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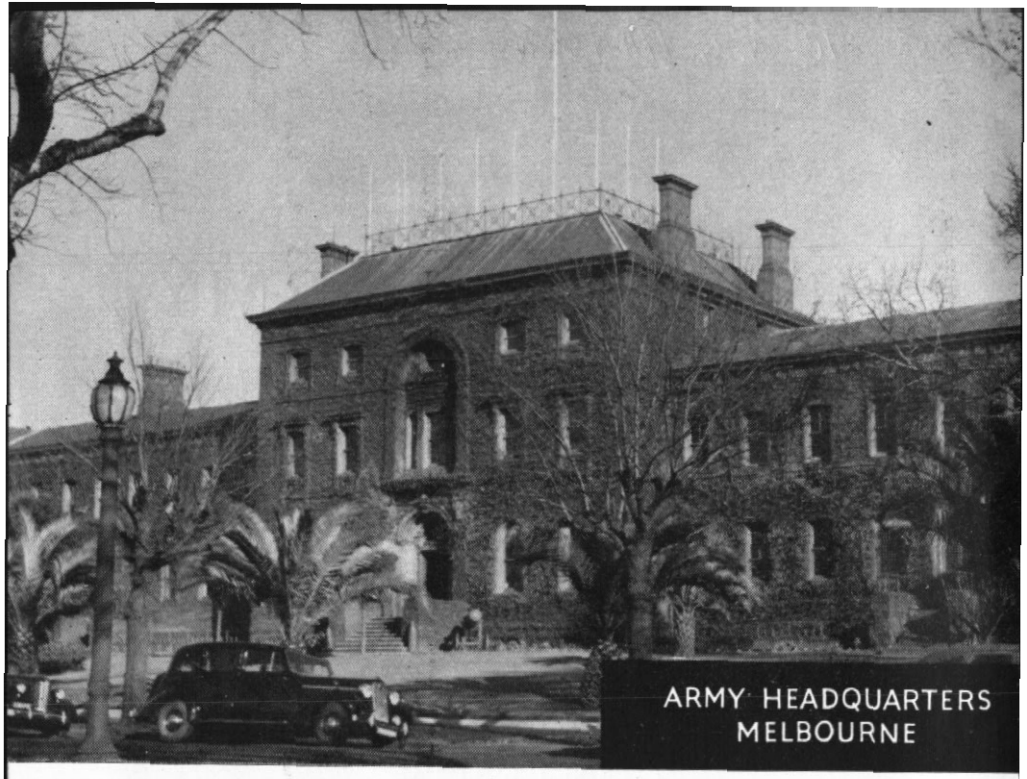

AUSTRALIAN ARMY JOURNAL

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The Defensive Battle

ALAM HALFA

Written for the Australian Army Journal by
The Directorate of Military Training, AHQ

Conduct of a Defensive Battle

Examination of the principles of defence discussed in Field Service Regulations shows that defence technique is based on the fact that some penetration by the attacker is almost inevitable. It is by the garrisons holding out and hitting back that the defence aims at limiting the depth of such penetration, and finally destroying the forces that have penetrated.

It is to be particularly noted that this doctrine does not suggest a purely passive attitude. On the contrary it clearly implies offensive action to destroy or eject the hostile elements which have succeeded in penetrating the defences. This necessary offensive action takes the form of counter-attacks of which there are two types — the immediate counter-attack and the deliberate counter-attack.

The immediate counter-attack is delivered to recover vital ground or to stabilize the situation in a particular part of the field before the attacker has had time to re-organize and settle down. Normally it is delivered by a subordinate commander and does not involve the use of the main reserve.

When the immediate counter-attack has failed to restore the situation, or when penetration has been very deep, a more elaborately organized operation known as the deliberate counter-attack will be necessary. This operation usually requires the employment of the main reserve.

Since the defender can never be quite sure what the attacker will do, or how the assault will develop, commanders of all grades, from the force commander downwards, must give careful consideration to the various situations which might arise within their spheres of responsibility. Alternative plans to meet these situations must be prepared, and orders for their execution issued to the troops responsible for carrying them out. Wherever possible rehearsals should be held.

Because a force is thrown on the defensive it by no means follows that it loses all its powers of initiative. On the contrary, by suitable deceptive arrangements a defender can often lead his opponent into a fatal trap. In any case active offensive patrolling and air reconnaissance are essential to discover the enemy's intentions.

It is a vital requirement of successful defence that all troops must know the role assigned to them, and be imbued with the necessary determination to carry it out.

In order to give these principles life, to show their practical application to actual events, it is proposed now to examine the conduct of the Battle of Alam Halfa — a battle which occurred at a critical stage in the career of the Eighth Army.

Situation of the Eighth Army in August, 1942

At the close of the Axis offensive in Africa in 1942, the battle front in the Western Desert was finally stabilized on a line running approximately north and south from the sea at Tel el Eisa to Qaret el Himeimat on the northern edge of the impassable Quattara Depression. This position was known as the El Alamein Line.

The reverses suffered by the Eighth Army had tended to undermine the morale of the troops. Their shaken confidence in the higher command was not improved by the uncertainty and distraction caused by plans and preparations for further withdrawals. No one knew what would happen if Rommel attacked again.

When Field Marshal Montgomery assumed command of the Eighth Army on 13 August, 1942, he took immediate steps (The same evening in fact) to clear away all uncertainty. He stopped all work on rearward positions, and sent the troops back to their units at the front. He ordered all plans for withdrawal to be burnt. He announced that he was not a bit interested in the Suez Canal or the Nile Delta; he was interested only in Rommel whom he was going to destroy by offensive action as soon as he had put his army into proper shape. "If Rommel attacks in the meantime," he said, "we will fight him and beat him here, where we stand."

These orders went through the Army like an electric shock. Everything now became clear, firm, certain. Above all everything became simplified. Instead of having to keep one eye on plans for withdrawal, commanders of all grades could now give their entire attention to perfecting the defence. The arrival in the forward area of stocks of food, water and ammunition necessary to fight a long battle gave material proof that Montgomery meant exactly what he said. These firm measures, these clear and simple orders, did much to restore the Army's confidence in the higher command, and in its own ability to hold its ground in the face of any attack. From which followed, naturally, the determination to do it.

The Defensive Plan

From the general trend of enemy activity and from the location of his best formations — Africa Corps and 90 Light Division — Montgomery deduced that Rommel would attempt to break through on the southern flank and roll up the Alamein Line from south to north. Alternatively, he might, after breaking through, swing wide to El Hamman with a view to getting firmly astride our communications with Alexandria.

Several miles in rear of the Alamein position lies Alam Halfa Ridge, a long, low eminence commanding a wide sweep of desert country. If the enemy succeeded in penetrating the southern sectors his subsequent progress would depend on securing this ridge. If it remained in our hands it would serve either as a base to block the enemy's progress to the north towards Ruweisat Ridge — the backbone of the defence in the central sector — or alternatively to cut the axis of any hostile thrust towards El Hammam.

Montgomery brought up 44 Division from the Nile Delta to garrison Alam Halfa. South of the ridge he concentrated the bulk of his armour under Headquarters 10 Armoured Division, where it blocked any attempt to strike east or north-east against his communications. If the enemy struck northwards towards Ruweisat Ridge, 10 Armoured Division would block his progress from dug-in positions between Alam Halfa and 2 New Zealand Division. These positions were selected and prepared in advance, and 10 Armoured Division several times rehearsed the process of moving into them.

Arrangements were made to support the defence of Alam Halfa, and the area between that feature and 2 New Zealand Division, with a great weight of concentrated artillery fire.

On the southern flank, 7 Armoured Division was directed to make itself thoroughly familiar with the treacherous terrain with a view to harassing Rommel's communications should he succeed in effecting deep penetration. Particular attention was to be paid to enemy supply echelons, especially petrol carrying vehicles.

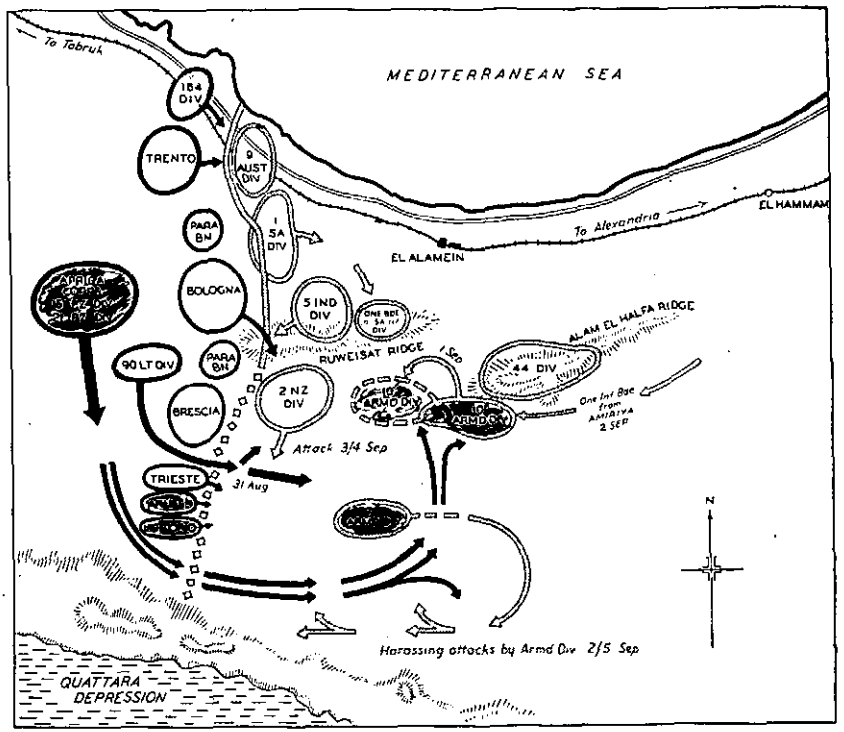
The Headquarters of the Eighth Army and the Desert Air Force were set up side by side, and intimate relationships established between the two staffs. Plans were perfected for laying on heavy air support as and when required. To enable this to be accomplished a new system of reporting centres equipped with wireless was established to give Army Headquarters a direct ball-to-ball description of events throughout the battlefield.

Deception

The surface of the Western Desert is extremely patchy. Areas of good, hard surface are mixed up with areas of soft, deep sand through which vehicles, including tanks, can move only with difficulty and a high rate of petrol consumption. It was customary for both sides to produce special maps on which the various types of surface were delineated.

"Going Maps" of the rearward areas of the Alamein position had only recently been produced, and it was reasonably certain that none had fallen into enemy hands. Elaborate arrangements were made for a scruffy looking falsified map to be captured. This map showed the area south of Alam Halfa as good hard going, whereas it was in fact an area of very soft sand. If the enemy made use of this map his tanks and supply vehicles would run into unexpected difficulties, whether they struck northwards or north-eastwards.

This map duly fell into enemy hands. What use was made of it we do not



know for certain. We do know, however, that Rommel ascribed his defeat to petrol shortages in his armoured formations. It is at least probable that the map caused him to underestimate the amount of petrol required for the operation. In any case the unexpected encounter with the soft sand at a critical moment must have been disconcerting to the Africa Corps.

The Battle

Shortly after midnight on 30/31 August Rommel launched his offensive with three simultaneous attacks. The most northerly was firmly held by 9 Australian Division. In the centre a heavy attack struck the right of 5 Indian Division, and achieved some initial success. The enemy was ejected from his footing on the vital Ruweisat Ridge by a strong counter-attack at first light on 31 August.

The main thrust was made in the south between the left flank of 2 New Zealand Division and Himeimat. In that area Rommel employed 15 and 21 Armoured Divisions, 90 Light Division, and 20 Italian Corps which included two armoured divisions. By 1000 hours on 31 August 15 and 21 Armoured Divisions had penetrated the southern edge of our minefields, and were moving eastwards. 90 Light Division had also effected penetration, but was moving more slowly. 20 Italian Corps made little progress throughout the battle, and only one of its divisions succeeded in penetrating our minefields.

In the south, 7 Armoured Division was forced back by the onslaught. In accordance with their orders they avoided becoming pinned to the ground, and swung around to the open flank to carry out their role of harassing Rommel's communications.

Heavy dust storms throughout the day prevented the Desert Air Force from obtaining detailed observation of the enemy, and from interfering with his movements. By late afternoon, however, it became apparent that Rommel's armour was moving in strength against Alam Halfa. This attack was repulsed by 10 Armoured Division.

Conditions improved during the night and our air force pounded enemy concentrations and supply echelons.

By the morning of 1 September it was clear that Rommel's axis of advance was directed on to Alam Halfa and thence northwards to Ruweisat Ridge. In accordance with his rehearsed plan, Montgomery now began moving 10 Armoured Division to its alternative position between Alam Halfa and 2 New Zealand Division. Its place was taken by a reserve infantry brigade brought forward from Amiriya. At the same time, there being no likelihood of further frontal attacks on the Alamein position, Ruweisat Ridge was strengthened by switching to it a brigade from 1 South African Division.

During the morning, and again in the afternoon, the enemy heavily attacked 10 Armoured Division but nowhere succeeded in penetrating the defence. At all points he was met by the steady fire of the British tanks fighting on familiar ground of their own choosing. He was harassed from the air and pounded by heavy artillery concentrations.

Away in the south 7 Armoured Division had a field day shooting up supply vehicles and generally harassing enemy communications, a task in which squadrons of the Desert Air Force also participated.

During the afternoon of 1 September, whilst the enemy was still attacking 10 Armoured Division, Montgomery began to prepare his counter-stroke. By thinning out certain forward areas he planned to reinforce 2 New Zealand Division with two British infantry brigades. When all necessary preparations for a deliberate counter-attack had been made, the New Zealand Division would strike southward to close the gap in the minefields and cut off all enemy forces to the east of them.

On 2 September the German armour seemed reluctant to resume their attacks, and 10 Armoured Division refused to be drawn from its positions. Air and ground attacks against enemy communications were intensified, and by evening the ground was strewn with burnt out vehicles.

On the afternoon of 3 September large enemy columns were observed moving westwards. That night the New Zealand counter-attack went in, and immediately brought about fierce enemy reaction. Throughout 4 September the Germans repeatedly attacked the New Zealanders to cover the withdrawal of their forces through the gap in the minefields.

Since Montgomery did not consider that his army was fit to engage in sustained offensive operations, and he wished to proceed methodically with his preparations for a major offensive later on, he kept a tight rein on the progress of his counter-stroke. When it became evident that the enemy had got most of his troops back through the gap he called the battle off, and resumed his preparations for bigger events.

Lessons

The Battle of Alam Halfa provides an excellent example of the difference between the immediate and the deliberate counter-attack. It will be recalled that in the early stages of the battle the enemy effected a lodgment on Ruweisat Ridge. Since this was vital ground an immediate counter-attack for its recovery was launched by 5 Indian Division. On the other hand, the New Zealand attempt to close the minefield gap was a deliberate counter-attack, arranged by the Army Commander and involving considerable preparation.

Detailed planning and preparation were so perfect that it can almost be said that the battle ran itself There was no confusion; everyone knew exactly what to do whatever the enemy might attempt.

A marked feature of the battle was the high degree of co-operation achieved between the Army and the Air Force. Between them, the Air Force and 7 Armoured Division destroyed a very large number of vehicles, and practically brought Rommel's supply echelons to a standstill.

Throughout the action armour and artillery were used in concentrations, and had been so positioned that all hostile armoured attacks were crushed quickly and effectively. The initial layout of the Army, together with the speedy regroupings effected during the action, preserved balance throughout the battlefield and rendered unnecessary any drastic change of plans to meet Rommel's offensive.

Finally, the use of the falsified "Going Map" shows that even when forced into a static defence, opportunities for deceiving the enemy will always occur, provided the commander and his staff think hard enough and take sufficient care in "putting them across."

The victory at Alam Halfa had a profound effect on the Eighth Army. Its growing confidence in its new commander went up by leaps and bounds. Its confidence in its own fighting ability revived, and it turned with enthusiasm to preparations for the offensive to destroy the Axis forces in Africa.

Reciprocal Communication

AN ADMINISTRATIVE MANAGEMENT STUDY

Brigadier A. S. Wilson, OBE
MGO Branch, Army Headquarters

MANAGEMENT is concerned with three types of activity. The first consists of administration; for instance, finding capital, planning, policy-making, and development of organization, procedures and standards. The second consists of physical operations; for instance, production and distribution. The third activity is concerned with the development of conditions conducive to high morale and high output.

These three types of activity (administration, physical operations, and morale building) are not separate and self-contained. For instance, an efficient RAEME workshop could not be developed only by covering the administrative function by organization, work programmes and procedures; by covering the physical operation only by training and technical instructions; and by covering the morale building function only by "paternalism" and amenities. The three functions should be integrated. This can be done if we remember that the fundamental object of each function is to develop the full potentialities of men, as individuals, and as teams. The oldest, but the least publicised, method of achieving this objective within an organization is by planned and continuous two-way communication, upwards and downwards, of the knowledge, experience and ideas of its members. This process is best described by the term "reciprocal communication".

Before describing this process it is necessary to state that it does not interfere with whatever methods are in use for initiating and supervising daily executive action. It is an extra aid to management; for use only in improving the fundamentals of management, that is, for improving —

(a) plans and policies;

(b) organization;

(c) procedures, systems and standards of performance; and

(d) methods of supervision.

It is not designed to discuss the execution of specific jobs, but is restricted to an examination of conditions affecting achievement of general objectives and standards.

A Reciprocal Communication Programme

A policy has been adopted introducing a reciprocal communication programme into RAEME workshops;* but before general adoption an experimental trial will be carried out in one workshop to establish a technique for installing and operating reciprocal communication programmes in all workshops. A similar policy was necessary when it was decided to install work-programming in

* *A similar policy is being adopted by RAAOC depots.*

workshops; for the translation of a policy into a programme requires a planned approach. This is especially so if the policy relates to intangibles or ideas, rather than physical things. The diagram below shows the organization of a small RAEME workshop.

The organization for reciprocal communication follows the hierarchical structure of the workshop. The medium used is the successive group conference. Charge-hand A is the chairman of a regular conference of his operatives f g h i and j. Similarly, Charge-hands B and C are chairmen of regular conferences of their groups. Questions which are not soluble within a group, or beyond the jurisdiction of a charge-hand, are noted by the charge-hand and will be raised by him at the next higher level conference, where the foreman is *the chairman and the members are* charge-hands A, B and C. Questions not soluble by this group or beyond the jurisdiction of the foreman, may be handled by the OC and the foreman alone; but if the storekeeper and O i/c Administration are affected, the subject may be dealt with at one of the regular group conferences between the OC Workshop, the storekeeper, foreman and O i/c Administration. Before the OC Workshop can make a decision it may be necessary for the storekeeper (in conference with his storeman) and the O i/c Adm (in conference with his subordinates) to ascertain and report the effects of the question raised by the foreman.

An example may help to make the idea clearer.

During the first and third weeks of each month an hour's conference is held by each of the operative groups under their charge-hand as chairman. The value which is obtained from a group conference is dependent on the ability of the chairman to extract appropriate information from the members. To achieve success the chairman must constantly remind himself that his object is to find out what conditions are necessary to enable his group to produce work to satisfactory standards of quality and quantity. As a result of group discussion the foreman may find that standards are not being achieved because of, say,

(a) inadequate shop system of supply of spare parts, tools and materials to the operatives;

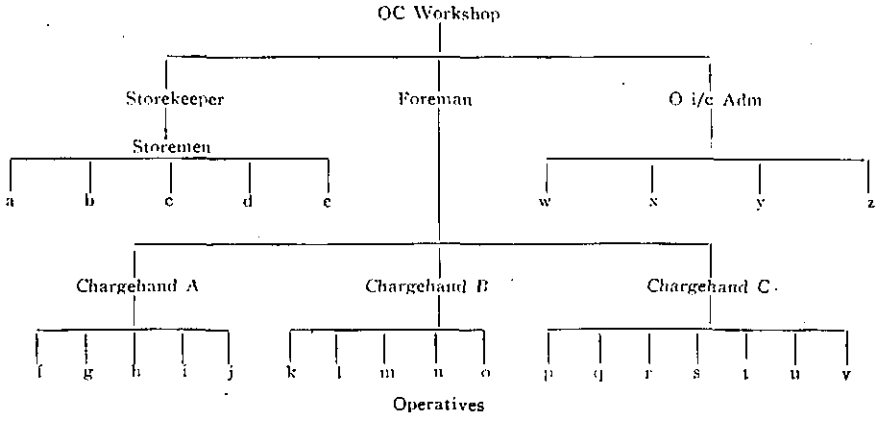
(b) uneven flow of jobs, and failure to move completed jobs from the shop floor;

(c) inefficient lighting and heating;

(d) unco-ordinated times for "smokos" throughout the shop;

(e) tiredness due to long journeys to and from work;

(f) time spent in cleaning jobs received from units in a dirty condition;



(g) rapid turnover of operatives and lack of skilled and experienced men;

(h) insufficient definitions of duties of each operative resulting in confusion and delays;

(i) lack of planned maintenance programme for plant;

(j) the implications of personnel policies, (e.g., "conditions of service");

(k) matters revealed during the foreman's quarterly interviews with individual operatives, (e.g., lack of enthusiasm);

(l) inadequate definition of relationships with other groups whose work interlocks with his group;

(m) inadequate materials - handling equipment.

(The group discussion may show that no work standards have been set. The setting of standards will then become an important subject for development by the group conference system.)

Formal but brief minutes of each conference should be prepared, and a copy passed to the next higher level. Minutes need only record decisions and unsolved problems.

It will be seen that the conferences are not held to discuss the jobs to be done, but to examine the conditions which affect achievement of general objectives.

It may be said that a charge-hand can find out the things listed above by observation and by questioning his subordinates individually as he supervises their work. A little reflection on what occurs in a busy (or a slack) shop will show that there is a marked difference in the two methods. While jobs are in progress neither the charge-hand nor an operative is likely to raise these subjects, and less likely to pursue them to a successful conclusion. A further proof that fundamental matters will be neglected, unless there is a formal programme for review, is provided at inspections by the OC Workshop. When he goes round it is surprising how subjects which have not been brought to light before are now raised by operatives. That is because the principle of reciprocal communication is being applied, although in an extreme form, and not as part of a continuous programme.

The next step is the lifting of unsolved matters to the level of the foreman's conference with his charge-hands, held every second and fourth week. Here the foreman hears and discusses the fundamental problems and suggestions raised by the charge-hands' conferences. Much will be cleared by the combined knowledge and experience of the group. Some of the balance may be cleared by direct discussions with the storekeeper or the O i/c Administration. The remainder may be discussed direct with the OC Workshop, or dealt with at the OC's conference monthly with the storekeeper, foreman and O i/c Administration. In a similar manner, group conferences in the stores section and administrative section will be dealing with, or raising, questions and suggestions to the OC's conference.

It is not suggested that all questions emanate from the operative level. Each level will originate questions and have its own problems.

In addition to the upward movement of information described above, there is a downward movement of information. The group conferences provide an ideal method for the downward promulgation and explanation of decisions and changes to procedures. This action is important, for many administrative deficiencies are due to failure at the lower levels to see the full significance of an instruction or procedure.

Those who served before the war in regular units, particularly the Artillery, will recognize the principle of formal reciprocal communication. The NCOs in charge of a barrack room in a Coast Battery and their men were the lower links in a communication system. The Nos. 1 and their subsections of a field battery were the lower links in a similar system. It is certain that these systems were the basis of the high morale and efficiency of the regular artillery, and of leadership at every level.

A system which has been in operation in regular artillery units for many years, and which has been adopted in some of the largest industrial and governmental undertakings in America, is well worth applying to an administrative service of the Army; not only to its individual depots or workshops, but to a Service as a whole.

In large depots and workshops the best results will be obtained when one staff officer from the headquarters is available as advisor to the conference groups. This officer can do much to help the conferences toward their objective of developing conditions conducive to high morale and output. For instance, many supervisors may have initial difficulties in getting the interest and co-operation of their subordinates. In some organizations a staff officer has held an initial course of instructions to educate supervisors, and subsequently to educate new supervisors, in the techniques of running worth-while conferences. One of the conference techniques used is to analyse the work of one member at a time, by questioning him with the aid of a blackboard, divided into three columns as in Fig. 1.

In addition to the supervisors receiving instructions in the technique of conducting conferences, the supervisors should be given instructions in the principles of management, for it is evident that the questions tabulated below can be answered in many ways. Consequently, a chairman must have sufficient knowledge of the principles of management to enable him to demonstrate with inevitable conviction the validity or falsity of each opinion.

After the conference, columns 1 and 3 are written out on paper and permanently recorded as the minutes of the meeting and a copy is passed to the next level for noting, confirmation, or treatment, and reply without fail. Each group should have a secretary elected yearly by the members of the group.

Questions (an example only)	Replies	Decisions or Recommendations for Improvement, arising from Group Discussion
What are your duties?		
Who sets jobs, and how?		
To whom are you responsible for performance?		
Who are responsible to you, and for what?		
What constitutes satisfactory performance?		
What prevents full achievement?		
On whom are you dependent for materials, tools and other assistance?		
How is supply achieved?		
Is supply satisfactory?		
What difficulties do you experience?		
What other people or sections depend on your work, and vice versa?		
Do these relationships need improvement, and how?		

Fig 1

General Comments

The potentialities of reciprocal communication as a morale builder are great, because —

(a) it is a natural process;

(b) it taps each level of an organization with the object of continuously discovering —

i. the effects of policies, organizations, etc., on those responsible for performance of tasks;

ii. the changes required by the changing situations;

(c) it makes every member of the organization feel that he is important to it by seeking his contributions to the evolution of policies, organizations, procedure, etc.;

(d) it reveals the capabilities of individual members, and leads to a training programme designed to develop the maximum capabilities of each member; and

(e) it helps to develop all supervisors into leaders, by forcing them in their capacity of chairmen of group conferences to undertake responsibilities of face-to-face leadership—a vital phase of management which can be lost sight of in administrative and technical installations.

The conception of reciprocal communication is an easy one to grasp: it is a procedure applied every time an executive or supervisor holds a conference with his immediate subordinates, either as a group or individually. Generally, such consultations are primarily to examine some executive aspect of a particular physical task, and a solution is arrived at within existing policies, organization and procedure, even if these are faulty. This is right and proper, because daily action should not be delayed for the consideration of fundamentals, particularly as fundamentls generally affect other sections of the organization. It would, however, constitute bad management not to use existing machinery for the review and improvement of fundamentals.

The need for reviewing fundamentals is first felt in the executive and operating levels of an organization, but it is generally a slow and difficult process to convey this feeling to those at the top before a breakdown actually occurs. The remedy is to apply the principle of regular conferences on fundamentals at every level of the organization, and for each conference group to transmit its unsolved problems and its suggestions to the next higher level for attention. A number of well-screened questions and well considered recommendations are then regularly dealt with at appropriate levels. The machinery used is the same as that for considering executive tasks, but the agenda are devoted to fundamentals. In short, it is a separate programme of supervision and development.

When a reciprocal communication programme is introduced it does not include other methods of supervision, such as inspection of operators, work-programmes, and physical conditions by section officers and by the CO. Reciprocal communication and inspection are supplementary, and the former will reduce the number of faults found. In any case, inspection alone is not a complete and comprehensive programme of supervision.

Reciprocal Communication Applied to Individuals (Personal "Performance Review" Programmes)

A reciprocal communication programme is not only a methodical review of conditions and achievements by each group under the chairmanship of its supervisor. It also includes a subsidiary programme for each group, setting times for personal interviews between the supervisor and each member of his group, to assess individual performance and determine what assistance each requires to develop his full potentialities and overcome his shortcomings. In addition, it can be a means of discovering talent within an organization, and of career planning.

Under this programme a foreman (assisted by the charge-hand) interviews each operative separately once a quarter

and conducts a review of performance since the last interview. The foreman in his turn is interviewed quarterly by his superior, and so on.

An interview aims at being a mutual assessment of an individual's assets and liabilities in terms of actual performance, and at providing a starting point for giving him assistance to liquidate his liabilities; for instance, in the form of appropriate training. The essence of the process is the emphasis on mutual approach, or co-operation between supervisor and subordinate.

Conclusion

In a large organization like a technical service, with its "general administrative" workshops or depots spread regionally throughout Australia, the culmination of the reciprocal communication programme of each installation is a regular (say six-monthly) conference of COs under chairmanship of the director. At this conference, workshop or depot problems which affect the achievement of general objectives, and which cannot be solved in these installations or direct with the directorates, are brought forward for group analysis. New matters of a fundamental nature, including long range intentions, will be introduced by the director, and will be carried back to the installations for promulgation, or, if ordered, for research in each installation by the reciprocal communications process before adoption.

In this way the development of policies, organization, procedure, standards and supervision will be the result of the knowledge, experience and ideas of everyone in the field and level in which he is qualified to contribute.

"In modern wars of great nations or alliances particular areas are not defended only by local exertions. The whole vast balance of the war front is involved."

— Winston Churchill in "The Gathering Storm".

Organization, Equipment and Employment of Airborne Armies

Colonel R. G. Pollard, DSO, Australian Staff Corps

Until recently Colonel Pollard was Assistant Commandant and Chief Instructor, Transport Support Wing, School of Land/Air Warfare

Introduction

By way of introduction, I would like to quote Major-General J. M. Gavin, GOC 82 US Airborne Division, who is reported to have stated. that "the nation with the best trained, best equipped airborne troop units has the best chance of survival, and the existence of such troops is a powerful factor for peace."

The fact that our Post War Army does not include any airborne forces makes it all the more imperative that we should fully appreciate the capabilities and limitations of such forces, in order to facilitate the preparation of effective anti-airborne measures.

Remember, "knowledge dispels fear."

Without such knowledge, fear and panic will spread during an airborne attack, as it did in Europe and the Far East during World War II. Everyone, therefore, including civilians, should understand what action is expected of them should the enemy deliver an airborne attack.

A study of the organization, equipment and employment of airborne forces will show that "they always need transportation and usually need food, water, medical assistance and direction."

They must be denied these things.

In case any reader should place a wrong interpretation on the earlier statement regarding "the fact that our Post War Army does not include any airborne forces", it is advisable to draw the attention of all to some further facts:—

(a) That the RAF commitment for the training of two British airborne divisions was approximately 24,000 personnel and 600 aircraft;

(b) That, although it was in being for approximately two and a half years, the Australian Parachute Battalion was still not ready for operations on VP Day, due to insufficient aircraft being available for training in mass dropping;

(c) That any airborne formation smaller than a brigade group would be only of use in minor tactical roles and would be exceptionally expensive;

(d) That larger airborne formations are beyond our present financial resources;

(e) That airborne forces took part in only five major operations in World War II and that there were considerable gaps between. Further, that, although they are likely to increase in frequency in future, they will probably still be infrequent as compared with normal ground operations.

Definitions

Before proceeding further, it is necessary to clearly understand the difference between airborne, parachute, airlanding and airtransported troops.

Airborne Troops — are parachute and airlanding troops, which may form part of an airborne division, and for whom an assault by air is a primary role.

Parachute Troops — are troops specially trained to parachute from aircraft and to go into action immediately.

Airlanding Troops — are troops trained to land by glider.

Airtransported Troops — are Navy, Army or Air Force units, other than airborne, carried by air either with or without their equipment.

Organization of an Airborne Division

The organization and equipment of an Airborne Division is basically the same as an ordinary Infantry Division, limited by its means of transportation.

The main difference is that an airborne unit must be capable of being divided into:—

- a parachutist element, which is mainly infantry;
- a gliderborne element, for vehicles and equipment which can, and must, be carried by gliders;
- a follow-up element, which comprises all the heavy equipment and transport for which no airlift is normally provided.

The latest British Airborne Division is organized as shown in Figure 1. Generally speaking, this is self-explanatory, however, a few brief remarks on some of the main differences may assist.

The Divisional Regiment RAC is the same as for an Infantry Division, except that it will hold sufficient additional equipment to permit a proportion of the Regiment to be airborne on a jeep and scout car basis.

As regards the Divisional Artillery, it will be seen from a study of Figure 1, that the weakness of an airborne division lies in its lack of supporting weapons; occasioned, of course, by the limitations imposed by air transportation.

The medical facilities in an airborne division have been augmented, as the medical arrangements for an airborne operation must be capable of treating and holding casualties for a number of days before any system of evacuation of wounded is in operation. Each Parachute Battalion, therefore, has a Regimental Medical Officer and six RAMC nursing orderlies, in addition to the extra operating facilities provided with each Parachute Field Ambulance.

The Divisional RASC is organized in exactly the same way as that of an ordinary infantry division, except that it has, in addition, an airborne element of one parachute platoon per company which can go into action by glider or be dropped, but that is all that goes by air.

The role of this airborne element is to organize the dropping and landing zones (DZ/LZ) and to collect and distribute supplies received by air.

With regard to the Divisional Signals Regiment, as good wireless communications are the key to success where airborne forces are concerned, particular care must be paid to the standard of training, serviceability and suitability of wireless sets.

The Ordnance Field Park, like the Divisional RASC, also contains an airborne element equipped with jeeps and trailers. It also has a proportion (25 per cent) of parachutists who are trained for duty on the dropping zone (DZ) to receive, collect and issue ordnance stores supplied by air.

WAR ORGANIZATION OF A BRITISH AIRBORNE DIVISION

DIVISIONAL HQ

Def and Employment Pl (incl 20-mm AA)
Div Battle School and Reinforcement Unit

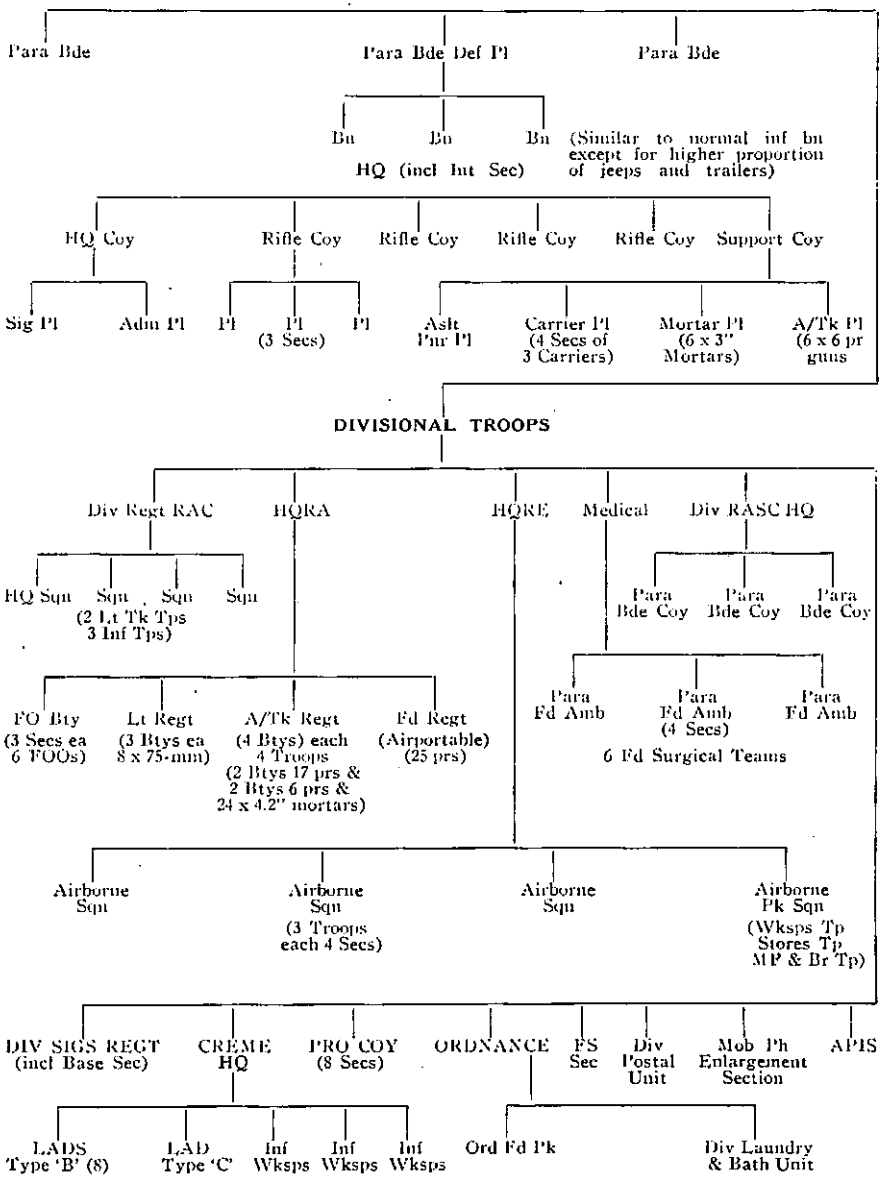


Fig 1

Comparison of Parachute and Glider Elements

Having briefly dealt with the organization, the next things to be considered are the capabilities and limitations of the airborne elements, i.e., the parachutist and gliderborne elements.

Nowadays, parachutists can land in practically any type of country. Clear open spaces are no longer considered necessary. In fact, in India, paratroops were being trained to land in country similar to the rock-strewn North-West Frontier. I understand that the first trials, carried out on concrete runways, were entirely successful.

Gliders, however, still require open and level landing zones (LZ), free of obstacles.

Wind, on the other hand, has far less effect on the glider element than on the parachutists. Gliders can land in a wind of up to 40 to 50 miles per hour, whereas parachutists should not be landed in a wind stronger than 20 miles per hour in war and 16 miles per hour in peace.

Although, on occasions, parachutists have been landed in stronger winds, it is not advisable to do so. At Khartoum, during a "show the flag" demonstration, paratroops were landed in a 35 mph wind and, as a result, suffered 90% casualties. Again, in Greece, they were landed in a 30 mph wind and suffered 25% casualties.

Other advantages of the glider element are that it lands more concentrated (by complete sub-units), has heavier weapons, and more ammunition and transport.

Paratroops, on the other hand, land dispersed, with few support weapons and with restricted ammunition and transport.

It is necessary, also, to realize that night operations are difficult for the Air Force and have the added effect of retarding the re-organization of the airborne troops on the ground. By night, dispersion is inevitable, regardless of whether the landing is made by parachute or glider. By night, an airborne force may be spread over 150 miles or landed in the sea, as was the case in the Sicilian operations.

Night operations, therefore, should be confined to those of a very small scale.

By day, troops can be landed right on their objective.

Another serious factor to be considered is the weather conditions prevailing at the time and place of the operation. Low cloud, fog, strong winds or poor visibility may all interfere, to a lesser or greater extent, with the full execution of the Airborne Plan.

The effect of adverse weather conditions in such operations is best exemplified by the following extracts from reports of glider pilots and some of their passengers during the Sicilian operation:—

"Good but bumpy tow, glider almost uncontrollable for five minutes over Malta owing to bad weather."

"Glider just missed reaching land owing to a 100 ft cliff."

"Owing to strong wind, pilot unable to make land and landed in sea about 600 yards from coast."

"Glider released over sea — distance off-shore unknown — landed in sea approximately three or four miles off-shore — all missing with the exception of two passengers."

Airborne forces are capable of fighting immediately on landing but, having only very limited fire power, ammunition and transport, can operate only for a limited time without build-up. Present day thought is that they cannot be expected to hold out for longer than 48 hours without reinforcement.

Employment

Before considering the employment of airborne forces, it is necessary to appreciate that their primary role is to carry out an assault by air, using parachutes and gliders. Further, that the organiza-

tion and equipment of a modern airborne division is so designed that, when the "follow-up" and "airborne" elements join up, the division can and will operate as a normal infantry division.

On landing, airborne troops are faced with three conflicting tasks:—

Firstly, the attainment of the aim of the operation;

Secondly, the holding off of enemy reserves which are moving up to interfere; and

Thirdly, the protection of the dropping and landing zones or supply dropping points.

Simultaneous execution of these tasks necessarily involves dispersion. This, and the absence of heavy support weapons has to be offset by the employment of larger numbers of airborne troops than normal ground troops. Therefore, as a guide, a Parachute Brigade when landed by air should not be given a bigger task than that which would normally be given to a Battalion group. Even so, reinforcement within 48 hours is still necessary.

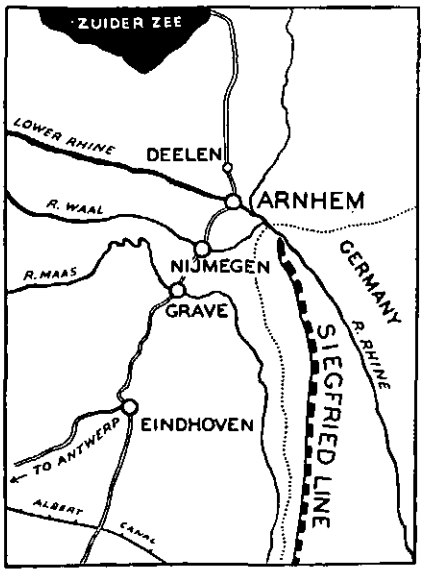


Fig 2

It is now accepted that, if more than one airlift is necessary, the principle should be that the first lift must be capable of carrying out the initial task on its own, and that subsequent airlifts should be allotted different dropping and landing zones, in order to gain additional surprise and to obviate the necessity for protecting these zones for subsequent lifts.

When used, airborne forces should only be employed on tasks in accord with the normal principles of war. They are not suicide troops and should not be used as such.

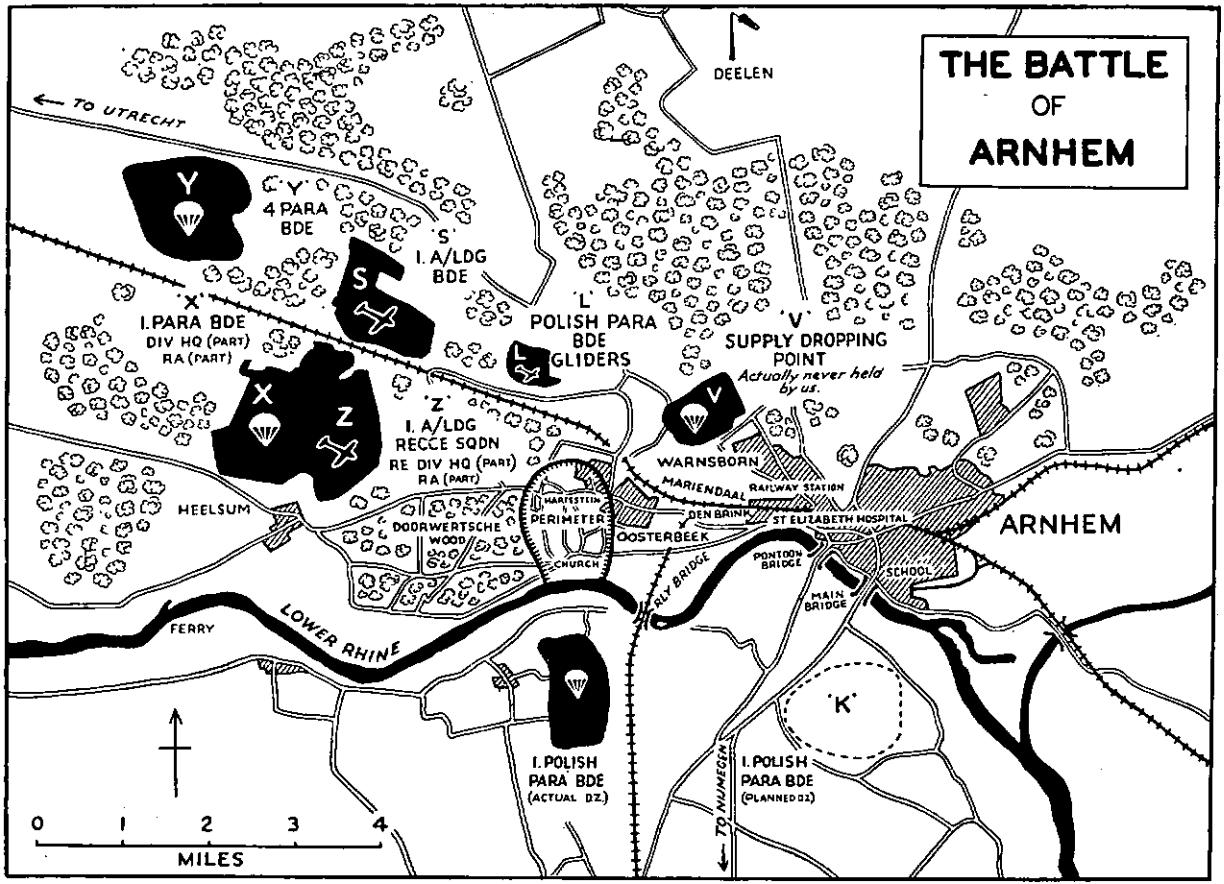
In this regard, it is interesting to note that the task of capturing the three main bridges, leading up to and including Arnhem, as shown on the Figure 2, was originally given to one Airborne Division. The initial plan envisaged a company being landed by glider at each bridge; the gliders using arrester parachutes.

The final plan, which was put into effect, allowed for the employment of three airborne divisions; 1st British, 82nd and 101st US Airborne Divisions.

These three divisions were, in fact, to form a "carpet of airborne troops" over which the leading troops of 2nd Army might pour, to break down the last barrier defending the Reich, turn the Siegfried Line and thus gain direct access to the Ruhr as well as facilitate the cutting off of all German forces west of the line Zuider Zee-Arnhem.

101 US Airborne Division was responsible for the area from Eindhoven to the outskirts of Grave. 82 US Airborne Division from Grave to Nijmegen, including the capture of the high ground south of Nijmegen which overlooked the exits from the Reichswald. The task of 1 British Airborne Division was to seize and hold the road bridge and, if possible, the pontoon and railway bridges at Arnhem.

Although 1 British Airborne Division suffered severe losses — 8,075


THE BATTLE
OF
ARNHEM
DEELEN
TO UTRECHT
'Y'
4 PARA
BDE
'S'
I. A/LDG
BDE
'X'
I. PARA BDE
DIV HQ (PART)
RA (PART)
'L'
POLISH PARA
BDE
GLIDERS
'V'
SUPPLY DROPPING
POINT
Actually never held
by us.
'Z'
I. A/LDG
RECCE SQDN
RE DIV HQ (PART)
RA (PART)
WARNSBORN
MARIENDAAL
RAILWAY STATION
HARTESTEIN
PERIMETER
DEN BRINK
ST ELIZABETH HOSPITAL
ARNHEM
HEELSUM
DOORWERTSCHE
WOOD
OOSTERBEEK
CHURCH
PONTOON
BRIDGE
SCHOOL
MAIN
BRIDGE
FLY BRIDGE
FERRY
LOWER RHINE
'K'
I. POLISH
PARA BDE
(ACTUAL DZ.)
I. POLISH
PARA BDE
(PLANNED DZ)
TO NIJMEGEN
0 1 2 3 4
MILES

out of a total of 10,095 — and was forced to withdraw, the operation as a whole was a huge success as it denied two of the three successive defensive lines on which the German High Command had planned to stand and fight.

Tactics

Now for a few words on the tactics employed by airborne forces. Basically their training and tactics are the same as for a normal division. The real difference lies in the method of launching them into battle.

When landing, paratroops are less vulnerable to enemy interference than gliderborne troops, due to the fact that they land dispersed. Gliderborne troops, however, once they have safely landed and deplaned, are ready for action as they land concentrated; nevertheless, they are particularly good targets for flak. During "Operation Varsity" — the airborne crossing of the Rhine — the principle effect of flak was the destruction of gliders. In this regard, the following tables are of interest.

It was planned that British gliders would be released at 2,500 ft and American gliders at 700 ft. The figures in Table 1 show the percentage of gliders, released at various heights, which suffered flak damage:—

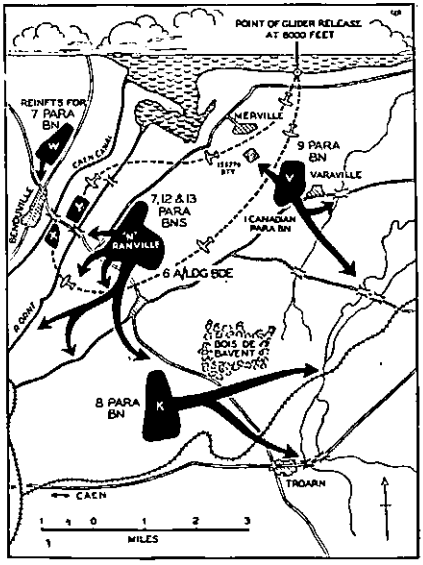


Fig 3

Gliders released at over 2,000 ft suffered a "hit-rate" of 60% while the rate for gliders released below 1,000 ft was 42%. It thus appears that the low release is the most efficient. However, the lower height of release caused a 6% loss of aircraft tugs compared with only 1.6% loss to those releasing above 2,000 ft.

Casualties suffered by 6 British Airborne Division in the first 24 hours of the operation are shown in Table 2. It will be seen that the airlanding troop casualties were approximately double those of the paratroops.

Table 3 shows the casualties suffered in the Air by the airlanding troops of the 1st British and the 17th US Airborne Divisions.

"Coup De Main" Tasks

Tasks such as the rapid capture of small and important objectives, e.g., bridges or batteries, can often be speedily achieved by a "coup de main" after gliders have been landed close to the objective. Gliders have the advantage of silent approach and, in the case of special parties, can be landed almost within 20 yards of their objective.

Probably the best example of this kind of operation was the capture of the bridges over the River Orne and Caen Canal. The object of the operation was to capture these bridges intact during the night D-1/D Day, 5/6 Jun 44, and thereby facilitate the British break-out to the east from Normandy beach-head. (Fig. 3.)

Six platoons of 2 Bn, Oxfordshire and Buckinghamshire Light Infantry, helped by a detachment of Royal Engineers, were allotted the task. The plan envisaged the emplaning of these troops in six gliders; three being allotted to

Height of Release	Percentage Hit
A. British gliders	
2,500 ft	59.5
B. American gliders	
Below 1,000 ft	41.6
1,000—1,500 ft	44.1
1,500—2,000 ft	50.5
Over 2,000 ft	69.4

Table 1

	Number Involved	Killed	Wounded	Missing	Total
Paratroops	4,400	125 (2.9%)	264 (6%)	49 (1.1%)	438 (10%)
Airlanding (Glider) Troops	3,800	216 (5.7%)	477 (12.5%)	51 (1.3%)	744 (19.5%)
Total	8,200	341 (4.2%)	741 (9%)	100 (1.2%)	1,182 (14.4%)

Table 2

Airlanding (Glider) Troops	Killed	Wounded	Total
British	47	151	198
American	67	282	349
Total	114	433	547

Table 3

each bridge to be landed on landing zones as shown on the map.

In order to obtain the maximum surprise, the gliders were released by their Halifax tugs at 6,000 ft, immediately on crossing the French coast. The gliders allotted the task of capturing the Caen Canal bridge, landed close by. One glider touched down within 47 yards of its objective. At the River Orne bridge, one glider landed very close and the others within 400 yards.

The operation was a complete success.

Landing Technique

With regard to the landing technique employed by airborne forces, the normal procedure adopted is for a pathfinder force to be dropped about 30 minutes before the main drop. The parachutists are then landed, in order to secure the landing zones on which the gliders are to be landed.

Once the whole of the airborne elements have been landed and their concentration completed, their tactics are normal, except that, if necessary, they must adopt evasive, infiltration and diversionary tactics, and not try to hunt down and kill all the enemy they encounter between the dropping or landing zones and their objective.

Their task is to achieve their object first.

Types of Operations

Airborne forces may be employed on any of the following types of operations:—

(a) to seize and hold ground;

(b) to protect an exposed flank;

(c) to seize and hold defiles, river crossings, etc., essential for the advance of our own formations;

(d) to intercept a retreat or an advance or to cut lines of communication;

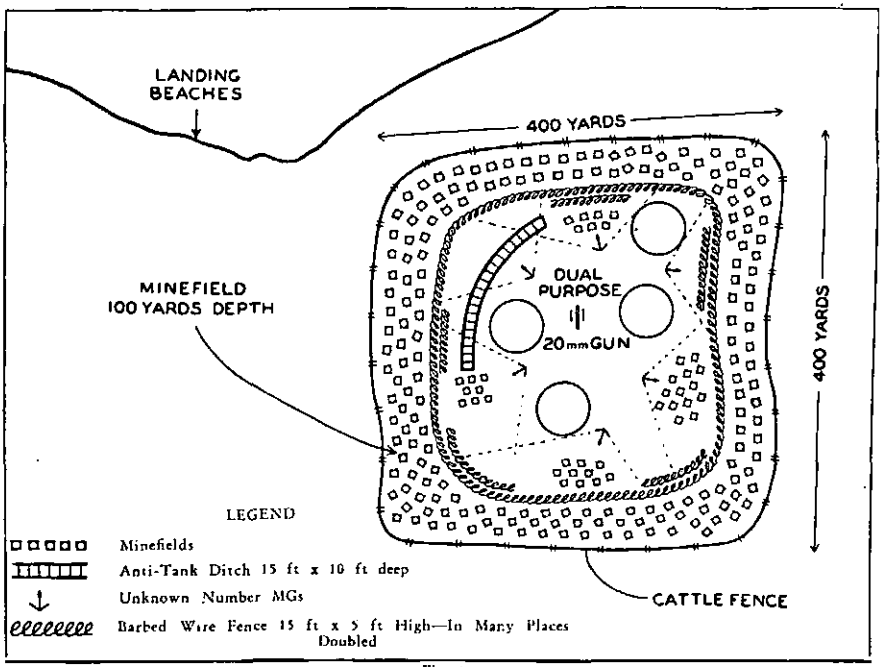


Fig 4

(e) to capture enemy airfields;

(f) to reinforce isolated troops;

(g) harassing and deep penetration tasks;

(h) to destroy enemy gun areas.

The destruction of enemy gun areas is one of the most difficult tasks which airborne forces may be called upon to perform.

An excellent example of this was the capture of the German battery near Merville, immediately prior to the landing in Normandy. (Figs. 4 and 5.)

This was a most important task which boiled down to the destruction of a battery consisting, it was thought, of four 150-mm guns established in concrete emplacements 12 feet high and 5 feet deep, the thickness of the concrete walls being 6 feet 6 inches, and the roof above them being covered by 13 feet of earth. All doors were steel and the main armament was defended by one 20-mm dual-purpose gun and several machine guns — the exact number was unknown.

The battery position was surrounded by a cattle fence which enclosed a minefield 100 yards in depth. This was bordered, on its inner side, by a barbed wire fence 15 feet thick and 5 feet high. In many places this fence had been doubled. At the seaward side of the battery was an anti-tank ditch 15 feet wide and 10 feet deep. To complete the defences, additional minefields had been laid across all the open approaches to the battery and machine guns had been sighted to cover them. You will agree that these defences were most formidable.

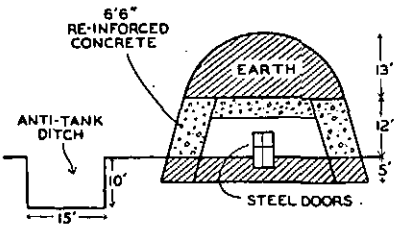


Fig 5

Further, they were held by between 180 and 200 men.

This task was allotted to 9 Parachute Battalion which was also given three gliders to be manned by volunteers.

The job of the occupants of the gliders was to land ON, not near, the battery. This was only possible if the pilots were prepared to crash-land their gliders and rely on the concrete emplacements to tear off their wings, thus arresting the progress of the fuselages.

The troops selected consisted of three officers and 47 other ranks of 9 Parachute Battalion and one officer and seven other ranks of the Royal Engineers.

The planning and preparations for this operation provide an excellent example of how meticulously the preliminary measures are carried out before an airborne assault is delivered.

After considering the problem for a week, Lieutenant-Colonel Otway, of the Royal Ulster Rifles, asked for and was given *carte blanche as regards rehearsals* and other preparations indispensable to success. He chose a spot near Newbury, where conditions were very similar to those to be encountered in Normandy. Permission to use the land was requested on the Wednesday and Sappers began work on the following Friday, permission having been obtained in the meantime from seven different Ministries in Whitehall. No mean feat! A complete and accurate reproduction of the battery, approximately 400 yards by 400 yards was constructed in a week.

The maintenance of SECRECY was of vital importance. The area and all roads were sealed.

To make sure every officer and man was maintaining his pledge of secrecy, a number of specially trained and attractive young women were sent into the area with orders to do their utmost to extract information from the troops. They got nothing! I mean, no information.

Finally, it is worthy of note that not only did the plan envisage the gliders crash-landing on the battery, but doing so under heavy fire from the remainder of the assaulting Parachute Battalion.

Conclusion

In conclusion, emphasis must be placed on the fact that an airborne operation is not the sole responsibility of either the Army or the Air Force. Conditions suitable to one Service may be quite out of the question so far as the other is concerned.

It is imperative, therefore, that JOINT PLANNING commence at the outset and continue throughout.

"THE STEM OF THE FLOWER"

"It often happens that in prosperous public enterprises the applause of the nation and the rewards of the sovereign are bestowed on those whose offices are splendid and whose duties have been dramatic. Others whose labours were no less difficult, responsible and vital to success are unnoticed. If this be true of men, it is also true of things. In a tale of war the reader's mind is filled with the fighting. The battle — with its vivid scenes, its moving incidents, its plain and tremendous results — excites imagination and commands attention. The eye is fixed on the fighting brigades as they move amid the smoke; on the swarming figures of the enemy; on the General, serene and determined. The long trailing line of communications is unnoticed. The fierce glory that plays on red, triumphant bayonets dazzle the observer; nor does he care to look behind to where, along a thousand miles of rail, road and river, the convoys are crawling to the front in uninterrupted succession. Victory is the beautiful, bright-coloured flower. Transport is the stem without which it could never have blossomed. Yet even the military student, in his zeal to master the fascinating combinations of the actual conflict, often forgets the far more intricate complications of supply."

— *Winston Churchill.*

THE GERMAN OFFICERS' CORPS

Attempts to Efface the Stains of Defeat

J. H. Morgan, KC
Former Deputy Adjutant-General, British Army

THERE is an illuminating German document in the American archives at Nuremberg which puts the existence of the concerted policy of dual exculpation beyond doubt. It was written in November, 1945, by General Halder, Chief of the General Staff until September, 1942, when he was held in custody at Nuremberg. Its high representative character may be judged by the fact that two field-marshals, von Brauchitsch and von Manstein, and two other generals, Warlimont and Westphal, had a hand in it. It begins with the astonishing assertion that the Control Commission of 1920-1927 in its final report, which has never been published, gave von Seeckt a clean bill of health by declaring that Germany had faithfully carried out all its military obligations under the Treaty of Versailles. In fact the Commission reported the exact opposite. The audacity of this statement is less important than the significant revival of the old propagandist pretence that Germany began to rearm only when her former enemies failed to follow her pacific gestures.

Hitler's Interference

General Halder proceeds to elaborate the dual exculpation of the German Officers' Corps. His first objective is to represent the Officers' Corps as undefeated, or, what amounts to much the same thing, as defeated only by the paralysing "interference" of Hitler. All military failures after 1941-42, were, he declares, due to what he calls "the complete elimination by Hitler of all military influence in the conduct of the war."

For the triumphant military successes preceding that fatal year he is apparently prepared to give the Officers' Corps full credit. The only proof, if proof it can be called, which he adduces for this proposition is that eleven field-marshals and the same number of full generals were retired during the war. The implication appears to be that they were summarily dismissed for taking objection to Hitler's "interference" and that their successors had no option but to carry on for fear of being court-martialled. He gives no evidence whatsoever of any such court-martial proceedings ever having taken place.

The truth is that, as General Telford Taylor contended in his speech for the prosecution of the General Staff at Nuremberg, the German commanders in the field always had the option of voluntary retirement if they did not approve of Hitler's intervention.

General Halder's essay clearly reveals the new genesis of an old legend, the legend of the "Stab in the Back", a catch-phrase coined by the Officers' Corps in 1918-19 to explain away defeat — a counterfeit coin, but one which acquired an enormous circulation in the Germany of that day.

From the London "Times" of 3 Nov 48.

The military caste indoctrinated the German people with the fable that the Army had been defeated not by the enemy in the field but by revolutionary elements at home and on the lines of communication. The Officers' Corps, inspired by Ludendorff, accused the Socialists of being the culprits. In due course, Hitler took up the cry and exploited it to destroy the Socialist Party. Paradoxically enough, Hitler himself is now cast for the role of assassin. The importance which the German officers of to-day attach to the diffusion of the fable of Hitler's interference in strategy and tactics as the cause of their catastrophic defeat may be measured by their statements in captivity.

Runstedt's Version

The utterances of von Rundstedt are an outstanding example. He sought, in one interrogation as early as July, 1945, to explain away his defeat in the west by asserting that, on a critical occasion at the very outset of the Battle of Normandy, his tactical operations were paralysed by an order of Hitler's forbidding him to move two Panzer divisions without the Fuhrer's consent. He adduced no proof of this.

The truth of the Battle of Normandy is that von Rundstedt's tactical operations were paralysed not by any orders from Hitler but by the total disruption of the movements of his troops owing to allied ascendency in the air. There is no documentary evidence whatsoever of such orders being given by Hitler until as late as January 21, 1945, when in a captured "top secret" document he gave orders that no division should be engaged without its commander being satisfied that the Fuhrer personally approved of it. It is the command of a man in the last stage of hysteria. One is reminded of the scathing observation of Lord Justice Lawrence (now Lord Oaksey) at Nuremberg in 1946 on the miserable equivocations of the five field-marshals, von Rundstedt among them, when they gave evidence for the defence of the German High Command and General Staff:—

"When it suits their defence, they say they had to obey but, when confronted with Hitler's brutal crimes, which are shown to have been within their general knowledge, they say they disobeyed."

Halder's second proposition is an attempt to vindicate what he calls the "chivalrous" conduct of the war by the Army leaders. He invites the reader to believe that the German generals were "the kindest men that ever struck with sword." They were all "shocked", so Halder says, at Hitler's atrocity orders, in particular that for "terror warfare" in Russia, the Slave Labour Order, the Hostages Order, and the Commando Order.

Army outrages against the civil population were, he asserts, even when committed (as they often were) in the operational zone of the armies, entirely the guilt of the SS and SD. Halder sums up by asserting that the High Command secretly agreed that all these orders should be sidetracked.

Every one of these pleas is disproved by German Army documents discovered since Halder wrote, and particularly by documents which the American military authorities have discovered in the last two years. Many of them were put in evidence in the trial of two field-marshals and ten generals early this year by the American War Crimes Tribunal. It was then proved conclusively that these high-ranking officers not only dutifully carried out all Hitler's atrocity orders but actually anticipated them.

Unfortunately, the evidence in this great trial, as in the case of the eleven other concurrent trials, has never been published in this country. In another great trial, now just ended, that of Field-Marshals von Leeb, Sperrle, and von Kuechler, together with nine generals, the most appalling evidence in the shape of captured German Army documents, has been submitted. The authenticity of these documents has not been challenged by the defence. They establish that all the most notorious of

Hitler's atrocity orders were, in the words of General Telford Taylor, "passed down the whole chain of command from Army Group to Army, from Army to Army Corps, from Corps to Division and right down to regimental units."

Nuremberg Judgment

At the same time, instructions were given to the SS and SD units to report to the Army commanders the execution of these orders. Report them they did in a sickening series of documents setting out, in gruesome detail, the exact number of innocent civilians murdered in cold blood in each particular place on each particular day.

It is opportune to recall what Lord Justice Lawrence, in delivering judgment at Nuremberg in 1946, said of "this ruthless military caste," as he called it, who had "made a mockery of the soldier's oath of obedience" :—

"The truth is that they actively participated in all these crimes or sat silent and acquiescent, witnessing the commission of crimes on a scale larger and more shocking than the world has ever had the misfortune to know."

Everything in the newly discovered documents confirms these words. It is indeed quite clear that Lord Justice Lawrence and all his colleagues were convinced that justice would not be done by the conviction for war crimes, quite independently of the "counts" of "conspiracy" and "aggression", with which this article is not concerned, of Keitel and Jodl alone unless the other field-marshals and generals implicated were also brought to trial.

Our omission to participate in the two great American trials of the High Command in 1947-48, and thereby to give effect to the recommendation of the International Tribunal of 1946, may well have grave reactions in Germany. It will surely give aid and comfort to the repatriated German officers in the circulation of a legend that Jodl and Keitel were wrongly convicted and that the British Government now regret that they were ever brought to trial. The result, in that case, will be not only to discredit the trials of 1946 but to nurture in Germany the growth of what has been called a "legend of guiltlessness".

It is rather ominous that the German legal profession, as represented by 25 counsel for the defence in the recent Krupp trial, grew bolder every day, and did not hesitate to contend that the laws and usages of war, in the matter of war crimes, had no application to the second world conflict at all. Their leader, Dr Otto Kranzbuehler, in cross-examining a certain British witness for the prosecution in the Krupp case in December last, asked him whether it was not a fact that in the first world war our own country was as guilty of outrages as Germany herself. Yet all over Europe, at the present moment, there are tens of thousands of broken men and women, ruined for life in body and mind by the unspeakable horrors of their deportation and forced labour by the German Army commanders who actively assisted and, in at least one case, anticipated the policy of the infamous Sauckel in rounding up the civil population in the zones of military occupation under their command.

THE ORGANIZATION *of the* AMERICAN INFANTRY DIVISION

Lieutenant-Colonel M. Austin
Australian Military Mission, Washington, USA

THE organization of the "new" American Infantry Division was approved and released late in 1946. It was developed as the result of recommendations of commanders of all levels who saw defects in the then existing organization. In addition, numerous conferences of Arms and Services were held, which produced many valuable comments. As it is now constituted, the US Department of the Army believes that the new organization, evolved as it is from the experiences of World War II, is capable of performing effectively any task which may reasonably be given it.

The staff of the Chief, Army Field Forces, has now completed production of the Tables of Organization and Equipment (War Establishments) for the various components of the new division. It must be emphasized, however, that so far no orders have been issued for the re-organization of any existing US division on the new pattern. Furthermore, alterations are sure to be made in the structure of the division as further experience is gained during training.

In outline the new organization is shown in Fig. 1.

Divisional Headquarters

The organization of the Headquarters of the Infantry Division is shown in Fig. 2.

To provide for local administration and protection of Division HQ, a HQ Company Infantry Division (not part of HQ Infantry Division organization) has been provided, organized as shown in Fig. 3.

It should be noted that the Light Aviation Section of the Special Staff of HQ Infantry Division only contains one officer (Major) who is a staff officer. The Light Aviation Section of HQ Company Infantry Division is, however, equipped with eight light liaison aircraft (manned by Army NOT Air Force).

Reconnaissance Element

The reconnaissance element of the division is provided by the Reconnaissance Company, which is conceived as being capable of:—

(a) Long range reconnaissance and security of the division, without further reinforcement;

(b) Light armoured action.

The Reconnaissance Company is organized as shown in Fig. 4.

A feature of the re-organization of this unit is the replacement of armoured cars by M24 tanks. Each support platoon is equipped with one 81-mm mortar and each section of Company HQ is armed with one 3.5-in rocket launcher.

In order to cut down the multiplicity of units, where possible, the principle of

INFANTRY DIVISION

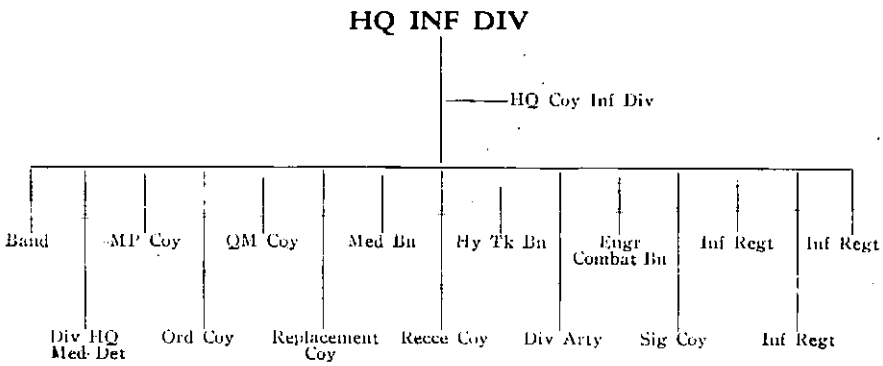


Fig 1

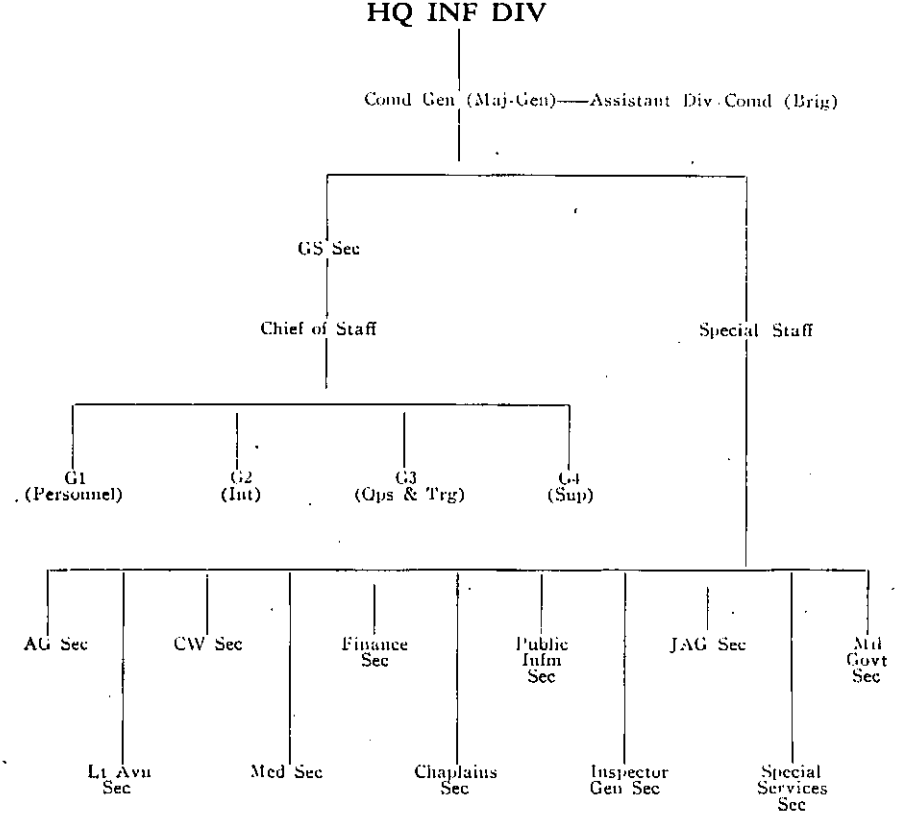


Fig 2

interchange of units and sub-units has been followed. Thus, in addition to providing the reconnaissance element of the infantry division, this unit is identical to a sub-unit of the following units of the "new" armoured division:—

(a) Reconnaissance Battalion;

(b) Reconnaissance Battalion Armoured Regiment Light.

It also forms part of the troops which may be attached to an airborne division if that formation is expected to hold ground for any length of time.

Tanks

For the first time a battalion of sixty-three heavy tanks (M26) has been included in the divisional organization. Similarly to the Reconnaissance Company this unit is identical to the Heavy Tank Battalion of the armoured division, and can be attached to an airborne division.

Since the regimental Anti-Tank and Cannon Companies have been eliminated from the new organization, it is thought reasonable to assume that the Heavy Tank Battalion (and the Heavy Tank Company of the Infantry Regiment) will rarely be employed on tasks where armour would be the principal arm supported by infantry. Although they will be used to support advancing infantry and exploit a break through, it is thought that their primary role can be compared to that envisaged for an Anti-Tank Regiment with self-propelled guns. This, of course, offers important advantages although at the same time it must be apparent that there are also disadvantages, particularly when the next line of defence against tanks in the infantry regiment consists of 2.36-in and 3.5-in rocket launchers, and 57 and 75-mm rifles.

The outline organization of the Heavy Tank Battalion is shown in Fig. 5.

No detailed organization has been shown for HQ, HQ and Service Company. However, in addition to carrying out administrative and maintenance functions for the battalion as a whole, it does contain a reconnaissance element in the form of a Reconnaissance Platoon identical with that contained within the Reconnaissance Company.

Artillery

The role of the Divisional Artillery is to provide artillery support and anti-aircraft defence for the division, and to provide components for the observation, communication and survey systems of the division.

The main feature of the re-organization of the divisional artillery has been the change from a 4 to a 6 howitzer battery, thereby increasing the number of 105-mm[1] howitzers from 36 to 54, and 155-mm[2] howitzers from 12 to 18.

In conformity with its new role an Anti-Aircraft Automatic Weapons (self-propelled) Battalion of thirty-two M16 multiple, and thirty-two twin 40-mm guns has been added to the divisional artillery.

At the moment all artillery weapons, with the exception of anti-aircraft weapons, are truck or tractor drawn. It is envisaged, however, that with further research and development these weapons will be self-propelled.

The outline organization of the Divisional Artillery is shown in Fig. 6.

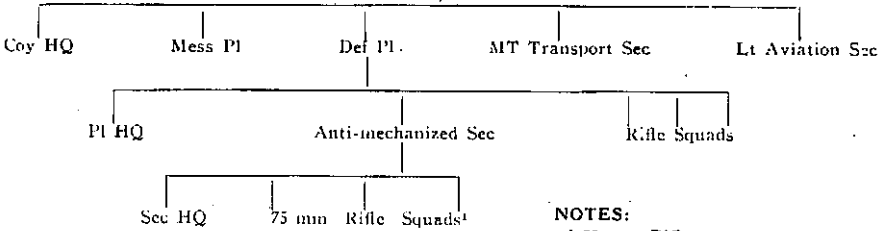
The organization of the HQ and HQ battery of the Division Artillery has not been given in detail. However, it does contain, in addition to certain administrative elements :—

(a) An Operations Platoon with Operations, Instrument and Survey, and Meteorological Sections;

(b) Two Liaison Sections for flank liaison with neighbouring Division

[1] 105-mm How. Max. range 12,200 yards; 222 rounds per howitzer within division.
[2] 155-mm How. Max. range 16,350 yards; 121 rounds per howitzer within division.

HQ COY INF DIV



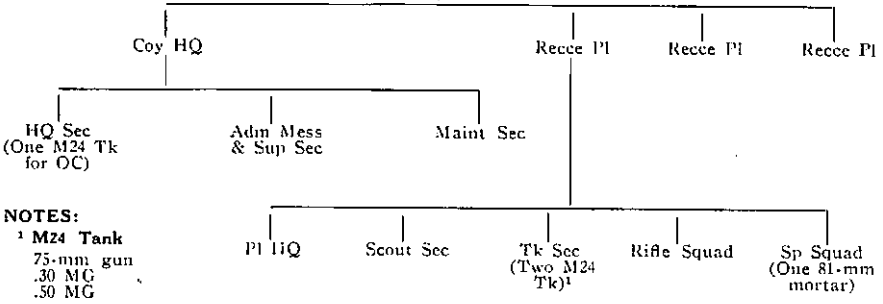
NOTES:

[1] **75-mm Rifle**

Maximum range, 6900/7200 yds.
Effective range, 1200 yds.
Maximum rate of fire, 12 rpm.
Effective rate of fire, 7 rpm.
Penetration, 4.5 in. armour.

Fig 3

RECCE COY

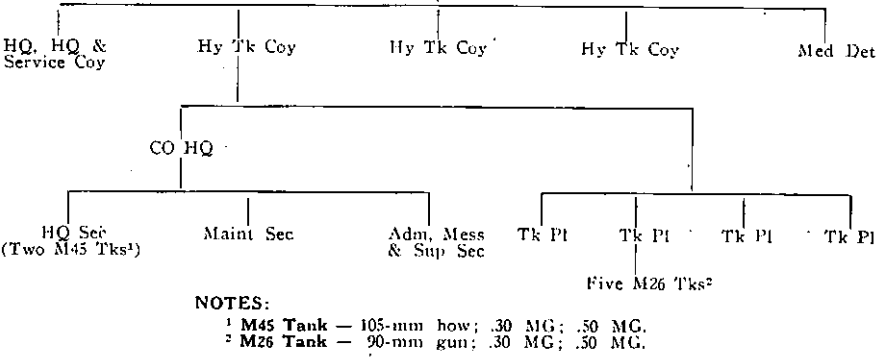


NOTES:

[1] **M24 Tank**
75-mm gun
.30 MG
.50 MG

Fig 4

HY TK BN



NOTES:

[1] **M45 Tank** — 105-mm how; .30 MG; .50 MG.
[2] **M26 Tank** — 90-mm gun; .30 MG; .50 MG.

Fig 5

Artillery. It should be noted that these sections only provide communications, and the Liaison Officers (Captains) for these sections are carried in the HQ, of HQ and HQ Battery;

(c) A Light Aviation Section of two liaison aircraft;

(d) A Communications Platoon consisting of a Wire Section and a Radio Section.

Similarly the HQ and HQ Battery of the 105-mm battalions contain, in addition to certain administrative elements:—

(a) Three Liaison Sections for liaison with the unit being supported. Again the Liaison Officers (Captains) are carried in the Battalion HQ of HQ and HQ Battery;

(b) A Counter Mortar Radar Section;

(c) A Light Aviation Section of two liaison aircraft;

(d) An Operations Platoon consisting of an Operations and Fire Direction Section, and an Instrument and Survey Section;

(e) A Communications Platoon of a Wire and a Radio Section.

In comparison with the HQ and HQ Battery of the 105-mm battalions, the HQ and HQ Battery of the 155-mm Howitzer Battalion has no liaison or counter mortar radar sections. Moreover, in addition to a Light Aviation Section of two liaison aircraft, two Forward Observation Sections are incorporated in HQ and HQ Battery instead of in the Battery as is the case of the 105-mm battalion (see diagram).

HQ and HQ Battery of the AA Battalion, in addition to sections for supply and maintenance, etc., contains an Operation Intelligence and AAA Intelligence Service Section, a Communication Section and an Ammunition Section.

Engineers

In addition to the normal tasks expected from divisional engineers — planning, reconnaissance, construction of all types, demolitions, minefields, assault crossings, etc. — it is also envisaged that in emergency, engineer troops may have to be used as infantry.

In outline, the organization of the Engineer Combat Battalion is shown in Fig. 7. It should be noted that although the Battalion has four companies, total strength is approximately the same as an Engineer Regiment. (Aust).

The detailed organization of the HQ, HQ and Service Company is of some complexity, as it is here that the major heavy engineering equipment is located. It consists of:—

(a) A Command Section — CO, Executive Officer, etc.

(b) An Administrative Section (Bn S-1) and a Communications Section;

(c) An Intelligence Section (Bn S-2) (Intelligence, map supply, camouflage and photography);

(d) An Operations Section (Bn S-3);

(e) A Supply Section[4] (Bn S-4) (rations, and water supply);

(f) Reconnaissance Section;

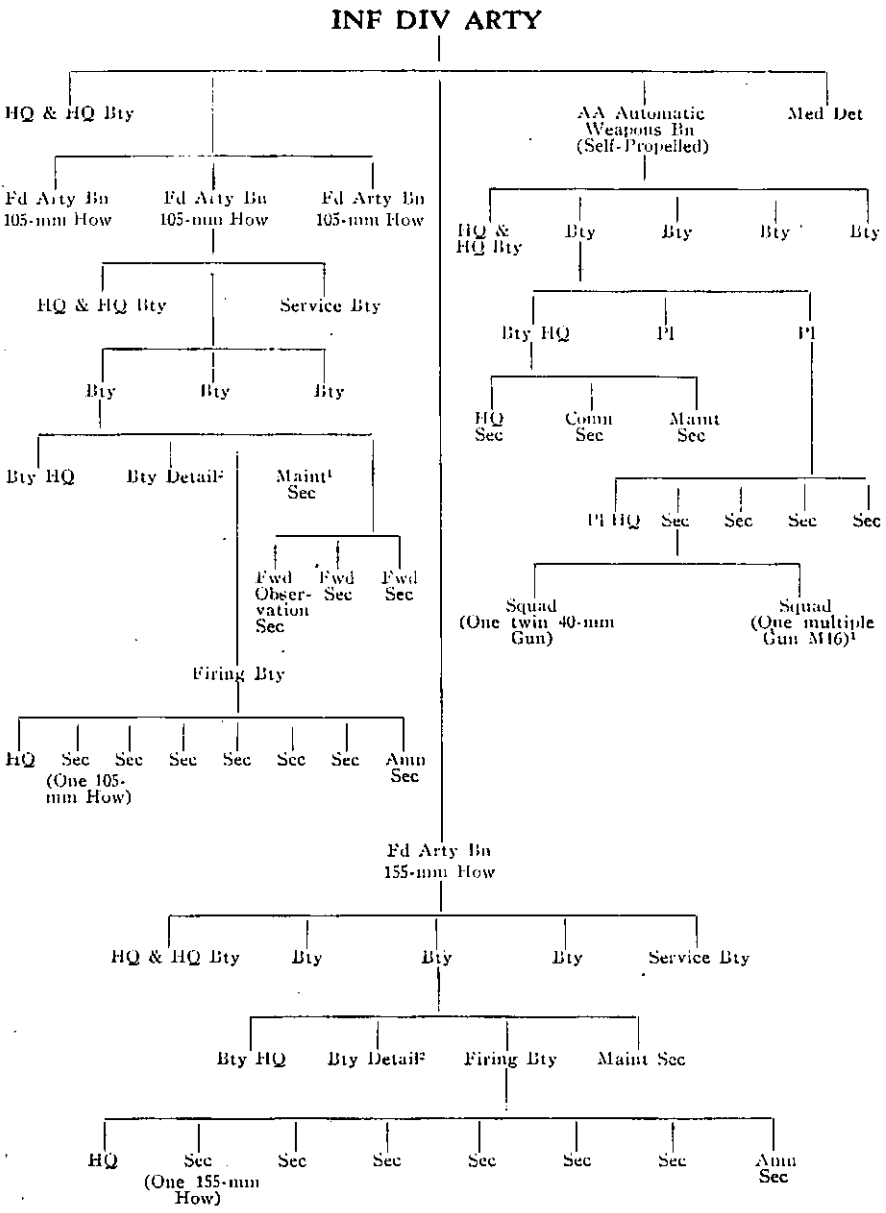
(g) Divisional Engineer Section;

(h) A Company HQ with an Assault Platoon. (Five M4A3[3] tanks; five bulldozers, tank mounting), an Equipment and Maintenance Platoon (Air compressor, three 3/4-cub yd truck mounted cranes; two motorized road graders, one 3/4-cub yd bucket loader tractor and one angle dozer tractor), and a Bridge Platoon (Twenty-one M2[4] assault boats and one set fixed and floating bridge[5] carried on three 2½-ton trailers, pole type).

[3] M4A3 Tank. 75-mm gun; .30 MG; .50 MG.

[4] 5,000 lbs displacement each.

[5] Maximum combination fixed and floating bridge, class 50, is 355 ft.



NOTES:

[1] Four .50 MGs.
[2] For survey and internal battery communications.

Fig 6

Signals

In addition to providing communication for Division HQ, the Signal Company provides :—

(a) Teletypewriter service (seven sets);

(b) A limited number of motion picture and slide projectors;

(c) Still and motion picture photography (including processing);

(d) Limited radio relay facilities.

It will also be noted that most units of the division have a communications platoon or section contained within their own organization (not part of Signal Corps).

In outline the organization of the Signal Coy is shown in Fig. 8.

Infantry

The role of the Infantry Regiment has been stated to be "To close with the enemy by fire and manoeuvre in order to capture or destroy him; or to repel his assault by fire and close combat."

In addition, the capabilities of the Infantry Regiment are set forth as—

"(a) Furnishing a base of fire and manoeuvre;

(b) Seizing and holding terrain;

(c) Manoeuvring in all types of terrain and climatic conditions;

(d) Anti-tank protection and tank support;

(e) Communication;

(f) Reconnaissance;

(g) Unit Medical Service;

(h) Organizational supply and maintenance."

The outline organization of the Infantry Regiment is shown in Fig. 9.

The outline organizations of various components of the Infantry Regiment are shown in Figs. 10, 11, 12 and 13 (the Tank Company is identical to the Tank Company of the Heavy Tank Battalion).

Divisional Service Units

Included in the Infantry Division are the following divisional service units:—

(a) Medical Battalion consisting of HQ and HQ Company (including Divisional Dental Section), Ambulance Company (three platoons) and Clearance Company (three platoons). It should be noted that the following units each contain a medical detachment within their own organization — Inf Regts (one Collection Platoon and three Battalion Medical Platoons, total strength approx. 214 all ranks), Divisional Artillery (HQ and five Battalion Detachments), Heavy Tank Battalion and Engineer Combat Battalion.

(b) QM Company for provision of rations, POL, clothing equipment, bathing and laundry facilities. In the US Army "supply" is divided into five classes (of which only the first four categories are handled by the QM Coy):—

i. Class I — supplies consumed at an approximately uniform daily rate under all conditions, issued automatically without requisition, e.g., rations.

ii. Class II — supplies the allowances for which are fixed by Tables of Basic Allowances and Tables of Allowances, e.g., clothing, weapons vehicles.

iii. Class III — POL for all purposes except aviation, diesel oil, coal, etc. (Class III(A) is aviation fuels and lubricants exclusively.)

ENGR COMBAT BN

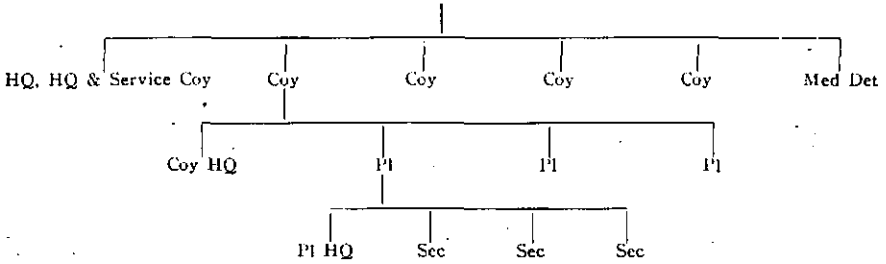


Fig 7

SIGNAL COY

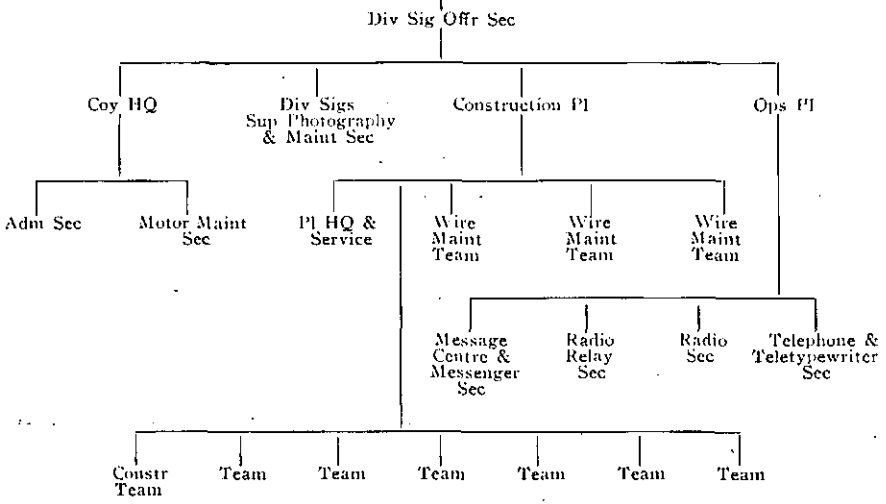


Fig 8

INF REGT

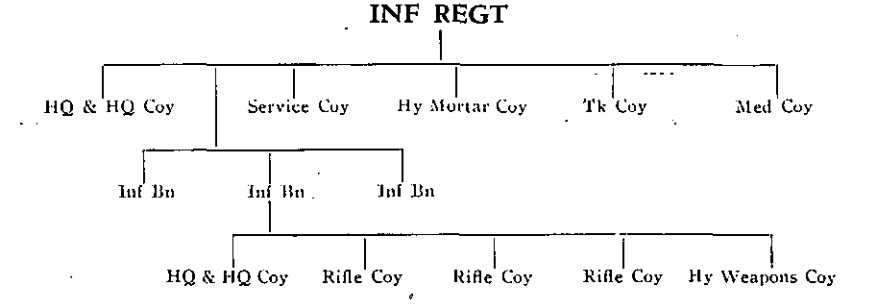


Fig 9

HQ & HQ COY INF REGT

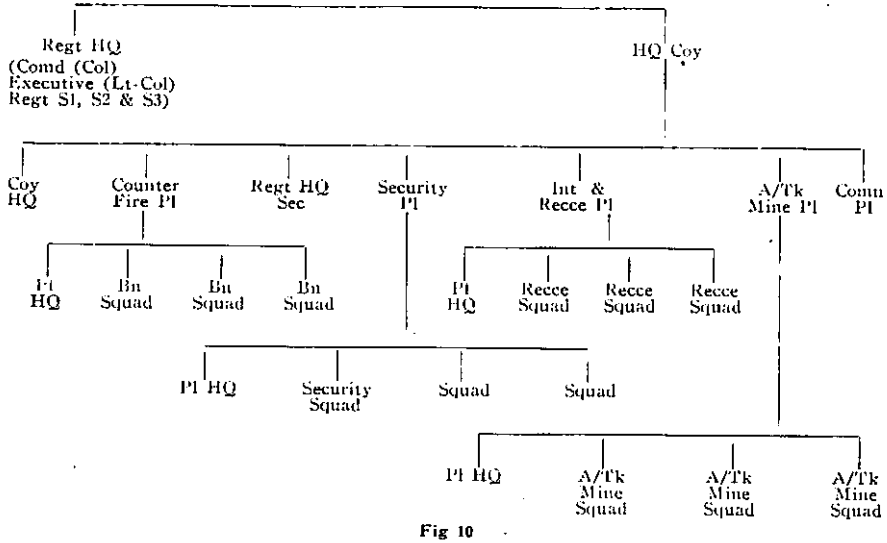
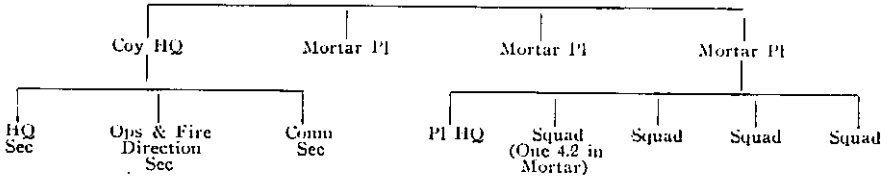


Fig 10

HY MORTAR COY



HQ & HQ COY INF BN

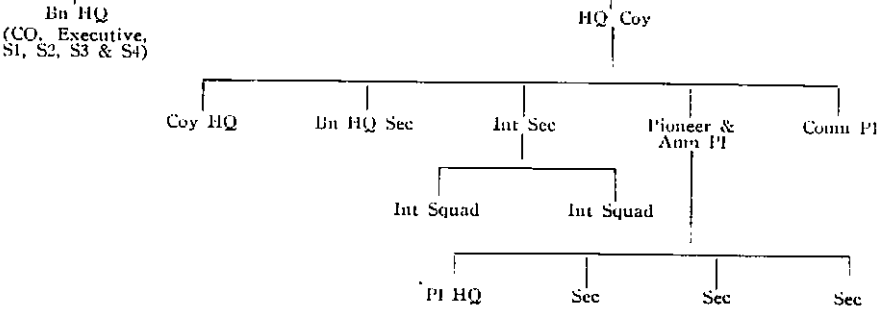


Fig 11

RIFLE COY

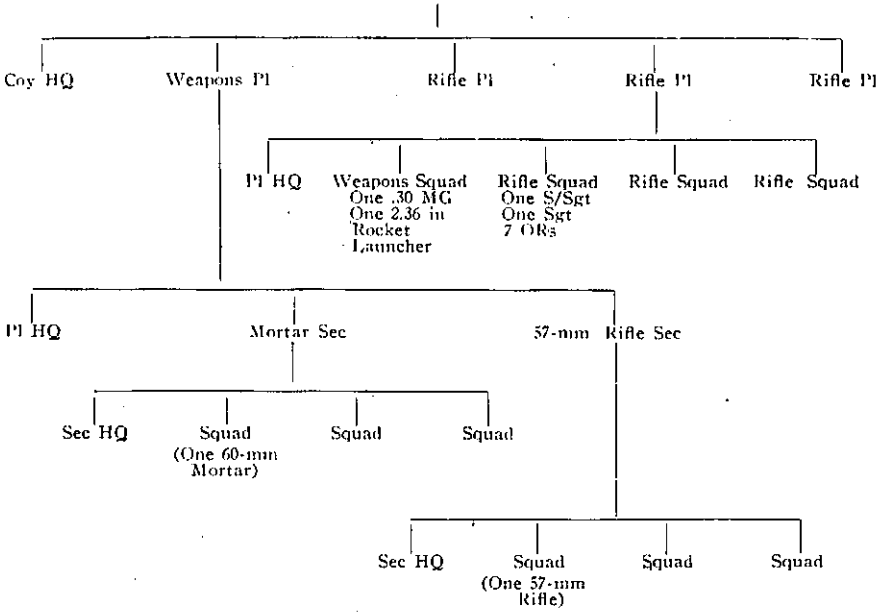


Fig 12

INF HY WEAPONS COY

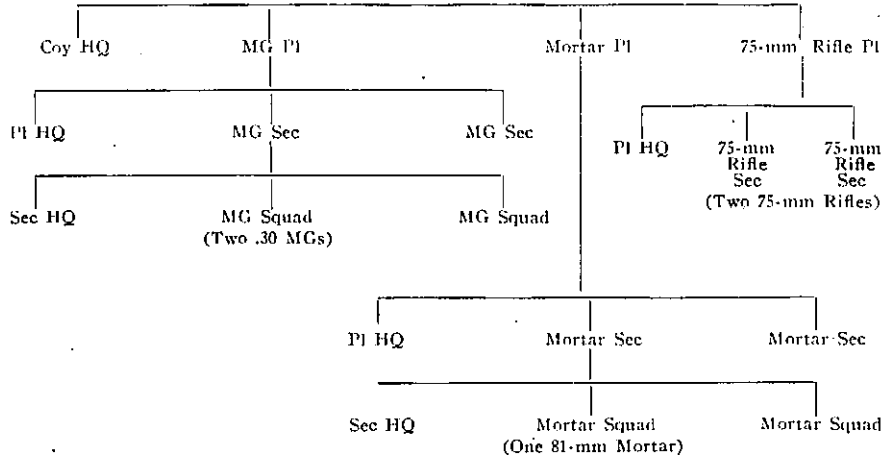


Fig 13

iv. Class IV — supplies and equipment for which no allowances are prescribed, or which do not require special measures of control, e.g., construction materials. (Class IV (E) is exclusively aviation supplies, i.e., complete aircraft, spare parts, etc.)

v. Class V — ammunition of all descriptions and chemical warfare agents.

(c) Ordnance Maintenance Company for storage and issue of ordnance general supplies, ordnance field maintenance support for the division, technical inspection of ordnance material and administrative control of divisional ammunition supply. Under some circumstances it is envisaged that additional ordnance maintenance units may have to be attached to the Division. This company includes a Divisional Ordnance Office controlling two Maintenance Platoons (MT and Armament) and a Supply Platoon; and a Divisional Ammunition Office.

(d) Replacement Company to receive, administer and train reinforcements. It can also be used to augment local defences in the divisional area.

(e) Military Police Company for duty between regimental and divisional boundaries. It includes a Police Platoon of three Police Squads and three Traffic Platoons each of three Traffic Squads.

Conclusion

This in broad outline is the US Infantry Division as it is to-day. Summarizing and comparing it with the previous organization :—

(a) The artillery fire power has been increased and eventually all weapons will be self-propelled;

(b) Tanks have been included both as divisional and regimental troops, and the regimental Anti-Tank and Cannon Companies together with their tank destroyers have been eliminated;

(c) A fourth engineer company and a bridge platoon have been added to the Engineer Combat Battalion;

(d) The Medical Battalion has been reduced and medical detachments included in the Infantry Regiment.

The question may be asked as to how a peace strength for the division is arrived at. In view of the different requirements of infantry formations within the continental USA and overseas, commanders will be allowed to organize their own formation, within the overall manpower ceiling allowed them, and the division organization, provided they maintain a formation capable of performing the role allotted to it. Thus, all "filler" personnel, i.e., those personnel whose presence is not vital for peace time duty, and shown as such on the Table of Organization and Equipment, are eliminated, and, depending on the role of the Division, certain sub-units, (e.g., the fourth engineer company), not raised. Consequently, only one war establishment will be produced and there will be no separate or lower establishment for peace.

The US Army considers the Infantry Division as it now stands as an amphibious formation capable of action from the sea or on land. They are now striving to make it "triphibious", i.e., completely transportable by air.

Finally, having examined the organization of the American Infantry Division, readers may find some food for thought in comparing it with our own infantry division, particularly with regard to the anti-tank concept.

It's Hard to Fight

A GHOST

Anonymous

ABOUT 1835 Clausewitz, spiritual father of the German Army, instructing William IV of Prussia on war, said, "the theory of warfare tries to discover how we may gain a preponderance of physical force and material advantages at the decisive point. As this is not always possible, theory also teaches us to calculate moral factors . . . ."

One hundred years later, on the eve of World War II, an anonymous author cloaked by the Army Council wrote in FSR Vol III 1935 (reprinted with Amendment 1939), "Grand strategy is the art of applying the whole of the national power in the most effective way towards attaining the national aim . . . war is now more than ever a social problem . . . ."

It is interesting to compare these two statements and to note, with regret, that during a century of so called development of Western civilization the theory had become an art. It is more pertinent, however, to note that the latter conception is much broader than the earlier.

Hitherto, the conception of war has accepted nationalism, but in recent times there has emerged a potential enemy in the West and in the East which does not accept nationalism. The Communist philosophy is my ghost which, with its theory of the "dictatorship of the proletariat", transcends nationalism and therefore its theory of war, its grand strategy or, better still, its art of conquest, is something different from and broader than what FSR describes.

Our real enemy is an insidious philosophy which apparently knows no bounds and therefore requires all the more careful study if it is to be countered by offensive action. Just as in tactics you must appreciate the full width and depth of the objective lest, by tackling what appears to be the whole front you find you have only sailed into the middle with exposed flanks, so in grand strategy you must appreciate your whole front in breadth and in depth, even though it appears in the abstract only.

It is a very human tendency to expect your enemy to have similar fundamental principles to your own, and that consequently he will have some human, logical and ethical limitations. If, however, your enemy has a thought process or a *raison d'etre* essentially different from your own, then he may well devise a subtle stratagem that confounds you. This stratagem may even be patience or the maintenance of an aim over a far longer period than you would ever contemplate. How much greater is this danger, how much deeper the pitfall, when your enemy is a ghost.

My suggestion is that western civilization has more or less fallen into the pit and that our conception of grand strategy is outmoded. So, frequently,

world leaders make statements like this one of General Omar W. Bradley — "As long as there are nations which would resort to intimidation and force we invite aggression if we lose our ability to strike back". This is indeed true and in its context no doubt adequate, but the point is that if world leaders keep on referring to aggression in the form of nationalism it is only natural that we think of the enemy in this light, and to do this is to forget that my ghost has a third and a fourth dimension.

The most insidious feature of the Communist teaching is that the ultimate communist Utopia conforms in all appearances to the ultimate aim of practical Christianity. The Communist offers you a state of existence where all men are equal, a millenium which appears to contain all that Christianity, Mohammedanism, Buddhism, and other great spiritual philosophies that have sought the light, the way and the truth have envisaged as man's perfect estate on earth. There are but two differences — one is in the method of attaining the objective, the second is that spiritual philosophies have all sought equality of man before God, while Communism denies any spiritual force, forbids a man to have a soul and restricts human needs to satisfaction of the physical demands of the body.

The policy of the Communist Party of the Soviet Union and *ipso facto* the Soviet Government and international Communism, is Stalin's application of Lenin's interpretation of Marxism. Its aim is "the victory of Communism throughout the world" by the overthrow of capitalism and its replacement by "the dictatorship of the proletariat" in all countries as a prelude to the advent of a world Socialist society.

Until man has passed through at least one further stage in his evolution it is of course impossible for human society to live according to communist principles. Communism insists that all men are equal but all men are not equal and few men are prepared to accept equality without striving to surpass their fellows. Class society is inevitable and the USSR presents proof positive. Man's make-up is such that there appears little prospect of his evolving to acceptance of a purely material socialism as distinct from a socialism which is the outward appearance of a spiritual force. The term "dictatorship of the proletariat" is therefore a euphuism which means and always must mean dictatorship of self-imposed representatives of the proletariat.

Marx taught that all human relations were activated by material purpose alone (Even Freud was closer to the mark). Lenin conceived the idea that the three main contradictions of capitalism, viz., (1) the conflict of labour and capital, (2) the conflict of financial groups, (3) the conflict between dominant nations and the vast number of dependent peoples, caused capitalism to be self-destructive. He saw in 19th century imperialism its final phase — "Capitalism on its deathbed." His policy was that communism must, by any and every means, hasten this inevitable destruction of capitalism, but principally the destruction of capitalism must be revolutionary rather than evolutionary. It is the revolutionary as against the evolutionary that is the difference between the darkness and the truth.

Lenin anticipated that the Russian revolution of 1917 would immediately be followed by a series of revolutions in other countries. The disappointment of this expectation resulted in a radical change in Communist policy. It introduced the idea of "socialism in one country" whereby, instead of spontaneous world revolution, there was to be a consolidation of Socialism in Russia as a prelude to its extension. The consolidation in Russia required the active support of workers in all lands because the communists fear that all capitalist powers are forever straining to intervene in communist countries either to re-establish the old order or to conquer. This fear is a communist reality and urges extreme measures to ward off supposed enemies.

For twenty-five years now it has been the firm basis of Russian grand strategy

to build up Russia as a spring-board and, at the same time, plan and prepare for revolution in capitalist countries. Against this background, Russia has made many changes of front, now allying with capitalist powers, now joining International organizations, now linking hands even with Fascist states, and then making a complete *volte-face* and violently opposing former loves. All this is permitted as "tactics" — manoeuvring for position — but all in the long run is designed to hold off capitalists from Russia, hinder or divide capitalist powers, particularly any International League of Powers like the United Nations which, as stated above, Communists believe must be opposed to them. This explains many anomalies in Russian policies.

Similarly, there have been anomalies in the internal policies of the Soviet. Forces and institutions which are anathema to the Communist dogma have been permitted, even encouraged, for a short time while they assist to achieve some high priority objective. For example, during the war, patriotism was revised and religion tolerated as both were exploited in sustaining the war effort although they are heresies. The result is that after the war, or whatever the occasion is that prompts a short term anomaly, a special effort is required by the Communist Party to suppress the heresy and regain the ground lost, just as a special effort is required to rebuild the material and economic destruction resulting from the war.

The Communists believe that at some stage, war is inevitable between the capitalist nations and communist countries. Therefore if communism continues to gain ground as it has since World War II, war IS inevitable because the Soviet controlled countries will go to war so soon as it will be to their advantage to do so. There must never be any doubt in our minds that whatever line the USSR may presently be taking, it is pledged to bloodshed, whether it be in internecine strife or international war — both are inevitable if Communism is allowed to gain.

There is a tendency for Australians to regard the fulminations and actions of local agitators as the work of cranks and fanatics who, although most annoying, are tolerated in accordance with the democratic rule regarding freedom of speech. There appears to be an unwillingness to accept the fact that they are instruments in a planned campaign. They relentlessly pursue a campaign on and are undoubtedly getting results by holding back our economic efforts and disrupting our political affairs. Hard as it is for us to do so, we must appreciate that these people do not believe in our code of ethics, that they will swear oaths of allegiance, play on the right of free speech, or adopt any other subterfuge to promote their own ends, and at the same time allay our suspicion and fear of them. They consider themselves to be at war — a war they will fight with fanatical intensity and in which, for them, "all's fair".

It's hard to fight a ghost but it can be done.

Question: What would be your principles of war?

MILITARY GEOGRAPHY

THE NETHERLANDS EAST INDIES

Written for the Australian Army Journal by
The Directorate of Military Intelligence, AHQ

General

After 350 years of Dutch domination, control of this greatest of their colonies is rapidly passing from them. The upsurge of nationalism throughout South East Asia has taken a violent form in the Netherlands East Indies and has hastened the granting of independence to the subject peoples.

The outcome of the present struggle is of vital interest to Australia, both politically and strategically, for the Netherlands East Indies is our immediate neighbour.

Geography

The Netherlands East Indies, once referred to as Dutch "possessions" in the Malay Archipelago, comprises islands numbering over 2,000 spreading from South East Asia to northern Australia, the main groups being Sumatra, Java, Madoera, Celebes, Bangka and Billiton, the Riau-Lingga Archipelago, the Mentawai Islands, the Lesser Soenda Islands, the Molucca Archipelago, and parts of Borneo and New Guinea.

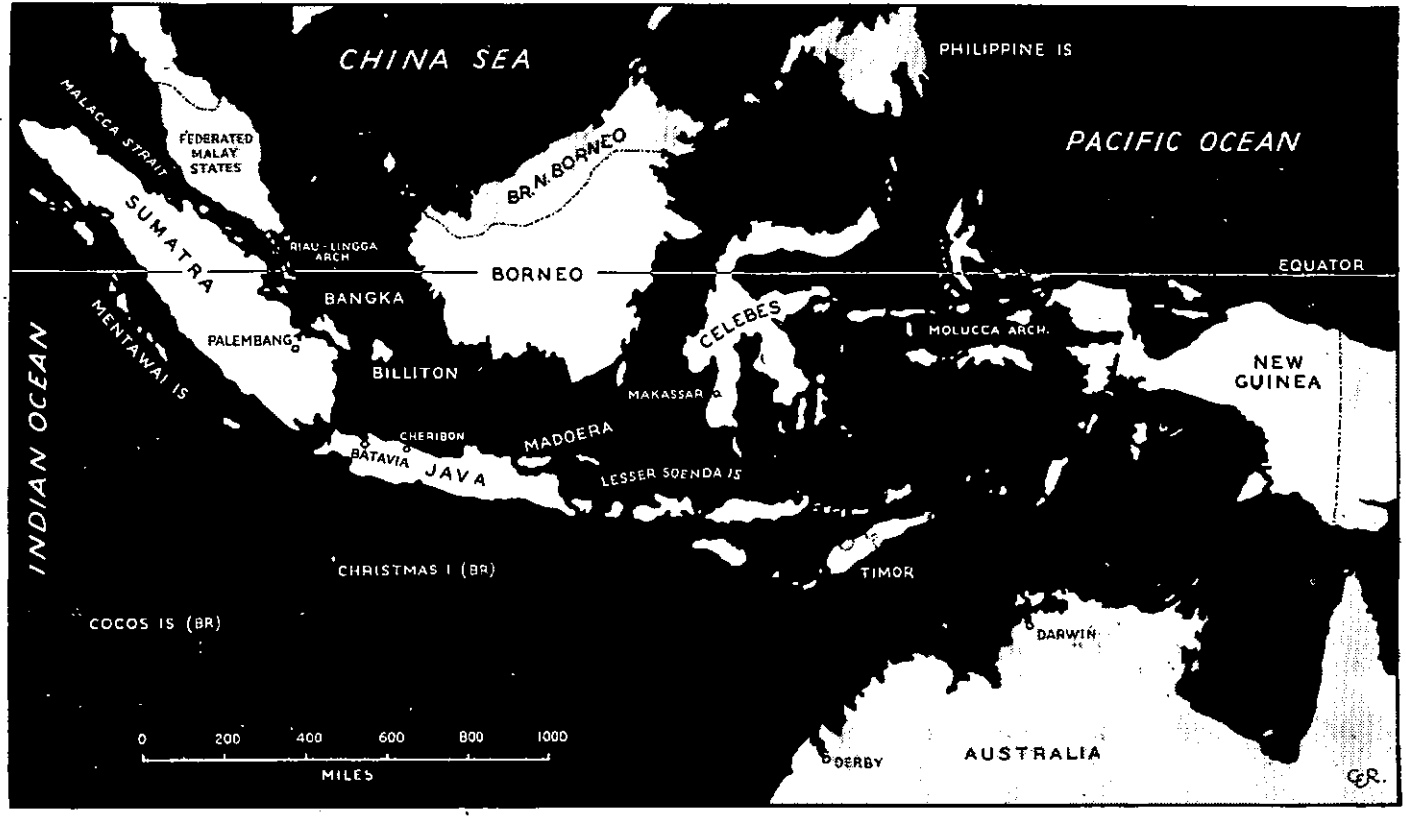
From Batavia, the capital of Dutch administration, distances in sea-miles are approximately as follows:—Darwin 1,700, Singapore 570, Manila 1,800, Hong Kong 1,900, Tokyo 2,600, Bombay 3,000.

Almost all of the large islands feature a central area of rugged mountains with numerous volcanoes, some active, in Sumatra and Java, descending to foothills, then to broad plains and finally to large stretches of marshlands, with considerable tracts of virgin jungle.

As the major portion of this territory lies south of the equator in the equatorial zone, the climate of the main areas of population, excepting the regions over 2,000 feet, is one of monotonously high temperatures, humidity and rainfall. The seasons are most aptly described as "wet" and "wetter".

Successive migrations over centuries make it difficult to identify the original inhabitants, and none of the main modern groups is homogenous. The total population is assessed at over 75 million, with the largest concentration in Java, estimated at 50 million. The bulk of the inhabitants are adherents to the Mohammedan faith. The largest element of the foreign population is the ubiquitous Chinese numbering about two millions.

Although the various elements retain their individual languages amounting to over 200, fundamental unity of speech exists throughout the entire area based on the Indonesian form, but the official languages are Dutch and Malayan.


CHINA SEA
PHILIPPINE IS
PACIFIC OCEAN
MALACCA STRAIT
FEDERATED MALAY STATES
BR. N. BORNEO
SUMATRA
RIAU - LINGGA ARCH
BORNEO
EQUATOR
BANGKA
CELEBES
MOLUCCA ARCH.
INDIAN OCEAN
MENTAWAI IS
PALEMBANG
BILLITON
MAKASSAR
NEW GUINEA
CHERIBON
MADOERA
BATAVIA
JAVA
LESSER SOENDA IS
CHRISTMAS I (BR)
TIMOR
COCOS IS (BR)
DARWIN
0 200 400 600 800 1000
MILES
DERBY
AUSTRALIA
G.R.

The NEI has about 50,000 miles of roads, about 50 per cent being in Java and Madoera. In other islands such as Borneo and Sumatra, rivers are an important part of communications. Java and Madoera also have the bulk of the railways, totalling 3,362 miles and Sumatra has 1,227 miles. Elsewhere railways are negligible, and economic development is mainly based on coastal shipping.

Resources

Considerable strategic war resources lie within the area of the NEI. There is primarily, dispersed from Sumatra, Java and Borneo to Dutch New Guinea, petroleum in large quantities which may well be vital to the Democracies in the event of a further world war.

Present production of tin from Bangka and Billiton is greater than pre-war. Output is more than 20 per cent of total world production, while other valuable deposits in substantial quantities are bauxite, manganese, nickel ore, coal and cement.

Rubber exports are again approaching pre-war figures, and the teak forests of Java play an important part in local ship building.

A contribution to medical requirements is quinine bark in sufficient quantities to supply the world. Food production is approaching pre-war levels, and the annual rice export surplus is estimated at 100,000 tons for the next ten years.

The agricultural resources of the NEI are a most important source of wealth for a world in want, but the importance of the spices of the picturesque early trading days has given way to foreign-credit-earning production of copra, vegetable oils and sugar, with increasing production of coffee, tea, tobacco, sisal and salt.

History

The period from the second to the eighth centuries in the East Indies was of assimilation of culture and influence of Indian immigration, but in the thirteenth century Islam became established in Sumatra. It spread along the trade routes, fully taking root by the sixteenth century, when the Portuguese made strenuous efforts to establish their stations throughout the Indies. They were soon challenged by the Spaniards, although the power of both had waned considerably by the end of the century.

In 1602 the Dutch East India Company was chartered. After ejecting the Spanish and Portuguese, it found new rivals in the English and French, but emerged virtually unchallenged by the end of the century.

By the middle of the eighteenth century the Dutch had established their control throughout Java and extended it over the rest of the East Indian Archipelago. The French Revolutionary wars and their effect on European commerce led to the dissolution of the Dutch East India Company, already weakened by corruption, when its holdings were taken over by the Netherlands Government in 1798.

When Java was successfully invaded by the expedition led by Raffles of Singapore in 1811, Palembang, Makassar and Timor became British territory, but Dutch rule was restored in 1816 through the Convention of London.

From about 1930 onwards Japan began interfering with Dutch interests, but the Dutch continually resisted all attempts to secure concessions until 1941 which saw the invasion and occupation of the Netherlands East Indies by the Japanese.

In the period between the Japanese surrender and the entry of Allied troops, the Indonesian Republic, headed by Dr Soekarno, and claiming jurisdiction over the entire Netherlands East Indies territories, was proclaimed.

In February, 1946, Indonesian representatives agreed to negotiate on the basis of a proposal from the Dutch Government for a structure for the Dutch Kingdom and Indonesia based on a voluntary partnership. By the end of June the Republicans issued counter proposals asking for the recognition of an

Indonesian Free State to work in alliance with Holland and to embrace all communities in the Indies who wished to be associated with Java. During this time the difficulties of reaching an agreement were aggravated by hostilities between Dutch and Republican troops. Nevertheless, a large area of Indonesia with a population of over 45 million had agreed to the Dutch plan for autonomy.

The first real mile-post was the Linggadjati (Cheribon) agreement reached in March, 1947. It recognized the Republic as exercising *de facto* authority over Java, Sumatra and Madoera. It provided for the Dutch supporting areas of Indonesia to be incorporated gradually into a United States of Indonesia by 1949, and for this USI to become a unit in the Netherlands Union under the Dutch Crown. The agreement, like many others, was never put into force because neither side could agree upon its interpretation. The extremists among the Republicans and the reactionaries among the Dutch undid the goodwill achieved over the conference table. The Republicans sought to extend their influence; the Dutch tried to whittle down the extent to which the Republic could control its own affairs in the interim period until a United States of Indonesia could be formed.

In July, 1947, the Dutch began their first "police action", designed to subdue Republican areas which the Dutch claimed were controlled by extremists preventing settlement. On the initiative of Australia and India, UNO intervened, and as a result a truce was arranged and boundary lines established. Finally a new agreement was signed aboard the US transport "Renville", at Batavia in January, 1948, whereby the Republicans agreed to recognize Netherlands sovereignty until the formation of the USI in January, 1949, and the Dutch promised to hold a plebiscite to decide whether Indonesians wanted to join the Republic or remain under Dutch rule.

A *coup* by Russian-trained communists was staged in September, 1948. An all-out Republican effort was made to oppose the insurgents, and the campaign ended in December when the Republicans captured Suripno and Sjarifoeddin, after having killed Moeso, the instigator.

However, the Dutch made no move to hold a plebiscite, and the Republican Government disregarded Netherlands sovereignty by trying to obtain international recognition in roundabout ways. For instance at the ECAFE Conference at Lapstone last December, the Republic applied and was accepted as an associate member. The Dutch delegation walked out, and a fortnight later Dutch forces launched a new "police" offensive against the Republic. These operations ended in the occupation of the Republic, which for all practical purposes no longer exists, although guerilla warfare still continues.

In reply to a UN Security Council resolution, the Netherlands Government has stated that it is prepared to establish an interim government immediately, hold elections and transfer full sovereignty by the middle of 1950.

Political Background

Indonesia has been politically part of the Kingdom of the Netherlands ruled by a Governor General in the name of the Queen.

Being the political and cultural centre of Indonesian life, Java has always been the davspring of any national aspirations. Their formative inspiration seems to have been the Japanese defeat of the Russians in 1905. A few years after the founding of the first national movement in 1908, with its object only self-government, its three leaders were exiled.

In 1918 a representative body, the People's Council (Volksraad) was created. The following year the Indonesian Communist Party (PKI) came into being, influenced by the Russian Revolution. Several thousand alleged communists were exiled to New Guinea following an uprising in 1926, when the PKI was dissolved.

The Indonesian Nationalist Party (PNI) was formed by Soekarno in 1927. This was the first party to aim for

Merdeka (freedom) — for complete independence, but in two years the leaders were all exiled or in gaol. A moderate group founded in 1937, the Indonesian People's party, requested recognition of the term "Indonesians" instead of "natives", but was refused. When promulgated, the Atlantic Charter had a great reception in Indonesian political circles, but enquiry about its application to Indonesia by members of the Volksraad met with a non-committal reply from the Dutch Government.

The Japanese dissolved all political parties, but after their surrender recognized Indonesian claims for independence. The Dutch refused to negotiate with Soekarno, who was at the head of the promptly proclaimed Republic, and who had been decorated in Tokyo by the Emperor, but dealings with the more moderate Sjahrir failed to yield any satisfactory result.

The failure of the communist insurrection in September, 1948, might well be due to the fact that communist objectives are at variance with the predominant faith of Islam. In addition, the Republicans, anxious as they were at the time to avoid a renewal of Dutch police action, were forced to take rapid steps to suppress the insurrection and so deny to the Dutch the opportunity to resume hostilities.

Strategic Significance

The barrier to Empire communications which could be created by a hostile Indonesia can well be imagined, lying as it does across the Straits of Malacca, and controlling movement between the Indian Ocean and China Sea. If her numerous air bases were occupied by an enemy power, it could do much towards the isolation of British Malaya, British Borneo, Hong Kong and Australia from contacts from the west.

Similarly a considerable amount of shipping could be effectively dispersed amongst the island's numerous port facilities for use either by or against a communist-dominated Asia.

The NEI forms a natural line of advance from Asia to Australia's back door, and, with the development of air transport, brings one thousand million Asiatics only 24 hours away.

The resources of the NEI are of great strategic significance and their availability to the Western Powers in a future conflict is of the utmost importance.

Ties With Other Nations

The indigenous peoples of Indonesia have very strong religious, cultural and social ties with other nations, and are able to call on the passionate moral support, and where possible, the material support of most, if not all, the peoples of Asia. In addition, their cause for independence finds favour with many European countries. To the Malays of British Malaya they are bound by blood, and the predominant faith of Islam allies them directly with Pakistan and the Arab states in the Middle East, while considerable Indian influence is prominent in their culture. Following the Dutch police action, an example of "reversion to type" was indicated by the resignation of the Non-Republican Government of East Indonesia and the Premier of West Java.

Politically, the rise of the new Asia spirit automatically provides the basis of wholehearted solidarity between Indonesia and the rest of Asia, and although at the New Delhi Conference, any mention of a *bloc* was studiously avoided, India was alleged to have issued an invitation to the Republic to set up a Government-in-exile in India if necessary, and has at other times made frequent expressions of friendship and goodwill.

Definite Russian interest and support was forthcoming at the ECAFE conference at Lapstone, and there is considerable enthusiasm for the theory, that though the Japanese may have most recently encouraged the Republican movement, it is being nurtured and nourished by the communists. In support of this is the Dutch claim to have captured three Malayan-Chinese Communist

leaders in Sumatra, and the undoubted connection with Moscow of Republican leaders such as Moeso and Sjarifoeddin.

In their endeavours to gain their independence the Indonesians have submitted their claims through the United Nations Organization, but a member of that organization, Holland, has continually disregarded the efforts of the UN to obtain a settlement. Thus, it is not beyond the realms of possibility that the Indonesians may seek the aid of the Soviet Union in their efforts to obtain their independence.

Australia is naturally very interested in the outcome of the struggle in the NEI, in view of the proximity of this area to our northern borders.

Influences Being Brought to Bear

Apart from non-official trades union channels, the Australian Government has been prominent in directing UNO attention to Indonesian affairs, by granting *de facto* recognition to the Republic, and spotlighting the Dutch "police action". As a result, UNO has set up an Indonesian Commission for investigation on the spot, and also passed a resolution laying down a date for the granting of independence.

Asiatic countries are unanimous in their support under the leadership of India, which has allegedly offered both sanctuary and arms to the Republicans. The Asian conference in January drew up resolutions recommending the granting of Republican independence.

America is supporting the Republic's claim to independence, even to considering the withdrawal of Marshal Aid to Holland.

Russia has made capital wherever possible out of condemning Dutch "colonial oppression", and without doubt is fostering contacts of communists in Indonesia with those in Russia, China, Malaya and Australia.

"The art of war differs from the science of war, as action differs from theory. The science of war discovers the principles upon which the art of waging war is founded, and the art of war applies these principles according to conditions by means of the instruments of war."

— Encyclopaedia Britannica.

THE RISE AND DEVELOPMENT

of the

GENERAL STAFF SYSTEM

Major E. W. O. Perry, B.Ec (R of O)

"Staff officers cannot be improvised; nor can they learn their duties in a few weeks or months, for their duties are as wide as they are important. I am decidedly of opinion that we cannot have a first rate Army unless we have a first rate Staff, well educated, constantly practised at manoeuvres, and with wide experience."

— Field Marshal Earl Roberts.

This article, which is condensed from a lecture given by the author to the United Service Institution of Victoria on 11 August, 1948, is being published in three parts. Part 1, which appeared in the December-January number of the Australian Army Journal, dealt with early developments of the French General Staff under Napoleon. Part 2, which appeared in the February-March number, dealt with the rise of the Prussian and German General Staffs from 1806 to 1939. Part 3 traces the development of the British Imperial General Staff.

Major Perry, who is the archivist of the Australian War Memorial, has devoted a great deal of time to historical research. In these articles he has produced a document of considerable importance to students of military history.

PART 3

The Rise of the British Imperial General Staff

The War Office in London[1] may be called the focus of the Empire's military systems. Viewed historically, it is the confluence of many streams of authority which have grown up from small beginnings as the Empire's military power has developed. It is not proposed here to trace the history of all these streams but some of those will be dealt with briefly that relate to the development of the General Staff system since the outbreak of the great war with France in 1793.

At this time the necessity for some centralization in the methods of conducting war was evidently felt and the office of Secretary of State for War was created in 1794, to which the

[1] Cf. The Army Book for the British Empire. By Lieutenant-General W. H. Goodenough and Lieutenant-Colonel J. C. Dalton, Chapter XXIV.

Right Honourable Henry Dundas was appointed. The detailed central administration of the Army continued to be carried out, however, by several departments and the Secretary of State for War seems to have had only a general control over this administration, but nevertheless the creation of the office was an advance towards the concentration of responsibility.

In the previous year, 1793, the Office of Commander-in-Chief was created and Lord Amherst was appointed to the Office. No definite rules appear to have been laid down for the guidance of this officer, and great confusion arose in consequence as to the nature of his duties and the scope of his responsibility. Lord Amherst was succeeded as Commander-in-Chief in 1795 by the Duke of York who made the mistake of supposing, as Lord Palmerston expressed it, "that the whole and absolute control over every part of the Military Service was vested in the Commander-in-Chief". Clode said that "in describing the duties of the Commander-in-Chief's official staff, it is necessary to observe that, at the time of Lord Amherst's appointment, the Adjutant-General occupied two rooms in Crown Street, Westminster, and the Quartermaster-General occupied one room in the War Office — both officers acting under the Secretary at War. From the year 1793 they have been attached to the Staff of — and report on all matters of military detail to — the Commander-in-Chief".[2]

It was not until 1809 that the Commander-in-Chief's duties and his "relations to the Civil Administration and Military Government of the Army" were either accurately defined by the Government or accepted by the general officers who from time to time held the appointment. In January, 1809, the "Duties of the Office of Commander-in-Chief" dated at the Horse Guards on 29th August, 1808, were at last laid before Parliament.[3]

The Congress of Vienna in 1815 ended a period of twenty years of war. It was followed by forty years of peace in Europe and stagnation in the British Army. In a long period of peace the requirements of war are apt to be neglected and overlooked, and the tendency is to exalt the functions of the Administrative departments unduly. Thus during the period from Waterloo in 1815 to the outbreak of war with Russia in 1854, military education and military training were consistently neglected and there was little or no work for a General Staff to undertake. At Army Headquarters in London in 1816, for instance, the Quartermaster-General's Department employed eleven officers and the Adjutant-General's Department five officers but fifty years later these numbers were actually reversed.[4]

In 1837 a Royal Commission under the chairmanship of Viscount Howick was appointed to report on the Army's civil administration. The Commission reported that this administration was divided between the Commander-in-Chief, the Board of General Officers and seven other authorities. It recommended a concentration of authority and duties by the amalgamation of certain departments but the Government took no action at the time to implement the Commissioners' recommendations.

When war became imminent with Russia in 1854 an attempt seems to have been made to revive the Staff system which had been created during the Peninsular War, for the "Special Instructions for the Officers of the Quartermaster-General's Department" which had been issued in Spain in 1810[5] to officers of the Quartermaster-General's Department were officially republished for guidance on the 20th March, 1854. An adequately trained Operations Staff did not exist, however, and one could not be called into being at the outbreak of the war on the 28th March, 1854, by the

[2] The Military Forces of the Crown. By Charles M. Clode, Vol II, pp. 340-341.
[3] Ibid, p. 344.
[4] Report of the War Office (Reconstitution) Committee. Part II, p. 21.
[5] Cf. Wellington's Army, 1808-1814. By Professor C. W. C. Oman, pp. 154-155.

reprinting and re-issuing of these Instructions of the Peninsular War period. As a consequence, the events of the Crimean War (1854-55) showed that the British Army was both unprepared and badly organized.

During the Crimean War, the War Department was organized into three great offices which functioned under the control of the Secretary of State for War and a step towards forming a General Staff was also taken, when, in response to an urgent demand for large supplies of maps and statistical information of the Seat of War, a Topographical and Statistical Department was established within the War Department in January, 1855.

The conception of a War Office[6] for dealing with the whole business of the Army originated in 1855, but a dual system of control by the Commander-in-Chief and the Secretary of State for War, which involved great disadvantages, prevailed until it was abolished in 1870. The appointment of the Right Honourable Edward Cardwell (1813-1886) as Secretary of State for War in December, 1868, marked the beginning of a further series of reforms. On taking office, Mr. Cardwell selected Lord Northbrook to fill the appointment of Under-Secretary of State for War. Almost immediately after Lord Northbrook's appointment he was made chairman of a committee to inquire into the "Conduct of Business in Army Departments". The three reports of this Committee dated March, 1869, May, 1869, and February, 1870, respectively, drew attention to the division of control, and made recommendations for bringing about a closer co-ordination of the military and civil administration of the Army. One recommendation was that the Commander-in-Chief should be housed in the same building as the Secretary of State for War. Hitherto, the Commander-in-Chief's Department had been not only entirely separate from the War Office departments in Pall Mall in matters of administration and correspondence, but it was also separately housed at the Horse Guards. The recommendations of the Northbrook Committee were accepted by Mr. Cardwell whose reorganization of the War Office was formulated in the War Office Act of 1870. In addition, the position of the Secretary of State for War as the supreme authority to administer "the Royal Authority and Prerogative in respect of the Army" was explicitly laid down in an Order-in-Council of the 4th June, 1870. In this Order-in-Council it was formally declared that the Commander-in-Chief was subordinate to the Secretary of State for War. The results of the War Office Act were briefly that the administration of the Army was unified in the hands of the Secretary of State for War but it was organized into three departments each under one of three great officers, namely, the Commander-in-Chief, the Surveyor-General of Ordnance, and the Financial Secretary. The Commander-in-Chief was the principal military adviser. He was responsible for the raising, training and discipline of the combatant personnel of the regular and auxiliary forces. Cardwell hoped by this unity in organization to establish a chain of responsibility extending from the Secretary of State for War downwards throughout the Army.

It has been laid down in the Queen's Regulations of 1868 that all orders to the Army were to be issued through the Department of the Adjutant-General, and the functions of the Quartermaster-General[7] were thereby and for the first time officially subordinated to those of the Adjutant-General.

Hitherto the Staff of the Army had been loosely called the "General Staff" although it had in fact not been organized, trained or employed as a General Staff in the modern sense of that term. Now the term "General Staff" was to be abolished, for in March, 1871, it was laid down in General Order No 25 that :

"The Queen has been pleased to approve of the consolidation of the

[6] In 1857 the designation "War Department" was changed to "War Office"

[7] The Functions of the Department of the Quartermaster-General were again defined in Queen's Regulations

General Staff of the Army under one designation and to direct that, in future, the General Staff shall pass under the denomination of 'Officers of the Adjutant-General's and Quartermaster-General's department throughout their several ranks." [b]

On the 1st April, 1870, Captain Wilson, Royal Engineers, was appointed Director of the Topographical Department of the War Office. The functions of this department were defined in 1871 in the following terms :

"To collect and classify all possible information relating to the strength, organization, etc., of foreign armies; to keep themselves acquainted with the progress made by foreign countries in military art and science, and to preserve the information in such a form that it can be readily consulted and made available for any purpose for which it may be required." [b]

In 1873, the Topographical Department re-organized into an Intelligence Department the functions of which were to collect and collate all available information that the Commander-in-Chief or the Government might require concerning foreign armies, and to note the progress made in the study of military science and its application to the problems of training and preparing for war. Major-General MacDougall was appointed Chief of this new department with the rank and status of Deputy Adjutant-General at Headquarters. In July, 1874, this Department was enlarged and placed under the Quartermaster-General, but in 1882 it again reverted to the control of the Adjutant-General. Since this re-organization the Chief of this department was known as the "Director of Military Intelligence".

In 1886, a Mobilization Section was raised and placed under the control of the Director of Military Intelligence. Its functions were to draw up plans in peacetime for the mobilization of the Army in wartime. This Section formed part of the Department of the Adjutant-General but later, in 1895, it was placed directly under the control of the Commander-in-Chief.

These two branches of Intelligence and Mobilization, which at this time formed part of the Department of the Adjutant-General marked a considerable advance in the Army's organization but there was no staff to co-ordinate the work of these two branches and to connect it with Training. There was, in fact, no Staff which was charged with the special task of preparing the Army in peacetime for its particular role in wartime.

The name "General Staff" which had been abolished in 1871 was later introduced again as the term by which the Staff as a whole were to be known in future, and "the duties devolving upon the General Staff (Adjutant and Quartermaster - Goneral's Department)" were laid down in the Queen's Regulations.

The duties of the Commander-in-Chief were defined in an Order-in-Council dated 21st February, 1888, and the War Office as a result of the re-organization brought about by this Order in Council, was divided into a Military Department and a Civil Department. The heads of Divisions of the Military Department were the Adjutant-General, the Quartermaster - General, Military Secretary, Inspector-General of Fortifications, Director of Artillery, Director of Military Intelligence, Director - General Medical Department, Director-General of Military Education, Chaplain-General and Principal Veterinary Surgeon. The duties of the Adjutant-General after this re-arrangement in accordance with this Order-in-Council were as follows:

"The Adjutant-General, as the Chief Staff Officer of the Commander-in-Chief, will exercise general control over the duties of the Military Department, and, in the Commander-in-Chief's absence, is empowered to act in his name.

"He is responsible to the Commander-in-Chief for the efficiency of

[b] Quoted in "The Staff and the Staff College". By Major A. R. Godwin-Austen, p. 166.
[b] Lord Cardwell at the War Office. By General Sir Robert Biddulph, p. 213.

the Military Forces of the Crown, for their distribution and mobilization, for the technical education of officers and men, and for the efficiency of Army Schools. He will be the channel for the communication of the Commander-in-Chief's orders to the Army."[10]

In commenting on internal conditions at the War Office at this time the Esher Committee said, "In 1888, the existence of the Quartermaster-General's Department as an integral part of the operations staff of the Army was destroyed. Henceforth the Quartermaster-General . . . became a Director of Supplies and Transport. The most important duties of an operations staff were not assigned to any branch of the Army, and seem to have been forgotten".

A notification respecting a commission appointing the Right Honourable the Marquis of Hartington and others to "inquire into the Civil and Professional Administration of the Naval and Military Departments, and the relation of those Departments to each other and to the Treasury, and to report what changes in the existing system would tend to efficiency and economy in the Public Service", was published in the London Gazette of the 12th June, 1888. The Commissioners, in discussing the measures for co-operation between the Admiralty and the War Office, said: "The first point which strikes us in the consideration of the organization of these two great departments is, that while in action they must be to a large extent dependent on each other, and while in some of the arrangements necessary as a preparation for war, they are absolutely dependent on the assistance of each other, little or no attempt has even been made to establish settled and regular inter-communication or relations between them, or to secure that the establishments of one service should be determined with any reference to the requirements of the other".

The Hartington Commission was of the opinion that the permanent retention of the Office of Commander-in-Chief, as it then existed, should not form part of the future organization at the War Office and that a "Great General Staff" should be formed under a Chief of the Staff. The recommendations of this Commission were not immediately acted upon, however, but five years later in 1895 the Duke of Cambridge, who was then seventy years of age, resigned the Office of Commander-in-Chief which he had held since 1856.

Field Marshal Viscount Wolseley succeeded the Duke of Cambridge in the Office of Commander-in-Chief on the 1st November, 1895. It was intimated to Viscount Wolseley that it was proposed to re-organize the War Office and that this re-organization would have to be carried out largely in accordance with the recommendations of the Hartington Commission. The new system was defined in an Order-in-Council of the 21st November, 1895. The responsibility which had hitherto been concentrated in the hands of the Commander-in-Chief was now distributed between five great military officers. The Commander-in-Chief was to be the Chief Adviser and have the general command of all the forces; the Adjutant-General was to be responsible for recruiting, discipline, training and military education; the Quartermaster-General for rations, forage, quartering, fuel, transport and pay; the Inspector-General of Fortifications for barracks, store-buildings, fortifications, and lands; and the Inspector-General of Ordnance for the design and the holding of military stores. The Commander-in-Chief was to exercise a general supervision over the other four branches and in this way to co-ordinate military opinion, but in theory each of these five great officers was directly responsible to the Secretary of State for War. But this situation was a compromise and was still unsatisfactory. It gave the Commander-in-Chief a general responsibility but not a real general control; in his relations to the Secretary of State for War he was on the same footing as the other four principal military officers. The effect of this situa-

[10] The Hartington Commission's Report dated 11 February, 1890, Appendix viii.

tion was to lower the dignity of the Commander-in-Chief's position and he became little more than a *primus inter pares*.

While the great powers of Europe were developing and perfecting their General Staff system, the machinery at the War Office provided only for the collection of Intelligence and for the preparation of plans for Mobilization. However, no action was taken to change this situation until after the South African War (1899-1902).

Field Marshal Viscount Wolseley relinquished the appointment of Commander-in-Chief on the 30th November, 1900, and was succeeded by Field Marshal Lord Roberts on the 3rd January, 1901.

An Order-in-Council of the 4th November, 1901, placed the Adjutant-General's Department like the Intelligence Department and the Military Secretary's Department, under the "control" of the Commander-in-Chief while the military departments of the Quartermaster - General, Inspector - General of Fortifications, Director-General of Ordnance, and Director-General of Army Medical Services were described as being under the "supervision" of the Commander-in-Chief.

The South African War revealed the weaknesses in the British Staff system. There was a shortage of trained staff officers and there was no Brigade or Divisional organization. Field formations were hurriedly raised, and the Staff that were appointed to them were hastily selected. No proper machinery existed to provide adequately for reserves and reinforcements. Not only was there no General Staff to think and plan for war, but there was no body whose functions were to advise the Government on military policy as a whole.

In 1903 the Government appointed a committee known as the "War Office (Reconstitution) Committee" to inquire into the possibility of setting up in the War Office a Board, similar to the Board of Admiralty, to conduct the Army's higher administration and to advise what changes this proposed Board would involve in War Office organization. The Committee's report was submitted to the Prime Minister the Right Honourable A. J. Balfour early in 1904. It recommended the formation of an "Army Council", the abolition of the Office of Commander-in-Chief, and the formation of a General Staff. The Committee said, "We attach extreme importance to the constitution of a General Staff with defined functions in peace and in war, educated for its special duties, drawing to itself the pick of the brains of the Army and working continuously to improve the training of the troops and the standard of their preparations for war. To create such a staff will require time, and we strongly urge that the necessary steps should be taken forthwith".

These recommendations of the Esher Committee were adopted by the Government. The Army Council was constituted by His Majesty's Letters Patent of the 6th February, 1904, and the duties of its members were defined in general terms in an Order in Council of the 10th August, 1904, which empowered the Secretary of State for War to arrange the distribution of duties within the War Office. The Office of Commander-in-Chief was abolished and the Commander-in-Chief, Field Marshal Earl Roberts retired on the 11th February, 1904. The first Chief of the General Staff, Lieutenant-General Sir N. G. Lyttelton, was appointed on the 12th February, 1904.

The Department of the Chief of the General Staff was organized, at this time, into the Directorate of Military Operations, the Directorate of Staff Duties, and the Directorate of Military Training, each of which was under a Director holding the rank of Major-General. The Directorate of Military Operations was at this time responsible for Intelligence as well as Operations duties.[1] It was announced in Army Order No 233 of the 12th September, 1906, that :—

[1] The War Office List for 1905.

i. "The General Staff of the Army falls into two principal divisions, viz :—

(a) The General Staff at Army Headquarters;

(b) The General Staff in commands and districts.

ii. "The functions of the former are to advise on the strategical distribution of the Army, to supervise the education of officers and the training and preparation of the Army for war, to study military schemes, offensive and defensive, to collect and collate military intelligence, to direct the general policy in Army matters, and to secure continuity of action in the execution of that policy.

iii. "The functions of the latter are to assist the officers on whose staffs they are serving in promoting military efficiency, especially in regard to the education of officers and the training of the troops, and to aid them in carrying out the policy prescribed by Army Headquarters.

iv. "With these objects in view, the General Staff will be drawn from the officers of the Army who may be considered most likely to prove capable of forming a school of progressive military thought."

A proposal to co-ordinate and integrate the work of this General Staff at the War Office with the General Staffs of the Dominions Overseas was discussed at the Imperial Conference in London in April, 1907. This need for a General Staff, selected from the Empire as a whole, was obvious, for, if the Empire's forces were ever to fight together, their effectiveness, as an Imperial force, would be immeasurably increased if the organization, training, and equipment of the several parts were standardized. The Imperial Conference of 1907 agreed to this proposal and the Chief of the General Staff, General Sir W. G. Nicholson who had succeeded Lieutenant-General Sir N. G. Lyttelton on the 2nd April, 1908, was instructed to draw up proposals to give effect to the resolutions of the Conference on this matter. He duly submitted these proposals in a very ably written memorandum dated the 7th December, 1908, and they were subsequently forwarded to the Governments of the Dominions Overseas for their concurrence with a covering Despatch dated the 24th December, 1908.[12] Sir William Nicholson divided his memorandum into four parts. The first dealt with the general principles of Imperial defence and with the relations of the parts to the whole; the second suggested the organization required for an Imperial General Staff; the third considered the best means for selecting and training officers to compose this Staff; and the fourth investigated the means that were then available for the formation of such a Staff and how soon it could be made to function.[12]

Steps were taken in 1909 to form a General Staff for the whole Empire and one of its objects was to develop an Imperial school of military thought. Each Dominion was to develop its own General Staff which would function in close co-operation with the General Staff at the War Office in London. The members of these General Staffs were to be trained on uniform lines, and the policies of these Staffs were to be directed in accordance with the same principles. A statement was made in the House of Commons by the Prime Minister, Mr. H. H. Asquith on the 26th August, 1909, in which he said: "I may point out here that the creation early this year of an Imperial General Staff . . . is a result of the discussions and resolutions of the Conference of 1907. Complete agreement was reached by members of the Sub-Conference, and their conclusions were finally approved by the Main Conference and by the Committee of Imperial Defence, which sat for the purpose under the Presidency of the Prime Minister. The result is a plan for so organizing the forces of the Crown wherever they are, that, while preserving the complete autonomy of each Dominion, should the Dominions desire to assist in the defence

[12] Essays and Criticisms. By the Military Correspondent of "The Times", p. 19.

of the Empire in a real emergency, their forces could be rapidly combined into one homogenous Imperial Army".

The title of the Chief of the General Staff was changed by an Order in Council of the 22nd November, 1909, to "Chief of the Imperial General Staff", and General Sir William Nicholson the then Chief of the General Staff thus became the first Chief of the Imperial General Staff. The Imperial General Staff developed rapidly in accordance with the proposals that had been laid down in Sir William Nicholson's memorandum, and by about 1912 it had established itself firmly on an Imperial basis.

On the 15th March, 1912, Field Marshal Sir John French succeeded General Sir William Nicholson as Chief of the Imperial General Staff. Sir John French was succeeded by General Sir C. W. H. Douglas on the 6th April, 1914. Sir Charles Douglas died in office, and was succeeded on the 25th October, 1914, by Lieutenant-General Sir J. W. Murray who was succeeded eleven months later on the 26th September, 1915, by Lieutenant-General Sir A. J. Murray who in turn held the appointment until the 22nd December, 1915, when he was succeeded the following day by Lieutenant-General Sir William Robertson.

In December, 1915, a Deputy Chief of the Imperial General Staff was appointed and by Letters Patent he became a member of the Army Council. In the following month, consequent on the appointment of a Commander-in-Chief of the Home Forces, the Department of the Chief of the Imperial General Staff was re-organized and certain duties connected with Home Defence and Training were transferred to General Headquarters, Home Forces. As a result of this re-organization the duties of the Department of the Chief of the Imperial General Staff were distributed between the Directorate of Staff Duties, the Directorate of Military Operations, and the newly formed Directorate of Military Intelligence, and the Directorate of Military Training was abolished.

During the War of 1914-18 "Military Missions" were maintained in London by France, Belgium, Russia and Italy, and officers of the armies of these countries were attached to the Directorate of Military Operations at the War Office for liaison duties.

An Order in Council of the 27th January, 1916, empowered the Chief of the Imperial General Staff to issue the orders of the Government relating to Military Operations. It was intended by this means to bring into closer relationship with each other the Cabinet and the Imperial General Staff. This relationship was later changed soon after the appointment of General Sir Henry Wilson as Chief of the Imperial General Staff on the 19th February, 1918, vice General Sir William Robertson. An Order in Council of the 27th February, 1918, made both the Chief of the Imperial General Staff and the Deputy Chief of the Imperial General Staff responsible, like other members of the Army Council, to the Secretary of State for War for such business as should be assigned to them from time to time, and the special position which had been assigned to the Chief of the Imperial General Staff in January, 1916, was thereby changed.[18]

After the armistice in November, 1918, the Commander-in-Chief of the British Armies in France, Field Marshal Sir Douglas Haig, was requested to submit a report to the War Office on the organization of the Staff during the War of 1914-18, together with recommendations for any modifications that were considered necessary. He assembled a committee under the chairmanship of Lieutenant-General Sir William Braithwaite. This Committee visited each Army and examined more than eighty witnesses who represented every grade of command and branch of the Staff. The general consensus of opinion was that the existing organization and general distribution of duties had functioned efficiently and no substantial

[18] The War Office List for 1927, pp. 17-18.

changes were required. The Committee reported, *inter alia*, that :

"The outstanding feature of the evidence brought before us has been the success or the work of the Staff throughout the war. This points indubitably to the soundness of the general principles on which the Staff is organized and was trained before the war. The keynote of our system of Staff organization is the unity of the Staff, although its work is divided into three main branches. . . . We have been much impressed by the fact, established by the evidence given, that in the formations where these principles have been adhered to, the Staff work has had the happiest results, particularly in the later phases, where the conditions of a war of movement once more obtained. On the other hand, it has been made apparent to us that, where difficulties or friction have arisen, they are mainly attributable to a departure from the spirit of the regulations".[14]

Another opinion was expressed later to the effect that a weakness of the British Staff system lies in its division into distinct branches, each of which controls its own appointments with the interchange of officers between the different branches of the Staff and between the Staff and Command. The division of the Staff into three branches of General Staff, Adjutant-General's Staff, and Quartermaster-General's Staff, that is, into the two main divisions of General Staff and Administrative Staff is fundamentally unsound. The term "General Staff" which, in foreign armies usually denotes the whole of the Staff proper, has been adopted in the British Army to cover only a part of the Staff. The General Staff has as a consequence acquired a certain glamour at the expense of the Administrative Staff whose work, though less glamorous, is true staff work and equally essential and equally exacting. This division is accentuated by delegating to the senior General Staff officer of a formation, etc., the responsibility of co-ordinating the formation's staff work as a whole. The result is that the Staff has definitely established itself in two divisions on either side of an artificial barrier; the General Staff on the sunny side because of the advantages which the glamour of its more attractive work and the co-ordinating powers of its chiefs give it; and the Administrative Staff on the other side. This division may lead to invidious distinctions and to duplication of work. It has often resulted in officers who have remained on the General Staff side attaining the highest appointment on the Staff and obtaining command in the field without any practical administrative experience, whilst officers on the Administrative side have reached responsible positions in their own branches without having had any General Staff experience. This situation is not desirable for either the Army or the Staff.[15]

From the Armistice in 1918 to the Outbreak of War in 1939

The period at the War Office immediately after the armistice in November, 1918, was broadly one of progressive contraction in some directions and of temporary expansion in other directions which was followed again later by a contraction.

The duties connected with home defence and training which had been transferred in January, 1916, from the Department of the Chief of the Imperial General Staff to General Headquarters, Home Forces, were gradually re-transferred to the Department of the Chief of the Imperial General Staff, and General Headquarters, Home Forces, the title of which had been changed in May, 1918, to General Headquarters, Great Britain, was finally abolished in 1920.

The year 1922 also brought certain changes. On the 19th February, 1922, General the Earl of Cavan succeeded Field Marshal Sir Henry Wilson as Chief of the Imperial General Staff. From the 1st April, 1922, the Directorate

[14] Quoted from Major Godwin-Austen's, "The Staff and the Staff College", p. 269.
[15] "The Staff". An anonymous article in The Army Quarterly, Vol I, No. 1 (October, 1920), pp. 32-33.

of Military Operations and the Directorate of Military Intelligence were organized as one combined Directorate of Military Operations and Intelligence and in June, 1922, the Directorate of Military Training, which had been abolished in 1916, was revived.

In 1924, an Inspector of Cavalry, an Inspector of Regular Anti-Aircraft Units[16] and an Inspector of the Royal Artillery were appointed as a result of its having been decided not to revive the office of Inspector-General of the Forces. These Inspectors were responsible to the Chief of the Imperial General Staff and were attached to the Directorate of Military Training. An Inspector of the Royal Tank Corps had also been appointed in 1923 to assist the Director of Military Training with his duties "in connection with the co-ordination of the training and organization of the Royal Tank Corps in Commands". In 1926 an Inspector of the Royal Engineers was appointed. The duties of this appointment were performed by the Commandant of the School of Military Engineering, Chatham. In 1927 a Chief Inspector of Educational Training and two Assistant Inspectors of Educational Training were appointed but later this establishment was reduced by one Assistant Inspector.[17]

On the 19th February, 1926, General Sir G. F. Milne succeeded the Earl of Cavan as Chief of the Imperial General Staff and held this appointment for seven years when he was succeeded on the 19th February, 1933, by General Sir A. A. Montgomery-Massingberd. He was in turn succeeded by General Sir C. J. Deverell on the 7th April, 1936, who, however, only held the appointment for a relatively short time for he was succeeded on the 6th December, 1937, by General Viscount Gort who then held the appointment until the outbreak of the war on the 3rd September, 1939.

The office of Deputy Chief of the Imperial General Staff which had lapsed when Lieutenant-General Sir P. W. Chetwode vacated it on the 11th September, 1922, was revived when Lieutenant-General Sir R. F. Adam was appointed to it on the 3rd January, 1938. In speaking of the re-organization of the War Office at this time, and in particular of the distribution of functions between the Chief of the Imperial General Staff and the Deputy Chief of the Imperial General Staff, Captain Liddell Hart said, "It had been intended that the latter should take over the detailed co-ordination of all the General Staff directorates, thus setting the former free to give more of his attention to the big issues of policy, in consultation with the Chiefs of Staff of the other services, while enabling him to see more of the Army outside. Instead, supervision of the three directorates was virtually divided between them, the DCIGS looking after the Staff Duties and the Training directorates, while the CIGS dealt with the DCIGS on the one hand and the Director of Military Operations and Intelligence on the other. While this arrangement had certain practical advantages to counterbalance the departure from principle, it also had the practical disadvantage of cramping the scope of the DSD and the DMT, while placing them on a lower plane than the remaining director".[18]

The Department of the Chief of the Imperial General Staff was shown in the War Office List as having been organized, as at the 15th February, 1939, into the Offices of Chief of the Imperial General Staff and Deputy Chief of the Imperial General Staff, and into the Directorate of Military Operations and Intelligence, the Directorate of Staff Duties, and the Directorate of Military Training. The Inspectors attached to the Directorate of Military Training at this date were the Inspector of the Royal Artillery, the Inspector of the Royal Engineers, the Inspector of the Royal Army Service Corps, the Inspector of the Army Educational Corps who was

[16] The Inspectorate of Regular Anti-Aircraft Units was abolished in 1926.
[17] The duties of Inspectors were laid down in King's Regulations.
[18] The Defence of Britain. By Liddell Hart, p. 348.

assisted by an Assistant Inspector of the Army Educational Corps, and the Inspector of Physical Training. In addition to the above there was a Deputy Chief of the Imperial General Staff (Coast Defence and Anti-Aircraft)[19] who was assisted by a Directorate of Training and Organization. There was also a small non-technical research section directly under the Deputy Chief of the Imperial General Staff whose duties were, "Research into problems of tactics and organization under the direction of the DCIGS. Liaison with other branches of the War Office and with Commands in order to collect new ideas on these subjects. Liaison with Technical Research branches". Captain Liddell Hart said of this section, that, "The project of creating a directorate for military research, and thinking ahead, was whittled down to a decision to start with a small research section only. And when it eventually took form, it had become merely a couple of picked junior officers, who dug out data on particular points for the DCIGS so far as their time and resources allowed".[20]

The "General Staff" of the British Army is a technical term. It does not mean the Staff of the Army in general. Part of the theory of organization at the War Office is that the Department of the Chief of the Imperial General Staff provides the Secretary of State for War with the military advice of the Staff in general, and of which "Staff in general" the Department of the Chief of the Imperial General Staff forms only a part. The Department of the Chief of the Imperial General Staff is the particular military department at the War Office which devoted itself exclusively to three functions, namely, the study of the theory and practice of military operations; the collection and collation of military information; and the training and preparation of the Army for war.[21]

The Imperial General Staff system has made much progress since it was introduced as a result of the recommendations of the War Office (Reconstitution) Committee of 1904 under the chairmanship of Viscount Esher and it has abundantly justified its usefulness in many ways. During its work in two periods of peace and its services in two world wars this General Staff has come to be recognised as an effective and indispensible instrument for planning, co-ordinating and supervising preparations for war and the conduct of military operations. As the complexities of modern warfare increase and the conduct of military operations in the field become more difficult, the greater becomes the need to search for means for improving the General Staff system, particularly in matters of organization and techniques of control.

The Significance of a General Staff

The functions of the General Staffs of the world's various armies are not, of course, identical but it may be said that a General Staff is usually responsible for giving expert advice to its government on military affairs generally and, in particular, on the probable outcome of any war that it may decide to conduct. Upon a General Staff may fall the responsibility of supervising in peacetime military preparations for war and of planning military operations in wartime. To-day the raw material of plans has become so extensive that the task of planning far exceeds the scope of any single mind be it that of a Chief of a General Staff or of any one else. Normally a government lays down its policy and its commander-in-chief will then outline broadly the means he proposes to adopt for the attainment of the government's object. The government's policy is usually based on the advice given to it by its General Staff while the commander-in-chief, after he has outlined his plan in general terms, usually leaves it to his Staff to work out its details and issue the necessary orders.

In its planning for war a General Staff attempts to eliminate accidents and

[19] Lieutenant-General J. H. Marshall-Cornwall was appointed to this office on 29 October, 1938.
[20] The Defence of Britain. By Liddell Hart, p. 348.
[21] The War Office. By Hampden Gordon, p. 95.

to reduce risks to a minimum by providing against all probabilities and by studying the political, military, economic and scientific problems of potential enemy countries and the minds and characters of their peoples. In order to estimate the strength and intentions of probable enemies espionage may be resorted to while precautions must be taken to prevent counter-espionage. These are tasks in which a General Staff interests itself. General von Kuhl said in his book on the German General Staff that, "The foreign press, official publications, parliamentary debates and all parliamentary material particularly estimates of expenditure, royal commission reports and budget discussions, military literature, and reports of military attaches served as a basis for the General Staff. The central bureau where the whole of this material was collected, sifted and appraised was the Great General Staff".[22]

A General Staff then must have accurate and adequate information about enemy and potential enemy countries and of probable theatres of war; it must acquire this knowledge by "studying large scale maps", by studying reports, by reconnaissances and by any other available means. Frederick the Great once said very aptly that, "Above all things, the one who is to draw up a plan of operation must possess a minute knowledge of the power of his adversary and of the assistance this enemy may expect from his allies. He must compare the forces of the enemy with his own numbers and those of his allies so that he can judge what kind of war he is able to wage or undertake". After all available information on the enemy, which is always fragmentary and incomplete, has been obtained and an appreciation of his probable course of action has been made comes the drawing up of one's own plans. For this planning, however, a profound knowledge of one's own country, its institutions and interests is essential. It has been said by Alfred Vagts that this knowledge may not be so easily obtained by a General Staff as it may seem, for the government, the civil service and the military authorities of a country often have a tendency to grow apart and to pursue independent and, at times, even conflicting aims. The tendency to keep the military side of strategical plans separate from political plans was once observed by Clausewitz who said that, "War is not an independent thing; the main lineaments of all great strategical plans are of a political nature, the more so, the more they include the totality of war and the state".[20]

When a General Staff has examined its government's policy, and it is acquainted with the policies of probable enemies, and when it has obtained sufficient information concerning the military strength of its own country and that of probable enemy countries, it may proceed to the conception and formulation of a plan of action as a basis for its own preparations for war. This plan may be tested by exercises and by manoeuvres but test mobilizations tend to cause undesirable political repercussions.[21] Moreover, once plans have been formulated, they must be capable of being altered without creating disorganization and of being readily adaptable to changes in circumstances. Count von Moltke once said that, "Only the layman believes that he sees in the course of a war the accomplishment of an original idea, conceived beforehand, considered in all details and adhered to until the end". Nevertheless, it is impossible for a General Staff to be fully prepared for every military contingency for its resources, however large, are limited, and to increase one effort means to diminish some other one. Consequently, a General Staff has to limit its interests and activities to its more probable commitments. Omission of a most striking kind occur, however. This was illustrated when Marshal Foch admitted, during the War of 1914-18, that every part of France had been studied by the French General Staff as a probable theatre of

[22] Der deutsche Generalstab. Von General der Infanterie H. von Kuhl, S. 8.
[20] A History of Militarism. By Alfred Vagts, pp. 374-375.
[21] A History of Militarism. By Alfred Vagts, p. 377.

war except French Flanders. It had not considered the probability of a French army having to fight in that area. It is obvious then that it is only by planning based on sufficient but valid information and carried to the highest point of effectiveness through the application of scientific thinking, ingenuity, inventiveness and surprise that military aims can be attained.

It will have been seen from the foregoing that a General Staff is primarily what Lord Haldane once described it as to the House of Commons, namely, a "Thinking Department". Its chief and his officers prepare beforehand for all probable campaigns; they follow the progress of the armies of foreign powers and at the same time they study the several probable theatres of war; they work out the methods of conducting military operations; they familiarize themselves with the machinery of the army and bring their influence to bear upon all questions of organization and training; they form an organism whose arteries spread throughout the army gathering practical experience and carrying wherever they go the same continuous stream of principles and doctrines.

"No amount of wealth, even when supported by patriotic willingness to enlist, can buy discipline, training and skilful leading. Without these there can be no such thing as an efficient army, and success in the field against serious opposition is merely the idle dream of those who do not know war."

— From "The Army from Within"

This BASE BUSINESS

Reprinted from the British Army Journal, January, 1949

"THREE of our aircraft failed to return to base" ran the announcement on the nine o'clock news. "Light coastal craft operating from a base on the East Coast destroyed three enemy trawlers." "The Home Fleet sailed from its bases for exercises in the Atlantic."

These are all quotations from similar sources. We see, therefore, that as far as the other two Services are concerned a base means an airfield of any size or a port ranging from a small isolated harbour to a gigantic establishment like Portsmouth. That is confusing enough, but the soldier is probably the worst sinner of all, since he talks about a patrol base, a firm base and a base. The first two are both tactical conveniences which may be the temporary home of anything from a platoon to a brigade. When he talks about "those blighters at the base who pinch all the strawberry jam" he is probably very vague in his mind what the base really is. The purpose of this article is to try and present a picture of the last kind of base.

Sinews of War

An army, and particularly a modern army, cannot live and fight without a very elaborate administrative backing to provide its men and equipment and to deal with them when they become casualties. Comparatively few soldiers realize how vast this backing has to be. In the first place the provision of the needs of a modern army necessitates drawing on vast reservoirs of raw materials, manufacturing capacity, food growing and manpower. The areas which contain these huge concentrations of men, materials and factories are known as Main Support Areas. Examples from which British forces may draw their requirements are the United Kingdom, North America, Australia or South Africa. They will also draw oil and food from other areas which are not themselves Main Support Areas.

The next stage is when the men, materials and manufactured goods are collected together to be got ready for use by formations and units and also to be held as reinforcements, stocks and reserves. The place where this happens must be reasonably close to our fighting forces and anyone who has been into an untidy general store where the shopkeeper can never find anything and does not even know whether he has it or not, will appreciate the need for gathering everything together methodically. Fighting units could not afford to wait whilst an inefficient organization hunted to see whether it had spare track pins for Centurions or had to send back to the United Kingdom for them. The place where everything is gathered together is known as the Main Base. A main base can be situated in one of the main support areas or may be entirely removed from any of them. For instance, in the last war the main base which

supported the operations of 21 Army Group in France and Germany was the United Kingdom, that is one of the main support areas. But the main base which supported the operations of 8th Army in the Middle East right up into Italy was in Egypt. Egypt's resources of raw material and manufacturing capacity were not nearly large enough to make it rank as a main support area, but the civil economy of the country was great enough to enable it to be developed into a main base of great size and importance.

Peace-time Egypt

It will probably help us to get an idea of the scale of a main base if we examine the effort put into Egypt. In 1939, at the outbreak of war, there was rather less than two divisions in Egypt, and the existing administrative installations were just about of the right size to deal with this small force. One can imagine the activity when the order came to plan at once for the maintenance of a force of some twenty divisions. The scale of expansion made it impossible to carry on just by expanding the existing installations, and a fresh start had to be made.

It is only possible to develop a main base when there are ample resources in the way of ports, communications, skilled and unskilled labour, services such as power, water, and sewerage, and a considerable local manufacturing capacity, on which to build. Otherwise the development of a main base would take decades rather than months or years. In Egypt there were good deep-water ports which only needed re-organization and extension. There were also vast caves which could be adapted as stores. There were buildings which could be requisitioned. There was a considerable manufacturing capacity, particularly in the way of cement factories, and there were good reserves of labour to draw upon. Had there not been, the most that could have been established in Egypt was an Advanced Base, which is referred to later in this article.

Planning in Egypt began in November, 1939, but authority for the work to begin was withheld; even the accumulation of stores for construction purposes was forbidden. However, a very large area designed for development as the base was selected and when, in May, 1940, work was allowed to start, planning had made great strides. In general it is true to say that the whole of the Nile Delta and some of the adjacent desert became the area of the Main Base together with the ports of Alexandria, Port Said, Suez and smaller ports in the Canal. Even this was not enough; some of the main base installations were put into Palestine. The choice of site was primarily dictated by the need for good access to the ports; by the layout of the railways and the possibilities of extending their use; and to the need to avoid cultivations and waterways and yet to be near sources of civil labour.

See How It Grows

Work started in 1940. Rapid progress was made until the daily capacity for building in concrete amounted to some 10,000 tons a day, absorbing the entire cement factory output of Egypt and Palestine, and of areas more remote. We spent £10,000 a day on the purchase of local items for engineer construction alone. We bought all available foodstuffs, spending several millions of pounds a year and even placing special areas under cultivation. We set up new factories and works and used in them local labour for the manufacture and repair of clothing, for mine filling, for ammunition overhaul and repairs, for petrol-can manufacture and filling, and many other similar activities. At one time we were employing a quarter of a million men of the country as skilled and unskilled labour. Even so the development of the base occupied us for a great many months and, of course, had a tremendous effect on the whole civil economy of Egypt and Palestine, and to a lesser extent on some neighbouring countries. Some figures may help to give an idea of the size of the project.

Fifteen million square feet of covered accommodation were provided, that is, over half a square mile, or roughly six

hundred times the entire floor area of the Albert Hall. About one-third of this total was for workshops and the rest for storage. It took over two years to obtain all the necessary machine tools and to train fully the 30,000 civilian staff employed in the workshops. This figure in itself will give a small idea of the amount of activity in repairing Army equipment that goes on in a main base. When one thinks of one of the great motor factories such as Austin's or Morris's in this country, and compares the number of work-people they employ with the 30,000 civilians, quite apart from the military tradesmen who supervise their activities and the officers directing the enterprise at the top, one will get an idea of the scope of the workshops in a main base.

Over a thousand miles of new road and 500 miles of standard gauge railway line were laid in the main base, quite apart from new roads and railways in the Western Desert. Several large power stations were built and over a million lighting points were installed. Very elaborate filtration plants were constructed to give a pure water supply from the Nile and the canals in the Delta. Each one took several months to build. In addition many tube wells were sunk to augment the supply. Pumping stations had to be installed and several thousands of miles of pipe laid.

Problems of All Sorts

The problems of movement and transportation loomed very large. The import programme was huge, running up to many thousands of tons daily. New and well-dispersed satellite ports were constructed near one of the main ports of the country, which involved making more than five miles of lighter quays and nine new deep-water berths. Special slipways were built for the maintenance of craft. Despite all this and the most efficient re-organization of existing ports, port capacity was a limiting factor which on several occasions slowed up development of the main base.

To deal with sick and casualties of the force, more than 30,000 hospital beds were required. In all, some 40 hospitals were established, some in hired buildings, but the majority in semi-tented or hutted camps. Each hospital required 120,000 sq ft of hutting and a very considerable amount of work to provide cold storage, air conditioning and sanitary facilities.

These figures may give some idea of the size and scope of the activities in a main base, of the effort involved, and the time taken in setting up. The cost of construction of the main base in Egypt has been estimated at £200,000,000, quite apart from the cost of stocking and maintaining it, and paying the soldiers engaged in its activities and the construction work. In fact, it would be true to say that the main base for an army of even a moderate size would cover the area of several counties and would require the resources of one or two large industrial towns.

Bases, Bases Everywhere

Obviously there are many parts of the world in which British forces may be engaged where it is not possible to build a main base on the spot because the local resources in ports, railways, civil economy, etc., just do not exist, and it would take far too long to build them up from scratch. It may also happen that the theatre of war is near enough to an existing main base to make the establishment of another one unnecessary. Even so, the distance from the main base may be such that the force will need an administrative installation from which it can draw its requirements quickly and repair its equipment. There may be a sea journey to the main base and obviously something will be necessary in the zone of operations in case of delays or interruptions at sea. In such circumstances, an Advanced Base is established. It differs from a main base only in degree. The support that it can give to the force is restricted because it has not got all the depots, workshops and factories necessary for complete support. An advanced base must, therefore, be backed by a main base. An example from the last war

was the Advanced Base at Naples which was dependent upon the Main Base in Egypt, though it received many of its needs by direct shipment from the UK and elsewhere. This was done, of course, as a result of arrangements made by the authorities controlling the Main Base.

We must be clear about one other type of administration area necessary for the maintenance of forces in the field. Two examples are cited because the names they were given are confusing. The first is the so-called Advanced Base established at Benghazi during the Eighth Army's advance to Tunisia. The second is the much larger Rear Maintenance Area set up in Normandy to support 21 Army Group. Neither of these areas was intended to become permanent or even semi-permanent. Each of them was set up on a purely temporary basis to maintain our forces until a further development in operations enable them to be by-passed and superseded by something more permanent, and more elaborate. At neither place was there any intention, for instance, of setting up the main base depots or base workshops; nor would they have been suitable. Normandy had not the ports capable of dealing with the load after the winter storms began in earnest. Benghazi, too, was strictly limited. In fact, both places fit our present-day definition of a maintenance area; that is, an area established and organized for maintenance on a temporary basis. And in accordance with our present practice Normandy and Benghazi should have been given a serial number and called after the type of formation controlling them, e.g., "21 Army Group Maintenance Area" or "15 Army Maintenance Area".

In a Nutshell

What are the lessons to be learned from this account?

It should be clear that a main base can only be established in an area where there are adequate ports, and a healthy civil economy with considerable local resources. The first lesson, then, is that no campaign in a theatre remote from the United Kingdom can be planned without considering the requirement of a main base to support that theatre.

Even given a suitable area, the work of establishing the main base will take many months of intensive effort, and the expenditure of a vast quantity of effort and material. The administrative preparations for a campaign must always take far longer than the assembly and organization of the fighting troops. The second lesson, then, is that planning must be a closely integrated and progressive business, with no single branch of the staff launching out on its own. Further, planning must start in time for the administrative preparations to be made. Such preparations will include the forming and training of base and L of C units, which must be ready to operate immediately they are required, and the earmarking or stockpiling of the necessary materials. This latter is particularly important, because the demand for materials will arise at a time when they are most urgently required for other purposes at home. It goes without saying that the greatest possible use must be made of local resources, but there can be no reliance on last minute improvisation.

"Ask of me anything but time", said Napoleon. To-day, when an army needs so much complex equipment this applies with redoubled force, for, if the administrative arrangements do not exist, equipment will gradually stop working and no new equipment will be forthcoming. The use of time and effort to develop the base cannot be avoided.