Chapter X.—The remaining three chapters of the book are devoted to principles and methods of defence and hold points of special interest in the defence of Great Britain.

The linear, frontal defensive systems of the end of the first Great War, organized in depth and in a series of successive defensive zones provided with machine-gun and artillery fire power, can no longer stand the new method of attack. A barrage that stops infantry moving at two miles an hour, cannot stop the swiftly moving tanks of a Schwerpunkt.

The break through knocks out the elaborate fire plan, which was essentially a frontal one and was not calculated to fire to the flank or rear.

The answer to the new methods of attack, the Blitz, is to organize new methods of defence.

Defence is needed against (a) irruption by tanks and (b) infiltration by assault groups, made up mostly of infantry, and both being supported by the air arm.

The first aim of infantry threatened by tank irruption is to split the attacking force into two parts. The defensive system is built to retain some power of resistance after the Panzer assault group has passed through it. This resistance will not only delay the normal infantry divisions but will sever the armoured and motorized divisions from their sources of ammunition, petrol and supplies. The second aim and requisite of the new defensive
system is to provide a delaying action, to gain time for armoured forces in strategic reserve to come up to relieve the situation.

In place of movement, good use of ground must be employed and a defensive position selected in tank-proof country.

The German Army designs its defensive system on three basic principles:

(i) *Defence in depth* is now designed to act as a filter, disintegrating the attacking force, allowing some parts through and holding back others.

The forces that penetrate search for the flanks of the defending units and find instead their own flanks and rear harassed by counter-infiltration.

The following advantages occur when the units and sub-units of a defending force are dispersed in depth throughout a divisional area and not behind a single anti-tank obstacle such as a river: 

(a) The component units can fight independently, even when surrounded; 
(b) battle opens up on all sides of the penetrating formation—thus (c) dispersing his fire power and rendering it less effective; 
(d) dispersion allows for selection of better natural tank-proof obstacles.

(ii) *Invisibility* of the defence is helped by the dispersal in depth. Linear defence systems show up, are easily seen and destroyed.

Invisibility is obtained by making full use of natural features, such as small towns, villages, woods, farms and quarries. It may be supplemented by camouflage including the building of false fortifications, gun positions, etc.

Reverse-slope positions are visible from the air but still afford useful points for organized resistance.

Whilst remaining concealed, enemy movements must be looked for in all directions in order to avoid being surprised.

(iii) *Readiness for action*, "Schlagfertigkeit" is the term for the third of the German principles of defence.

This embraces the organization and employment of the form of fire appropriate to the occasion and the launching of counter-attacks at the right moment.

*Chapter XI.*—The account of the "islands of resistance" follows the description of defence in depth.

The island of resistance differs from the strong point in a linear defence system, in that it is more powerfully armed and having its own trench system is not linked up to neighbouring islands. It is self-supporting and capable of defence with an all-round field of fire.

The layout of units in a divisional area on the island system is planned in a chess-board pattern with 400 to 800 yards between each.

The heart of the island consists of the close support weapons; the infantry form a protective crust and shock groups are ready for counter-infiltration.

The groups vary from company to brigade or divisional size. The larger groups are subdivided into smaller independent subdivisions.

Divisions co-ordinate the fire plan and all headquarters are linked by wireless.
The forward islands are given anti-tank protection by (a) minefields and (b) anti-tank guns.

After fire the principle of movement must be considered. When the enemy has infiltrated and is exhausted, small assault groups deliver "counter-punches" (Gegentoss). Two or three sections of selected infantry under careful leadership and after detailed planning are launched on the raid. The small size of the group permits of concealment and mobility. The groups must acquire an intimate knowledge of the ground and be able to find their way in and out of the wire of their own and neighbouring islands. They retire when tanks appear but filter out again to harass the following infantry.

The garrisons of the islands do not defend lines but areas. Plans are co-ordinated by a Commander located in the chief island of resistance; a post is chosen for its suitability for observation and communications are maintained by wireless, visual signalling, telephone, rockets, flares and Verey lights.

The responsibility of Command and Staff in this form of fighting is co-ordination of fire and movement, leaving the details to the initiative of the individual sub-unit commander, the man on the spot.

In this form of fighting each man must be encouraged to develop the utmost confidence in his own powers. The morale must be so high that he must go on fighting even when all seems lost; and the officers will set the example.

Defence must always be active and aggressive.

Fortification of the islands is secured by (i) a surround of tank-proof terrain, (ii) the laying of mine-fields, (iii) the making of internal field fortifications, (iv) wiring, (v) defence against flame-throwers, (vi) provision of stocks of ammunition, food, water, etc., sufficient for several days.

(i) The chief natural tank obstacles are—water, marshes and boggy ground; rocky ground and a slope of over 45°; close woods of trees of 10 to 18 inches diameter; villages and towns are dangerous defiles. Artificial obstacles are felled trees, ditches, pits and anti-tank mines.

(ii) Anti-tank mines may be considered as barrages already laid down and lasting for a considerable time. A German division is allotted 13,000 mines or 30 lorry loads. To effectively mine the whole of a divisional area some 100,000 mines are required or approximately 240 lorry loads. The passages through mine-fields must be guarded by sentries and covered by strong concentrations of anti-tank guns.

(iii) Field fortifications were devised in Spain on a new plan, a system of slit trenches was introduced by the Germans, perfected by Lieutenant Miksche and named from its shape the "hammer" system. Circular concrete pill boxes for machine guns can be constructed. They will be protected from direct attack by rifle pits lying outside them.

(iv) Barbed wire surrounds each island and within are wire aprons to provide an inner and outer ring of defence.

(v) Flame-thrower attacks may be made against strong positions.
Modern types have a range of 100 yards and are supplied from fuel containers on wheels, either man-handled or drawn by special tanks. Obstacles should be designed and placed to stop such vehicles. If this is not possible, screens should be made to protect pill-box loop holes.

(vi) Normal supply is continued until enemy penetration has taken place. If stocks of supplies run out, fresh supplies can be dropped by parachute (400 rations from one machine).

These islands of resistance form the bricks from which "web defence" is built up.

Chapter XII.—The plan of defence advocated by the author of Blitzkrieg consists of two parts (i) the Web Defence and (ii) the counter-blitz, described in the next chapter.

The framework of web defence is made up of two principal positions, the first being separated from the second by a "guerrilla" area. The first and second positions are connected on their flanks by transverse barriers, switch-lines or Riegelstellung.

The first position is sited on ground favourable for defence and manned by infantry divisions "of the front line." The second position, 10, 20 or more miles to the rear, is located with reference to the best natural defensive position available and is held by reserve divisions.

These two positions and the transverse barrier zone are organized and built up on the island brick system.

The guerrilla zone is planned of such a depth that the attacker cannot pierce the two positions "at one leap."

Each position consists of four elements:

(i) The outpost zone, consisting of small posts for observation and listening, which must be close together, well concealed, frequently changed and in full communication with the H.Q.

(ii) The "filter zone" or main area of resistance, made up of island bricks organized for all round defence, is where the chief fighting will occur.

This is not a line to keep the enemy out but a zone to allow some part of the attacking force to penetrate so deeply that it can be destroyed. As interrupting tanks advance between the islands they become split up with progressively smaller parties, the "sieve" action.

If the enemy infantry are held up, the attack is split into two parts and the Panzer groups are cut off from petrol, ammunition, supplies and reinforcements.

(iii) The rearguard posts ring round a reserve area of the filter zone, where the heavy guns, Command H.Q.s, dumps and transport harbours will be situated. These posts face in all directions and protect the rear against paratroops or troops landed from the air. They also deal with penetration by small enemy parties operating by night.

The troops of the reserve are in a zone contained within these rearguard posts. If a thrust-point succeeds, these troops deepen the defence by forming further islands of resistance. Reserve troops from another sector
deliver counter-attacks on each flank of the enemy. They begin by advancing frontally and then swing right and left in a pincer movement. The counter-attack is timed to meet the mopping-up echelons, after the first echelons, the reconnaissance and fighting tanks and motorized elements have gone through. A battalion group with close-support artillery and some I-tanks is a suitable formation for such an attack.

The reconnaissance unit should be located in this reserve zone. Their task is to protect lines of communication in the guerrilla zone, act as anti-paratroop patrols, follow up any erupting tanks and also act as a reserve assault group.

(iv) In the guerrilla zone web defence is laid out on a different scale. In the front and rear divisional areas the net work is a fine one. In the guerrilla zone the meshes are coarser, the nodal points embracing towns, villages, important road junctions and bridges being formed into or covered by the fire of islands.

The troops in this zone should use the methods of guerrilla warfare. They should fight offensively, appearing and disappearing and continually harassing the enemy.

Towns are organized for this form of fighting. The enemy having pierced the perimeter defences by the use of heavy tanks, heavy gun fire and dive bombing, finds himself in narrow streets. Air and artillery support are no longer possible and guerrilla tactics will be successful.

(v) The transverse barriers, that link the first and second positions, are designed to block off the areas of enemy penetration, to make the widening of the gap difficult and to prevent his fanning out for his drive into the second positions. They are organized on the same principles of "island bricks" with outpost zones on each side of the barrier and a reserve zone along its centre. Such barriers should be organized every 20 to 40 miles.

With the modern idea of fighting in depth immense distances are involved. In this system the following distances may be taken as normal, in the case of an infantry division occupying a frontage of four miles.

<table>
<thead>
<tr>
<th></th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Outpost</td>
<td>...</td>
</tr>
<tr>
<td>2. Filter</td>
<td>...</td>
</tr>
<tr>
<td>3. Outpost and reserve</td>
<td>...</td>
</tr>
<tr>
<td>4. Guerrilla</td>
<td>...</td>
</tr>
<tr>
<td>5. Reserve Division</td>
<td>...</td>
</tr>
<tr>
<td>Total forward division</td>
<td>4</td>
</tr>
<tr>
<td>Total depth of force</td>
<td>30-60</td>
</tr>
</tbody>
</table>

This chapter closes with the observation that "no strategically passive defence can hold for ever against the immense powers of modern weapons and the rapid concentration of these weapons made possible by the petrol engine. Therefore the question of strategic counter-attack is of equal importance to that of the organization of a defensive system."

Chapter XIII. The Counter-offensive or Counter-blitz.—The use of
tanks, the employment of the air arm, the increase in fire power and the motorization of the infantry has given a new importance to initiative and attack.

The principal role of the infantry divisions is defensive. There is only one answer to tanks, the provision of a superior number of more and better tanks to operate with a superior air force, and a better equipped and more highly trained motorized infantry and shock troops; the whole force imbued with a will to win based on the highest motives.

Initiative and speed enable the attacker to concentrate so rapidly and to shift his local superiority so swiftly that, unless the counter-move is made by forces moving equally fast, it will be too late.

If the enemy is tangled in the web of defence he can be delayed until all preparations are made for the attacking force to move up. The installation of traffic control, A.A. protection and administrative arrangements, including supplies, all takes time. Again local air superiority must be established before the attack can be launched; including fighters to umbrella the routes, bombers to pin down the enemy air force in its aerodromes and reconnaissance machines to watch the movements of both sides. In action concentrated air support is essential.

Further delay in the advance may be caused by the blocked roads with a vast mass of fleeing refugees.

Where should the counter-attacks be launched?

They should not be used merely to form a new defensive position, but may be put into the battle area already chosen by the enemy for his Blitz or will be better used to boldly strike the enemy front in the sector next to the Blitz. Having penetrated enemy territory, the attack continues towards the crowded roads that are carrying up troops and supplies. This is the true counter-blitz made possible by mobility of armoured forces and flank defence by the islands of web resistance.

This is the "G" picture of modern war, vividly painted by the gifted author of "Blitzkrieg."

The book has been reviewed in extenso, because of the importance of the new doctrine of war therein described.

Readers are invited to make their own medical arrangements for the varying phases of fighting.

A further article, embodying possible solutions, may appear at a later date.