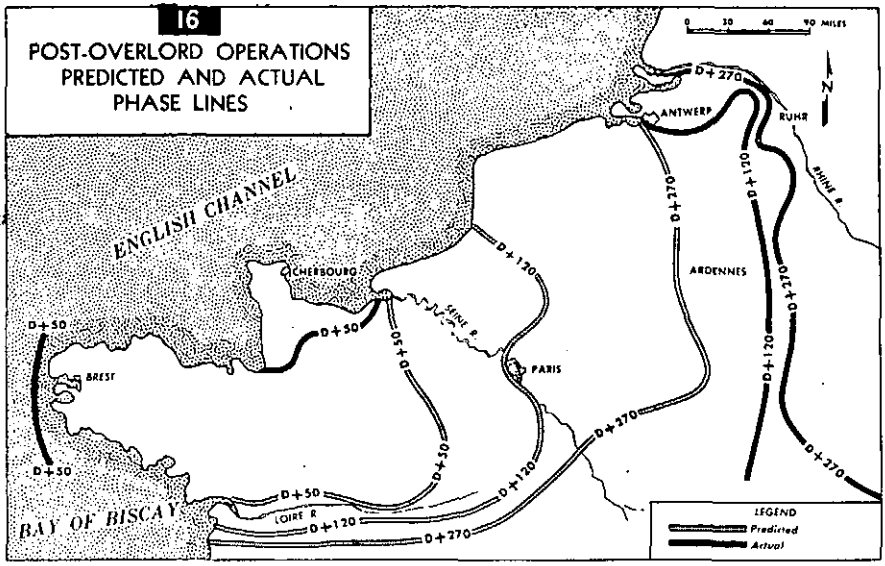
To develop outline logistical planning factors in order to co-ordinate and facilitate logistical planning at all levels.

It would further appear that the best medium for transmitting strategic guidance is the Strategic Logistical Study, incorporating a logistical estimate with a logistical planning directive.

The validity of strategic logistical planning can be tested by examining some of the effects of such planning in ETO and by comparing some of the forecasts and assumptions of the ETO strategic logistical planners with actual developments.

Theatre Projects.

On the basis of an outline of future plans formulated in logistical terms by COSSAC in late May, 1943, SOS ETOUSA was able for the first time since its organization a year previously to have reasonable guidance for some 155 Projects for Continental Operations (PROCO). These included the studies and resultant requirements for Class IV supplies, and were completed in



time for use in the first 90 days of actual operations. Com Z eventually prepared 219 theatre projects with 113 revisions, all based on COSSAC or SHAEF administrative appreciations.

Predictions.

Logistical planners at SHAEF concluded in May, 1944, that US forces must halt and stand fast for a period of one month west of Paris until rail lines through Normandy could be developed for their support. This conclusion was, of course, based on the forces halting with basic loads intact. General Patton's halt of the Third Army somewhere between 150 and 200 miles farther east of the predicted line, with basic loads exhausted, represents exactly the predicted condition, excepting that it was in more poverty-stricken terms. One of his tanks carried enough fuel in its basic load to travel about 150 to 200 miles.

The predicted phase lines of the Planning Forecasts, on which the SHAEF administrative appreciations were based, compare unfavorably with the actual front lines at the same dates (see Chart 16). On the other hand, SHAEF planners deduced that the European campaigns should be concluded by about D + 330, whereas in fact VE-day was D + 337!

The predicted dates of capture of certain major ports as used in the SHAEF administrative appreciations were generally earlier than the actual dates of capture (see Chart 17). However, in partial compensation, the beaches developed greater capacities earlier and continued to be operable longer than was anticipated.

The forecast build-up and the actual build-up of US forces on the Continent compare most favorably, the discrepancy being not in excess of one division at any time up to D + 210, when the effects of an in-

creased and accelerated build-up arranged in late 1944 began to become evident (see Chart 18). Similarly, the predicted and actual tonnages to be imported were close, even as late as D + 330 (see Chart 19).

Errors.

Nevertheless, the ETO strategic logistical planners did make some major errors, the gravity of which has not yet been—maybe can never be—evaluated. Failure of US and British procurement to provide in time the additional landing craft necessary for the increased lift required by the modified COSSAC plan resulted in a month's delay of D-day. During that month, May, 1944, Channel weather was continuously the best it had been for nearly 40 years, whereas, in June, 1944, a month later, it became the worst experienced in a similar period.

It was this bad weather in June that demolished the American Mulberry, with the result that large quantities of US supplies lay offshore of the beachhead, but could not be landed, and the stocks ashore became inadequate to support the large-scale effort desired by the Americans. Moreover, it was during May that the Germans moved into the Cotentin Peninsula the additional division that must have been instrumental in helping delay the capture of Cherbourg. Finally, it was in May that the Germans sowed in the Cherbourg Channels the new-type "oyster" mines that defied clearance long enough to delay the opening of the port considerably beyond the target date. Consider what might have been the course of the European campaign had the US Mulberry been operating throughout May.

The US logistical planners of

PLANNED PORTS						
PORTS	CAPTURE DATE		CAPACITY			
			D+30		D+60	
	PLANNED	ACTUAL	PLANNED	ACTUAL	PLANNED	ACTUAL
OMAHA	D	D	6000	12000	5000	10000
MULBERRY "A"	D	D	5000	—	5000	—
ISIGNY	D	D	500	500	500	1300
GRANDCAMP	D	D	300	500	300	900
UTAH	D	D	4500	8000	4000	6000
ST. VAAST	D+2	D+17	1100	—	1100	1300
BARFLEUR	D+6	D+17	1000	—	1000	640
CHERBOURG	D+8	D+21	6000	—	7000	5600
GRANVILLE	D+17	D+57	700	—	1500	—
ST. MALO	D+25	D+73	900	—	2500	—
BREST	D+50	D+103	—	—	1800	—
RADE DE BREST	D+50	D+103	—	—	1440	—
LORIENT	D+50	—	—	—	800	—
QUIBERON	D+40	—	—	—	4000	—
ST. BRIEUC	D+40	D+69	—	—	—	—
MORLAIX	D+50	D+69	—	—	—	—

SHAEF in pre-D-day studies concluded that the early capture of the port of Brest was desirable and essential for the development of the Brittany peninsula as a huge US staging area for troops and equipment arriving direct from the US. It was this concept that dictated that, even though Cherbourg eventually promised to develop more than the anticipated capacity and though the rail communications with Brest were limited, Brest should be taken at all costs. As a matter of fact, many US divisions were staged in England long after the time deemed desirable or practicable for doing so, with the consequence that the considerable effort diverted to the prolonged investment and eventual capture of the destroyed port of Brest may have been largely misspent.

The SHAEF logistical planners were probably in error not to have insisted more emphatically that a definite decision be made as to which US Army, First or Third, would receive the preponderant logistic support in late August, 1944, when Patton was sweeping south and east of Paris. As it was, SHAEF tried "to eat its cake and have it, too," by attempting to support Third Army almost to the degree it desired (which was logistically and maybe even strategically unsound), and also to support adequately the less spectacular but equally significant operations of First Army.

The logistical planning of OVERLORD was based on the assumption, among others, that rail lines of communication could be developed to keep within 150 miles of combat divisions. Requirements for truck

COMPARISON OF FORECAST AND ACTUAL BUILD UP OF US FORCES BY PHASES OF POST-OVERLORD OPERATIONS

DATE	*FORECAST BY SHAEF*		*ACTUAL*
	Adm Appreciation No. 1	Adm Appreciation No. 2	
D+ 60	18	—	18
D+ 90	21	—	21
D+120	27	—	27
D+150	34	37	34
D+180	39	41	39
D+210	44	45	48
D+240	48	55	52
D+270	52	59	54
D+300	52	59	57
D+330	52	59	61
D+360	52	—	61

(in terms of Divisions)

Chart 18

COMPARISON OF FORECAST AND ACTUAL US TONNAGES IMPORTED ONTO CONTINENT BY PHASES OF POST-OVERLORD OPERATIONS

DATE	*FORECAST BY SHAEF*		*ACTUAL*
	Adm Appreciation No. 1	Adm Appreciation No. 2	
D+ 60	30,711	—	27,645
D+ 90	37,627	—	27,998
D+120	38,642	—	24,900
D+150	47,853	41,543	22,512
D+180	51,239	51,790	48,804
D+210	54,509	66,675	52,876
D+240	53,621	71,398	39,030
D+270	55,290	60,768	54,309
D+300	—	61,235	62,756
D+330	—	—	
D+360	—	—	

(in terms of average long tons per day)

Chart 19

companies, road and bridge construction and maintenance units, and automotive repair units were all computed on this basis. No alternate plan, as was later prepared (the so-called XYZ Plan) to support a possible rapid advance east of the Rhine, was made in anticipation of an advance at the rate at which Plan COBRA uncoiled. This omission proved later to be an error in logistical planning, from which the strategic logistical planners learned one of the lessons that were to be of great aid to them in providing the support of the Rhine crossings and subsequent operations in Germany.

By the time the Allied armies came abreast of the Siegfried Line, the logistical support, furnished primarily by long highway haulage, was running down. The Red Ball turn around was stretched almost to the breaking point. The neglect of maintenance, which had been necessary to exert the all-out effort, was beginning to take its toll. Driver fatigue was causing increasing numbers of serious accidents. Combat troops whose vehicles and drivers had been diverted to lines of communications tasks were being moved into the combat zone.

The US Armies needed to roll up their administrative tail and to open a more advanced base. Antwerp would be the answer. The port had been captured intact in late September and it remained only to clear the islands of the Scheldt of scattered German units and to sweep the mines from the approach channels in order to begin operation of the port at a large import figure. But the British, in whose operational area the port and its approaches were geographically located, had no immediate personal interest in diverting effort to opening the port. The British commander seemed to prefer to look toward Berlin, despite repeated SHAEF directives that he give highest operational priority to the clearing of the Scheldt. Presumably, his own logistical planners did not appreciate the great need for Antwerp and its proffer of general benefit to the Allies once the US Armies could base their maintenance on it.

Perhaps if SHAEF G-4 Planners had been more influential in convincing their opposite numbers at Twenty-first Army Group (British) of the logistical urgency of opening Antwerp, Field Marshal Montgomery might have been dissuaded from his inclination to disregard the SHAEF directives. The consequence would have been not only that inter-Allied relations would not at the time have been strained, but the over-all logistical situation might have been rescued at its most crucial period. As it was, Antwerp was not opened until 28 November.

The SHAEF strategic logistical planners were wrong again to have been satisfied in early 1945 with Twenty-first Army Group's verbal assurance that its logistical plans for the support of the British and Canadian forces north of the Ruhr in the spring offensive were adequate and need not be reviewed by SHAEF. G-4 SHAEF acceded to this in the interests of international diplomacy. As events developed, British logistical resources across and east of the Rhine were miserably inadequate, and large portions of US-developed capacities had to be diverted to the support of the British Army. In fact, had the surrender not occurred at the time it did,

when Twenty-first Army Group was not yet committed to entering Denmark in force, the British would have been embarrassed to find themselves unable logistically to support an operation into that country to mop up the residual German units there.

Following VE-day, the US forces which had entered Austria from the Mediterranean Theatre were closely linked to the US forces in Bavaria and might have been most economically supported logistically over the same lines of communication by which Third and Seventh US Armies were supported. However, because no general appreciation of the logistical situation had been prepared in advance—it would have had to be a SHAEF Administrative Appreciation No. 3 prepared in March, 1945—early commitments were made to accept civil affairs and troop movements tonnages between Austria and Germany. Only later was it discovered that this prejudiced the most efficient logistical support of the US Army Forces in Austria (USAFIA).

G-4 (Plans Branch) SHAEF had been unable during the fluid phases of pre-VE-day operations either to stabilize its own deliberations on the future logistical situation or to obtain from G-3 SHAEF the new Planning Forecast that would have been necessary for the preparation of this third appreciation. The rapidly changing situation eventuated without a logistical pattern on which to base a short-range estimate of its logistical implications.

Thus, it is seen that strategic logistical planning can be valid and quite consistent with realities. Strategic logistical planners can make serious errors which they must be continuously on guard to detect and correct. Most important of all, strategic logistical planning has emerged as more nearly a science than an esoteric art and as a definite and dependable means of providing an early basis for the procurement of material and the raising and training of service units which must antipate operations by at least one year.

Based on the principles of theatre organization enunciated above and on the functions of strategic logistical planning enumerated above, it would appear that a suitable and effective organization of a G-4 Plans Branch at Theatre of Operations or combined headquarters level would include the following:—

Long-range planning section;

Short-range planning section;

Statistics section.

The long-range planning section would study and develop the basis for procurement planning, project planning, and the provision of service troops. The short-range planning section would adjust the long-range logistical plan to more nearly current developments, making such readjustments as are necessary by reallocating logistical resources or by devising temporary logistical expedients, such as the diversion of bombers to supply. The statistics section would develop and revise outline logistical planning factors; by their very nature these factors are different from the planning factors used in more detailed planning and the derivation of which should be reserved to the strategic logistical planners as a peculiar skill.

An organization generally along the above indicated lines was used at Com Z ETOUSA after its consolida-

ORGANIZATIONAL AND FUNCTIONAL CHART OF PLANS DIVISION, G-4 COM Z ETOUSA

PLANS DIVISION

1 COLONEL

1. Direct and coordinate work of Division.
2. Liaison with SHAEF Log Plans, Army Groups, Com Z Sections, and Com Z Staff Sections on planning matters.

CURRENT PLANS BRANCH

1 LT COLONEL

1. Preparation of plans required for logistic support of current operations. Maintain liaison with other General and Special Staff Sections of Hq Com Z to accomplish this end.
2. Preparation of such logistical studies and estimates of the current situation as may be required by proper authority.
3. Recommend locations of boundaries and changes in administrative organization of Com Z from a supply standpoint.
4. Compilation of such current and up-to-date logistical data as may be required for operation of the branch as a whole.

LONG-RANGE PLANS BRANCH

1 LT COLONEL

1. Analysis of long-range plans laid down by higher authority and determination of their effect upon Com Z operations from a supply standpoint.
2. Preparation of long-range supply plans.
3. Maintain liaison with SHAEF, other headquarters concerned and with other General and Special Staff Sections of Com Z to insure that all possible information is available for planning purposes.
4. Preparation of such planning instructions and directives as may be necessary for issuance to acquaint all concerned with future action that may be required.
5. Preparation of studies of future requirements and the necessity for advance procurement of such requirements from the Zone of Interior.

REDEPLOYMENT BRANCH

1 MAJOR

1. Maintain close contact with the over-all redeployment planning section to insure that the latest policies and directives are available to it.
2. Preparation and issuance of such detailed planning instructions or directives concerning redeployment as may be required to implement redeployment from a supply standpoint.

ORGANIZATIONAL AND FUNCTIONAL CHART OF PLANS BRANCH, G-4 USFET

PLANS BRANCH

1 COLONEL — 1 MAJOR *

1. Direct and coordinate work of branch.
2. Present oral briefs to ACofS, G-4.
3. Serve as member of Planning Staff.
4. Maintain liaison with Com Z and Army Groups logistical planners.
*5. Perform office administration including supervision of typists and draftsmen and final proofreading of outgoing documents.

FUTURE PLANS SECTION

1 LT COLONEL — 1 MAJOR

1. Compile Administrative Appreciations.
2. Provide strategic guidance in logistical planning to Com Z and Army Group.
3. Coordinate forecasts of future buildup of forces and tonnages and of future transportation capacities as bases of long-range logistical planning.
4. Review logistical plans and logistical aspects of operational plans of Com Z and Army Groups.
5. Plan with G-4 (O+E) the future logistical organization of the theater.

CURRENT PLANS SECTION

1 LT COLONEL — 1 MAJOR

1. Prepare estimates of current logistical situation as required.
2. Adjust long-range logistical plans to current developments and coordinate reallocation of logistical resources as necessary.
3. Provide other branches of G-4 with logistical bases for current allocations of supplies, service troops, and transportation means.
4. Post the G-4 Situation Map in the office of ACofS, G-4.
5. Adjust administrative boundaries as necessary between major commands.

STATISTICS SECTION

1 CAPTAIN — 1 LIEUTENANT

1. Collect, collate, and analyze logistical data.
2. Maintain logistics reference library.
3. Develop outline logistical planning factors.
4. Check all arithmetical computations used in studies.
5. Publish as required statistical studies of past operations.

tion with SOLOC (see Chart 20), and at SHAEF and its US successor, USFET (see Chart 21). With such an organization as a framework, and with the three essentials of good staff organization—efficient staff officers, efficient staff procedures, and effective staff data—the strategic logistical planners should not fail to insure that logistics will never impede tactics. Logistics may limit strategy, but if it is organised as described above, it will also often be a source of the surprise, boldness, and speed that strategy seeks for success.