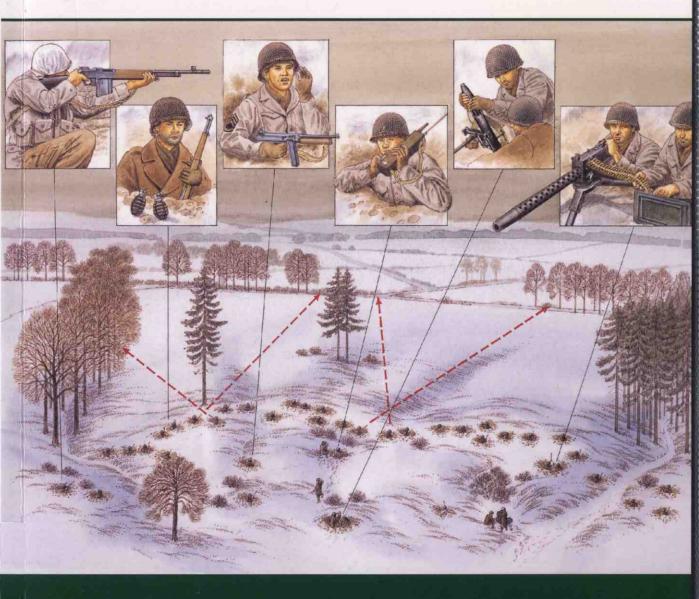
World War II Infantry Tactics

Squad and Platoon



Dr Stephen Bull • Illustrated by Mike Chappell & Brian Delf



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WORLD WAR II INFANTRY TACTICS: SQUAD & PLATOON INTRODUCTION NEANTRY MUST IN THE END confirm all success in war. Infantry compels

the withdrawal or surrender of the enemy and holds the objectives which have been secured, or the points of importance which have to be protected, as a base for further action. It is the most adaptable and the most generally useful of all arms, since it is capable of operating over any ground by day or night and can find or make cover for itself more readily than the other arms.' Such was the opinion expressed in the British *Operations* manual of September 1939; and although many things have changed, this statement probably remains as true today as it was then.

There have been many books on weapons of war; but surprisingly few

There have been many books on weapons of war; but surprisingly few on tactics, and on the human organization necessary to use those weapons effectively. This two-part work seeks to help redress that imbalance, by a detailed look at infantry tactics in World War II, with the focus on the European theatre and on British, American and German forces. In this first volume we deal with the smallest elements of the armies: individuals, rifle squads, and platoons. (For simplicity, the US term 'squad' rather than the British 'section' will generally be used in this text for the basic tactical unit of ten to a dozen infantrymen.) The second book will address the larger canvas of the infantry company, the battalion, and their support weapons.

The sources used are threefold: contemporary manuals, memoirs, and secondary works. In the manuals we see what soldiers were taught to do or should have done, and the theory behind the tactics. About a hundred manuals have been consulted, including such minor classics as the German Dr Reibert's *Dienst Unterricht Im Heere*, the British *Infantry Training*, 1944; and the US manual *Scouting*, *Patrolling*, and *Sniping*, 1944. Yet what should have happened did not always come to pass in practice; and it is individual memoirs and oral history that provide eyewitness testimony. The secondary sources used here are diverse, comprising unit and official histories and recent specialist studies. Amongst these last must be noted particularly J.English, *A Perspective on Infantry*; T.H.Place, *Military Training in the British Army*; A.Farrar-Hockley, *Infantry Tactics*; J.Ellis, *The Sharp End*; J.Balkoski, *Beyond the Beachhead*; and S.Ambrose, *Citizen Soldiers*.

It is said that while watching manoeuvres on Salisbury Plain between the world wars, Rudyard Kipling was asked his opinion of modern war. His reply was that 'It smells like a garage and looks like a circus'. For those who actually fought, the impression could be a bizarrely disturbing 'stream of consciousness', like that recorded by Capt Lewis Keeble of the 1/4th King's Own Yorkshire Light Infantry in Normandy:

OPPOSITE Compared with the armies of World War I, the infantrymen of 1939-45 represented a far smaller proportion of the millions swept up by mass conscription, although they suffered the bulk of the casualties; and in some armies it was decided to mark the status of the battle-tried footsoldier by special insignia. This Obergefreiter of a German mountain unit wears on his left breast the Infanterie-Sturmabzeichen, 'Infantry Assault Badge', instituted in December 1939 to recognize participation in at least three actions on different days. The peculiarly dangerous nature of infantry work was recognized by the US Army in late 1943 by the Combat Infantryman Badge, which carried additional pay of \$10 per month.



An all-out bayonet charge across open ground, demonstrated by British infantrymen of the Loyal Regiment for publicity purposes, late 1930s. Such unsophisticated tactics became increasingly rare in Western Europe, although odd instances were recorded almost until the end of the war.

'The troglodyte doctor; being lost in the dark and fired on by own troops; the mutineering signaller saved by his corporal; being shelled by Canadian mediums; the pacifist reinforcement; the drunken corporal; full body wash from a cup; a week in boots; tin hat lifted by a sniper; Tyneside Scottish rake our trenches; booby trap with football lace... cider in corroded jerricans; Callard's rum; the pioneer platoon massacred. And the battlefield is empty. One sees very few live, uncaptured enemy.' Many, like Sgt W.Virr of the 16th Durhams, felt that the front line was a different world, and those there a 'different species'.

Yet if there is a message in what follows, it is that the frequently bloody and apparently random confusion of infantry combat was meticulously choreographed. Moreover, we should be aware that even in this microcosm there was change and development over time. New weapons were added, new ruses devised. Men changed: innocents and ideologues became veterans and victims of 'exhaustion', green replacements became officers and NCOs. Armies also changed, and not merely because they gained in experience or deteriorated in quality. The front line infantry, though a numerical minority of the armies, generally suffered two-thirds or more of the total casualties.

THE SOLDIER'S EXPERIENCE

Casualty rates

The idea that infantry combat in World War II was relatively far less costly in casualties when compared with World War I is widely believed – but largely erroneous. The US infantry divisions that fought in North-West Europe between D-Day on 6 June 1944 and VE-Day on 8 May 1945 had an average manpower turnover of approximately one hundred per cent. In the extreme instance of the US 4th Infantry Division the gross turnover was in excess of 35,000 men – or almost two and a half times its original strength of about 14,000. Even units which were only at the front for a month had significant casualties: the 86th Division took 1,233 battle and non-battle casualties in just 34 days at the end of the war. The 17th Division, joining the fray on Christmas Day 1944, had 4,000 casualties of all types in 45 days.

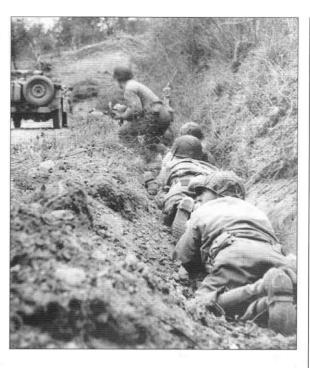
Combat infantry company losses could be cataclysmic. A detailed study of G Co, 328th Infantry Regt, in the 26th ('Yankee') Division, shows a unit with an establishment of 187 other ranks and six officers, through which passed 625 men in just eight months. Of these, 51 were killed in action and a further six died of wounds. A total of 183 men were wounded in battle; of these 51 returned to duty, ten of them to be wounded a second time. Illness, trench foot and frostbite added a further 143 losses by the company; and eight self-inflicted wounds were reported. The experience of 26th Division was little more than average: no American infantry company which landed in France in the summer or autumn of 1944 would have many of the same men left by the time the unit celebrated the end of the war in Europe.

British and German examples may be less obvious, since there was a greater propensity to rotate or even to disband weakened formations rather than keeping them in the line with successive drafts of replacements; yet at times – as

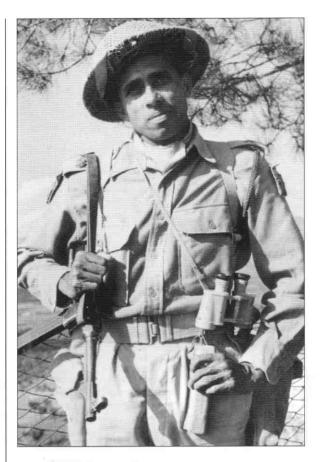
in Normandy, and on the German border - the attrition rate rivalled or even surpassed that of the Great War. In 1944 New Zealand casualties in Italy reached roughly double the original ration strength. Proportionately, Canadian losses on the Scheldt in 1944 marginally exceeded those at Passchendaele in 1917. Among British units, 1st Bn Norfolk Regt in NW Europe suffered almost 70 per cent casualties, and over 17 per cent actually died. In one of the worst instances, 6th Bn Duke of Wellington's Regt - badly mauled by elements of the Panzer Lehr and 12. SS-Panzer 'Hitlerjugend' divisions at Le Parc de Boislond - lost 16 officers and 220 men in two days. With a new commanding officer and second-incommand and raw replacements in the ranks, they were again ordered forward, only to be heavily mortared. After more than another hundred casualties, LtCol Turner was pleading to be taken out of the line: no one knew each other, the battalion was 'jumpy', and there was 'no esprit de corps' - he twice had to rally men at revolver point. The battalion was disbanded.

Quite a few men were pleased to be wounded: for the British this was the familiar 'blighty one', for the Americans the 'million dollar wound', for the Germans the very literal 'Heimatschuss', the shot that sends you home.

Lieutenant Peter White, a platoon commander in 4th Bn King's Own Scottish Borderers, 52nd (Lowland) Division, noted that in the comparatively short period between October 1944 and May 1945 his little command suffered 42 casualties killed, wounded or otherwise incapacitated. A majority of these were the result of shell and mortar fire – some of it 'friendly'. Others fell to snipers and machine guns, but some defied simple categorization. Amongst these was a bad case of frostbite; two cases of 'bomb-happiness', or shell shock; and a man who was blown up by his own load of mortar bombs. One had a self-inflicted wound, another was injured whilst cooking. Only four men in the original platoon were unscathed throughout, with a further three early replacements who also



In one of the relatively few photographs which capture genuine infantry combat, US soldiers abandon their vehicles under mortar and machine gun fire to take cover in a ditch near St Lô, Normandy, in summer 1944. (US National Archives)



Infantry officer, Italy, 1944:
Maj Anandro Kadam of the Indian
Army's 3/5th Mahratta Light
Infantry poses with a captured
German MP40 sub-machine gun,
a popular weapon among Allied
patrol leaders. He retains his
regulation holstered revolver,
but such weapons were almost
useless at more than hand-tohand range.

survived uninjured. Allowing for those who returned very quickly or were wounded twice, the total turnover was about one hundred per cent. The experience of the KOSB was widely replicated.

As in World War I, junior officers fared particularly badly in NW Europe: in 15th (Scottish) Division officer casualties exceeded 72 per cent, with almost 29 per cent killed. Things were probably worse in 51st Highland Division, already veterans of North Africa: Maj Martin Lindsay noted one battalion in which all 20 rifle company officers were casualties or replaced. The adjutant of 1st Gordon Highlanders offered the remarkable statistic that of the officers serving in the 20 rifle company appointments, nine had been killed and 30 wounded.

Soldiers were not stupid, and soon recognized the comparative risks they ran from particular causes. A US poll asked a large sample of GIs which weapons they feared most: almost half picked the 88mm gun, with dive-bombers, bombers, mortars and machine guns in the runner-up positions (and this at a time when the number of German level bombers was negligible – a reminder of the high perceived and actual threat from friendly aircraft). Bayonets, although widely carried, featured relatively slightly in either fact or imagination. The US 90th Division was

probably fairly typical, in that out of a total of 20,000 casualties just 13 were recorded as being caused by bayonets. Official statistics for the British Army over the course of the whole war state that 75 per cent of battle wounds were occasioned by shells, bombs and mortar rounds. Bullets and anti-tank shells accounted for ten per cent, the same figure as for mines and booby-traps. The remaining five per cent were caused by a miscellaneous range of crushings, chemical burns, and 'other' injuries.

Shelling, particularly prolonged bombardment, was the sternest test of infantry morale. As a soldier with the US 90th Division recorded:

'The footsoldier learns to listen to the rustling sound made by a shell passing overhead. If the rustling diminishes in the direction of the enemy, it is caused by a friendly, or outgoing shell. If it diminishes in the direction of our rear, it is unfriendly or incoming. We were not particularly upset by shells that passed overhead and rustled on to our rear, for that was where the various headquarters lay, and we took some satisfaction from imagining the discomfiture of higher headquarters... Incoming shells that land among the forward troops arrive suddenly without warning. There is a shriek and a bang. The best thing to do is drop to the ground and crawl into the steel helmet. The helmet was of a shape and size to fit the head, but one tends to shrink a great deal when shells come in. I am sure I have gotten as much as eighty per cent of my body under my helmet when caught under shellfire.'

A private of the Worcesters was shocked to see the effects of a direct hit which blew the victim into 'tiny little bits'. All that was left was 'a booted foot, a section of the human cranium, a bunch of fingers', and 'a bit of clothing'.

Combat fatigue

'Exhaustion' was a widely acknowledged phenomenon. Yet this was not always directly related to losses: as Capt Alastair Borthwick of the 5th Seaforths put it, 'nervous strain cannot be assessed by counting casualties, and nervous strain is what matters at the end of the day'. Generals came to realise that the soldier went through a cycle of efficiency. Untrained, a man was next to useless. When trained, but untried, formations could often be almost suicidally brave while still inexperienced in the finer points of combat. The first action was a vital test of mettle, which could prove a unit's worth or lead to dramatic collapse. Having seen combat, but still being fresh, a unit was likely to be at a peak of effectiveness. True veterans tended to suffer fewest casualties, but this was in part because they took the fewest risks. Major Benson saw this cycle repeated in 1st Black Watch:

'We generally found that newly joined drafts of officers and Jocks, provided they survived the first three weeks, had a much better chance of surviving. They got battle experience in simple things and... learned a lot by talking to their NCOs and fellow Jocks. Quite a lot had only staff experience, not having been at the "Sharp End". But proper battle experience could only be gained... under active service conditions.'

When the point of nervous exhaustion was reached the Allied armies were ostensibly more humane than in World War I, and the ultimate sanction of 'shooting at dawn' a man whose nerves broke down was unknown in this war. Only in the German forces was execution 'for cowardice' the norm; this was partly the result of a more repressive society, but it was also the case that the German soldier was expected to spend longer and longer in the line as reserves dried up. In the British Army there was an emphasis on 'keeping the man in the line'. Commanding officers differed in their approach, some recording that men could often return to duty after a few nights'

unbroken sleep in the unit rear area. A man's immediate superiors and comrades had no difficulty distinguishing between a good soldier who had reached the end of his mental strength, and an habitual shirker. In 51st Highland Division the 'cure' could be drastic, nevertheless, as recounted by Pte Whitehouse:

"Banger" Brown and Jock Harman were the first "trotters" [deserters]. The Corps of Military Police caught them, returned the couple to Stan's platoon both handcuffed. They had then been taken out on patrol, still manacled, into "No Man's Land", and then a second patrol. On their return, during the night a supporting tank had pulled into the platoon position by mistake and one track went over the prisoners....' Lieutenant Otts of the US 26th Division saw his first case

France, 1944: US Army Tech Sgt F.C.Irish discovers an enemy ruse. The string of firecrackers could be left burning in hedgerows to produce a passable imitation of small arms fire. The wary would be forced to take cover – perhaps in a mined ditch; the unwary would give away their position by returning fire. (US National Archives)





Caen, Normandy, July 1944:
British infantry put a Sherman
tank between themselves and
the enemy – an instinctive move,
but not necessarily wise, since
tanks were priority targets for
the enemy. The central man
carries the platoon's 2in mortar;
left of him, a junior leader with a
Sten gun peers round the flank
of the Sherman. (Imperial War
Museum HU 90177)

succumb to 'exhaustion' under sporadic shellfire in November 1944:

'About the middle of the night we had our first case of battle fatigue - in other words, the first man to crack mentally. His was the most violent case I was to see. A couple of men brought him into the Command Post and laid him on a mattress on the floor. For the rest of the night he lay there crying loudly, laughing, screaming, or just sobbing quietly. At times he would try to get up and run out, and it took several men to hold him down. I think that such a case is the worst thing that can happen for morale... The man himself is not to blame; it is all in the way one is made inside. Some men crack up very quickly, others last longer, and still others never crack. I saw some of the bravest men snap under the strain of too many days in combat.'

Chemical sedation was a widespread palliative. The Americans jokingly named one tranquillizer the 'Blue 88', because it supposedly had the power of an anti-tank shell.

Physical demands

Soldiers of all nationalities soon learned that there were gaps between what they had learned in training, and what happened in the field. In terms of clothing and equipment peacetime theory and wartime practice could be poles apart.

The British manual writers were soon instructing the troops not to polish their 'brass', nor shine their boots; and officialdom joined the soldiery in accepting that the gas mask was just too big and awkward, introducing a lightweight model midway through the war. An *Army Training Memorandum* of 1944 suggested to baggage-laden British officers that they could limit their entire kit to 'valise, pack, and haversack' – and still not sacrifice their pyjamas. The Germans, with experience on many fronts, frequently wore their light fatigue uniform in warm weather, and discarded their old-fashioned Tornister or knapsack pack in favour of a small triangular canvas frame or 'assault pack'; the versatile rucksack issued to mountain troops was also popular with those who could get them.

For US units untried prior to D-Day the impact of reality was abrupt. The result, as one 90th Division commentator recorded, was a 'GI litter' of items shed by the wayside:

'You must understand that planners decided the basic infantryman must have, besides his weapon, a shelter half (half of a pup tent), a blanket, a mess kit complete with knife, fork and spoon, a gas mask, an entrenching tool, a raincoat, a couple of hand grenades and bandoleers of extra ammunition. The uniform was steel helmets and chemically treated fatigues... more or less resistant to poison gas. The treatment rendered the clothing virtually impermeable. Hence, it was hot. As we plodded along we sweated excessively and began to feel the weight of all the "essential" equipment.'

When unchecked the jettisoning of kit could become an epidemic. While most naturally hung on to weapons, ammunition and digging tools, the blankets, raincoats and gas masks often disappeared. Some decided the mess kit was a luxury, though the spoon was generally kept. Even K-rations came in for rationalization, with men gobbling down as much as they could and throwing away surplus packaging. Some US units became wise to the dumping, and had a truck trail the marching men to pick up discarded items for reissue, with admonishments, later on.

The transformation from the neatly attired novice going into battle to the veteran coming out could be remarkable. Pfc Egger recorded his cold weather combat gear as consisting of raincoat or wool overcoat, boots with overshoes, gloves, wool underwear, shirt and uniform, helmet with liner, and scarf tied over the head. One golden rule was never to look like an officer. A lieutenant of the US 35th Division going into the line was puzzled to see the dishevelled men of the 29th ('Blue and Gray') wearing their field jackets inside out. The blanket cloth lining had a duller, darker surface than the exterior, and this odd fashion was improvised camouflage. Not infrequently the long canvas leggings, which were time-consuming to lace, were thrown away – but this occasionally proved dangerous, as the result could look like a loose-fitting pair of German fatigues.

What could be thrust into the pockets almost defied belief. Writing home on 28 January 1945, Egger examined the contents of his own, to find: a billfold, a pay book, two boxes of ammunition, two tooth brushes, water purification tablets, no fewer than eight bars of chocolate, a Bible, a can opener, cocoa powder, string, matches, a knife and 'other pieces of equipment'. The US Combat Infantry Badge was a proud but dressy novelty, so much so that many men mailed them home and never actually wore them in the field.

National differences

It is frequently said that 'national characteristics' played an important part in determining the efficiency of the soldier. For example, there is an influential lobby which suggests that Germans simply make better soldiers; Col Dupuy has gone so far as to state that a quantifiable value can be given to the combat superiority of German troops. While ultimately successful, and respected for their defensive stubbornness, the British infantry are saddled with a plodding reputation. The Americans have been criticized for over-reliance on matériel. Lieutenant Colonel Ziegelmann, a staff officer with the German 352nd Division in Normandy, observed that 'With the exception of operations on a fairly small scale, the enemy in principle only committed his men to an attack if he was able to make use of his superiority in matériel before and during the attack... The enemy would have found himself in a predicament against an adversary equally strong in matériel.'

While there may be limited truth in such assertions, it has to be said that context, leadership, terrain, equipment, and – vitally – tactics and training are more important determinants. As we shall see, Americans did not shoot more, and more randomly, because they were Americans, but because they were trained to do so. When German troops proved 'better' it was not because they were Germans, but because their tactics and experience fitted the circumstances precisely. When the British 'plodded' it

was not because they were British, but because their officers were taught to be methodical and sparing of life. Lieutenant Sydney Jary, who survived ten months of intensive action as a platoon commander in 4th Somerset Light Infantry, was adamant that his men were more aggressive and enterprising than any German troops they met. There is much to be said for the old adage that 'there are no bad soldiers, only bad officers'. Success or failure would often hang on whether troops were attacking or defending, on the quality of intelligence data available to them, on the weather and terrain, on sheer numbers and – of course – on blind luck.

Fitness and education did have a bearing: educational standards have historically been relatively high in countries such as Germany and Scotland, while city slum dwellers were seldom as physically fit as countrymen. The levels of selection and training applied to different populations were crucial. Expansion of the German Army commenced as early as the middle 1930s, and it is arguable that the many National Socialist paramilitary organizations, such as the Hitler Youth, made a significant contribution towards the militarization and fitness of the nation. Even in the Reich Labour Service there was drilling with spades, which, like rifles, had to be kept scrupulously clean. While SS recruiting literature was aimed specifically at the young as 'our front comrades of tomorrow', the Army made more traditional appeals for new officers, for example, to be 'a pattern and model of achievement for the men', in the highest and 'most fortunate' vocation.

In the pre-war Wehrmacht all soldiers underwent basic infantry training, ensuring that officer candidates were competent in the skills of leading infantry before they started any specialised training. As Siegfried Knappe recorded of his training in 1936: 'Often our three hours a day in the field would be infantry practice, for which we would wear our field uniforms, steel helmets, and gas masks... We did this to make sure that everyone knew infantry tactics even if he was in the artillery or Panzers, because tactics usually determined the outcome of a battle.'

The German infantry of late 1940 was at a peak of efficiency and enthusiasm, having won substantial victories at limited cost. By the end of the war five million casualties, leading to increasing dependence on the young, the old, the sick, and disaffected foreigners, had taken their inevitable toll. The Scottish platoon commander Peter White, looking at German prisoners taken in late 1944, was surprised to find that:

'There seemed much more variety of type than among our chaps. Very old, very young, massive and brutish – the type one expected – or frail, wheezing, cold and frightened parodies, small and almost pitiful in jumbled ill-fitting uniform. Most carried lots of belongings and had discarded their steel helmets, almost invariably wearing instead their peaked caps, which called to my mind a group of vultures with their beaks twiddling this way and that as their heads swung. Also popular were cooking pots, mess tins, rye black bread, water bottles full of alcoholic drink and evil looking heavy sausages. Their tin shaped respirators were always in evidence. This latter point used to cause me thought at times, for our respirators were nearly always with "B" Echelon some miles to the rear.'

OPPOSITE From the classic series of photographs taken in Normandy on 12 August 1944. for which Fusilier Tom Payne, 6th Bn Royal Welsh Fusiliers, 53rd (Welsh) Div, was posed as 'the typical Tommy' by Sqt Bert Hardy of the Army Film & Photographic Unit - later a famous news photographer. In fact Payne was untypical by 1944 in being a pre-war regular, a 33-year-old veteran of 16 years' service; nevertheless, he had avoided promotion to NCO rank. The standard 37 Pattern webbing equipment is worn over Battledress, Serge; at his left hip the 'spike' bayonet for the No.4 rifle and the claspknife suspended from a clip are standard issue, as is the light respirator slung behind. However, the signal flare pistol tucked behind one of his basic pouches and secured with a lanyard was usually carried by an NCO (typically, the platoon sergeant); had Payne's long service brought him responsibility in his section beyond his nominal rank? - the younger privates of 11 Ptn, B Coy must have looked to this 'old sweat' for leadership. Just visible over his shoulder is the blade of a GS shovel jammed under his small pack - bulky, but much more practical for diggingin than the small individual entrenching tool. (IWM B 9005)

The experience of the democracies was very different. In America the major expansion of the army did not come until 1942. At least in the first instance a lower proportion of the total population was required for military service, so initially much greater levels of selectivity were possible. John Ellis records that about two million would-be draftees were excluded on psychiatric grounds alone. Even so, the US infantry got less than its fair share of talent, as those with relevant civilian specialist skills were sifted out for the supporting corps. As the official history has admitted, 'General service men were assigned to units irrespective of finer physical gradations... whether a man would engage in hand to hand fighting, march long distances on foot, carry a heavy pack, or go without sleep and food counted very little in his original assignment.'

On the plus side, the US Army was backed by growing industrial might, unhindered by bombing of the homeland or by the need to provide garrisons for conquered nations. Moreover, American troops enjoyed a good reputation and the children of the enemy learned to associate them with candy rather than atrocities. Eventually German soldiers would recognize them as a good bet to surrender to (although statistically the most scrupulous captors were the Canadians). Conversely, the US suffered from an early lack of expertise and seasoned instructors, and many GIs remember training being delivered in large lecture halls by junior NCOs whose practical experience was limited. In the absence of anything better, passages from manuals were sometimes learned parrot-fashion – though the story that rookie GIs in combat had to be prevented from bayoneting the enemy 'by numbers' is probably apocryphal.

In the British case, history and previous form were especially important. With the exception of the period 1916-18, Britain had no historical experience of conscript armies, and Britons regarded any militaristic culture with a healthy skepticism. The Royal Navy was indubitably the 'Senior Service' and, as in America, there was a feeling that the infantry did not get the best material. As MajGen Utterson-Kelso of 47th Division put it, the infantry was often regarded as 'the legitimate dumping-ground for the lowest forms of military life'. The appalling casualties of 1914-18 had led to a climate of public opinion in which the squandering of life would not be tolerated indefinitely. By 1944 the United Kingdom had been fighting for five years, facing many setbacks and often unfavourable odds. At least some of those generals who had reached the top (and more importantly, stayed there) were the most methodical and calculating, deeply marked by their experience as subalterns in World War I - Gen Montgomery is perhaps the most obvious example. How the GI and his generals would have fought after five years can only be guessed at. Major E.M.Llewellyn, editor of Stars and Stripes, was one who realised that there was a basic difference of viewpoint: 'The British believe that, regardless of mistakes made today and tomorrow, they will fight on courageously and win final victory. The Yankee feels that no power on earth can withstand his might...'

Britain's Empire and Dominions were a huge resource but a mixed blessing, as the advantages of manpower were sometimes offset both by her almost worldwide defensive responsibilities, and by communication and supply problems. Indian Army troops, who fought extensively in



The contents of Fusilier Payne's small pack laid out on a towel: rolled anti-gas cape doubling as a waterproof, socks, shaving and washing kit, spare bootlaces: emergency ration tin, chocolate bar on a tin marked 'Boiled Sweets Salt & Matches' and now perhaps used for cigarettes, water sterilizing kit, brushes, knife, fork and spoon; mess tins, camouflage face veil, woollen balaclava. Another photo in the series shows that Payne kept dubbin and a boot brush, and his rifle cleaning kit - officially carried in the butt trap - tucked into his entrenching tool carrier. (IWM B 9010)

North Africa and Italy, were of variable quality, yet the best of them showed unequalled loyalty. The Canadians alone seem to have managed to blend the virtues of the American and British traditions without inheriting too many of their weaknesses. Yet important as these underlying factors were, it may be argued that it was doctrine, armament, training, organization and small unit tactics that were the final arbiters of battle.

TRAINING: FIELDCRAFT & BATTLECRAFT

Though scouts and snipers learned camouflage and movement during World War I, the universal teaching of sophisticated skills was essentially a development of the interwar period. In the words of Basil Liddell Hart, protégé of the Great War training expert Gen Ivor Maxse and author of the 1921 edition of *Infantry Training* and *Science of Infantry Tactics*, the 'modern infantry soldier' had

to be three in one: 'stalker, athlete, and marksman'. By World War II such concepts were accepted as defining features of the footsoldier. The US *Operations Manual* of June 1944 noted:

'Infantry can manoeuvre on difficult ground. Its ability to move in small and inconspicuous formations enables it to take advantage of covered routes of approach and minor accidents of terrain. It must utilise the terrain intelligently to attain maximum fire effect, to conserve personnel, to conceal movement, and to facilitate the manoeuvre and employment of reserves.'

Pre-war German training heartily embraced these precepts. Contrary to the common suggestion that cartoon-style manuals are a modern US innovation, they date back at least to World War I, and interwar German training literature frequently includes quirky or even comic pictures. Major Bodo Zimmermann's *Die Soldatenfiebel* illustrated 'Bewegungen im Gelände' or stealthy 'field movement' by means of photographs and line drawings. Recruits were taught to 'kriechen' or creep forward with an elbow-and-knee movement approximating to the British 'leopard crawl', with the weapon held transverse in front of the body or slung around the neck. A variation on the theme was 'gleiten' or gliding, pushing straight forward with the feet. Drawings were also used to show dispersal and use of cover.

Other sections dealt with personal camouflage and spade work, shooting from trees, the use of trunks as rests, and the importance of quick loading and sight-setting in any firing position. Another useful ruse depicted was lying under the camouflaged shelter-quarter to achieve near total concealment when shooting. 'Richtig' and 'Falsch' – 'Right' and 'Wrong' – line drawings were continued in Weber's *Unterrichtsbuch für Soldaten* of 1938. Here wrong-headed characters had bucket-shaped heads and were seen committing cardinal errors, such as advancing nonchalantly across open ground, using obvious isolated cover, and

failing to observe. One of the worst sins was 'zusammenballen' - 'bunching together' and offering an easy target.

Film was increasingly used as a supplement to exercises, lectures and manuals. While the US enlisted Hollywood and the Germans nationalized their film industry, even Britain made a remarkable range of film training materials. As early as 1 May 1942 there were 154 British training films, with a further 107 under production. These were in three main categories: basic training films; 'instructional' films on specific pieces of equipment; and 'background' films. While not to be treated as 'an alternative to Mickey Mouse', these were freely available to units from area 'Kinema Section Libraries'.

German instructions of the early war period suggested that an effective arena for realistic infantry training could be constructed on a piece of ground about 100 by 150 metres. Ideally this would be provided with 'ruins of walls, parts of buildings, tank traps, barbed wire defences, shell holes, frames with suspended sand bags, clumps of trees and bushes', and a hilly or uneven area would give particular flexibility. The training ground should comprise three sections, for an obstacle course, hand grenade practice and assault training.

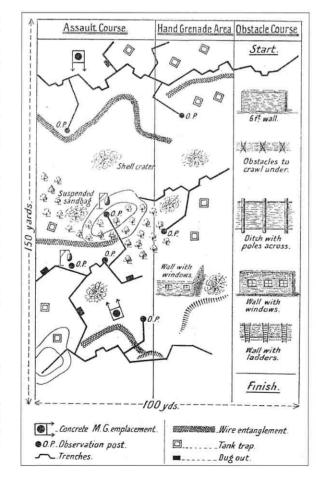
On the obstacle course trainees learned to cross ditches and walls, and rush over planks and poles. Team efforts were encouraged for difficult crossings, while daring could be instilled with jumps from high

walls. The hand grenade area was specifically for the teaching of throwing from various positions in close combat, but could also double for other weapons. The assault area applied the lessons to specific problems, dummies being used, often unexpectedly, to represent the enemy.

Explosive charges and other devices were used to encourage the soldier 'to act not mechanically, but independently and on his own initiative'. Section assault training included attacking field works. Tactical training stressed the importance of speed and surprise: concentrating resources – moral, physical, and material – and ruthlessly exploiting success. Leaders at all levels were taught the importance of maintaining the initiative, keeping the objective in mind, and simplicity of planning which would ensure speed in execution.

A thorough appreciation of modern fieldcraft was given by the US Scouting, Patrolling, and Sniping manual of 1944. This drew a particularly clear distinction between cover – which was a 'protection against hostile weapons'; and concealment – which was protection against observation, but not fire. Amongst the 'principles of individual concealment' were the need to remain motionless, the art of observation when prone, and blending with backgrounds. Observation was preferable through or around objects, not over them; while shooting around the right side of an obstruction

Typical German training area for close-quarter battle, as extracted from a semi-official German publication and translated in the British Periodical Notes on the German Army (1941).



Throwing grenades in standing, kneeling and prone positions, from the 1937 German manual Körperliche Grundausbildung ('Basic Physical Training') - thus the thrower is shown as a semi-naked athlete, in a characteristically Nazi style of artwork. Distance marching, map reading, message running and shooting were all part of the Hitler Youth curriculum; the SA 'sport' qualification also included grenade throwing, and activities performed while wearing a gas mask. The aim was to provide a generation of fit and partially trained youths before they even

reached the age for military

was best, as this tended to conceal the maximum area of the body. Personal camouflage received considerable attention. Covering equipment was encouraged, as was the improvisation of camouflage clothing from 'gunny sacks or sand bags'. Face camouflage was a lso explained:

'Paint splotches across the nose, mouth, cheeks and hands with lampblack, burned wood, cork, crankcase oil, grease paint or vaseline with soot on it. Remember that mud dries light and many black substances glisten and reflect light. Green grass crushed in the hands will make a stain that lasts for about ten hours. No exposed skin should be overlooked in splotch painting: back of the neck, chest, lower arms, and both backs and palms of the hands should be painted. For a position amongst rocks or in open terrain, tone the skin to a solid dark colour.'

When issue camouflage garments were not available scouts were expected to daub ordinary fatigues with 'irregular splotches' of paint, dye or oil. The helmet could be disguised with a net, mud, or a helmet cover 'improvised from a piece of cloth or burlap, about 20 inches square, irregularly coloured to blend with the background'. Helmet nets, or wire or twine substitutes, were to be garnished and draped so as to break up the dark shadow of the helmet visor. 'Plumes' of foliage sticking up were inadvisable as movement would be obvious.

Given the American emphasis on firepower, and the rarity of wounds inflicted with edged weapons, it is perhaps surprising that bayonet training continued to feature significantly. The point, however, was that bayonet training helped to foster a desirable level of willpower and aggression. As Patton's pithy maxim put it, 'Few men are killed by the bayonet; many are scared by it'. The 1943 US Field Manual Bayonet explained that:

'The will to meet and destroy the enemy in hand to hand combat is the spirit of the bayonet. It springs from the fighter's confidence,

> courage and grim determination, and is the result of vigorous training... The will to use the bayonet first appears in the trainee when he begins to handle it with facility, and increases as his confidence grows. The full development of his physical prowess and complete confidence in his weapon culminates in the final expression of the spirit of the bayonet - fierce and relentless destruction of the enemy. For the enemy, demoralising fear of the bayonet is added to the destructive power of every bomb, shell, bullet and grenade which supports and precedes the bayonet attack.'

> The manual noted that the blade was actually preferable to other weapons in certain circumstances, e.g. during night infiltration, or in close combat when friend and foe were so mingled that grenades and bullets would be dangerous to one's comrades. US bayonet fighting was taught as a series of moves from the starting point of the 'guard' or the 'high port'. These included the 'whirl', by means of which the fighter about-faced,

and the parry, to block the opponent. The aggressive actions included not only the long and short thrusts, but vertical and horizontal strokes with the rifle butt, and the 'smash' and 'slash'. The 'slash' was used when an opponent moved out of range of the rifle butt, or fell during combat, and consisted of bringing the rifle sharply round with a slashing motion aimed at the neck. Butt jabs were particularly useful when the opponent was too close to be bayoneted, and were profitably teamed with various unsporting moves:

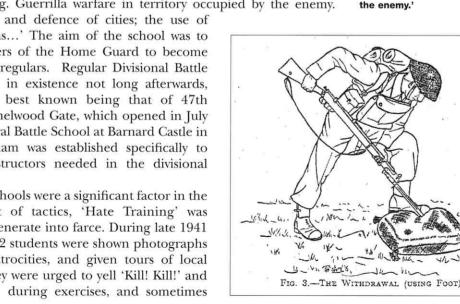
'When using a butt stroke the fighter can often knee his opponent in the groin, trip him or kick him in the legs. Butt strokes and slashes lend themselves especially to fighting in trenches, woods and brush, or in a general melee when lateral movements are restricted.'

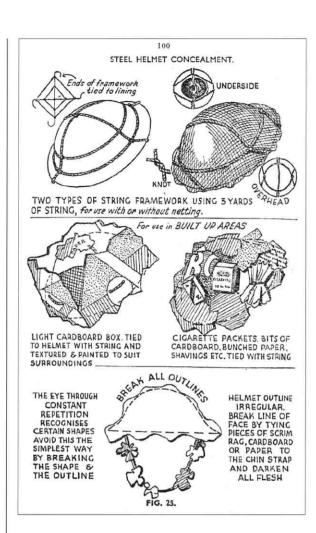
British training has been criticised as backward, on the grounds that the old 1937 Infantry Training manual was not comprehensively updated until March 1944. While this is true, it has to be stated that the British approach to fieldcraft was far from stagnant, and in certain matters British tacticians learned from German methods. In 1941, for example, it was noted that the Germans stressed concealment in defence more than the British, and also that the enemy were firing machine guns through their own attacking infantry. Within a few months both these points were absorbed into official British teaching. The 'Battle School' and 'Hate Training' were also factors which pointed towards a growing seriousness of approach - though the former was undoubtedly more practical than the latter. Battle Schools were started as early as 1940, and it may be claimed that the Home Guard School at Osterley Park, founded in answer to the need for 'real training' and run by the World War I and Spanish Civil War veteran Capt Tom Wintringham, was one of the first. As an article in Picture Post in September 1940 explained, the men were taught 'confidence and cunning, the use of shadow and cover'. Lectures and demonstrations were given on 'Modern tactics in general, and German tactics present and future. The use and improvisation of hand grenades, land mines and anti-tank grenades. The use of various types of rifles, shotguns, pistols, etc., camouflage, fieldcraft, scouting, stalking and patrolling. Guerrilla warfare in territory occupied by the enemy.

Street tactics and defence of cities; the use of smoke screens...' The aim of the school was to teach members of the Home Guard to become "first class" irregulars. Regular Divisional Battle Schools were in existence not long afterwards, perhaps the best known being that of 47th Division at Chelwood Gate, which opened in July 1941. A Central Battle School at Barnard Castle in County Durham was established specifically to train the instructors needed in the divisional schools.

If Battle Schools were a significant factor in the improvement of tactics, 'Hate Training' was prone to degenerate into farce. During late 1941 and early 1942 students were shown photographs of German atrocities, and given tours of local abattoirs. They were urged to yell 'Kill! Kill!' and 'Hate! Hate!' during exercises, and sometimes

From the British manual Small Arms Training: Bayonet (1942). 'The sole object of weapon training is to teach all ranks the most efficient way of handling their weapons in order to kill the enemy.'





Suggestions for garnishing the British Mk II steel helmet for concealment in the field, from The Organisation of Home Guard Defence (1943). Note the rather fanciful idea of sticking discarded cigarette packets to the helmet for camouflage during street fighting.

animal blood was added to bayonet practice for extra realism. The idea was to acquaint the soldier with, and harden him against, the reality of battle; but the unreality of these 'blood and hate' scenarios could seldom survive the British sense of humour and, under opposition from senior commanders, they were officially dropped in May 1942. (Nevertheless, similar ideas would later resurface, as for example during SAS training.)

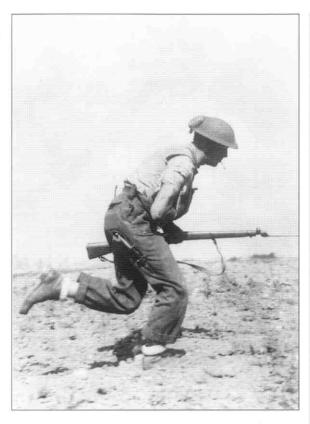
In addition to these activities, the 'provisional' *Instructor's Handbook on Fieldcraft and Drill* of October 1942 was a significant advance. Though lacking the polish of later publications, it was a substantial booklet of almost 200 pages. Its messages were carried by means of diagrams, detailed exercises and cartoons. Moreover, though the words 'instructor's', and 'provisional' suggested limited application, no fewer than 175,000 copies were put into circulation – against 300,000 of the definitive 1944 *Infantry Training*.

Other pamphlets were similarly widely applied. Notes on Camouflage (1939) stressed that 'concealment is a matter of common sense and good discipline' – explaining that the soldier 'must be able to hide himself if he is to have any chance of surprising his enemy and if he is to prevent the latter from making full use of his weapons'. Movement, particularly in the open, was to be avoided; when unavoidable it was to be irregular, so that no formation appeared to give away the unit. Notes on Camouflage also contained

a series of line drawings showing the importance of avoiding isolated cover, crest lines and moving foliage to incongruous locations, and the use of shadow. Surprise: The First Principle of Attack (1941) was a handbook illustrated in cartoon style specifically for NCOs. Despite the title it was essentially a ready reference for fieldcraft and camouflage. Individual Battle Practices (March 1943) gave five short exercises to teach the use of ground and shooting in likely battle scenarios. In an exercise called 'The Stalker' the soldier was taught to advance stealthily, against the clock, for about a hundred yards, before engaging a man-shaped target placed in a battle position. Frightening realism could be added by instructors observing the trainee through a periscope and firing 'a round of ball or blank' whenever he was visible.

The basics of fieldcraft had a remarkably universal quality. Certain passages from the official German infantry manual *Ausbildungsvorschrift für die Infanterie* (1941) are translated almost word for word in the US manuals of 1942 and 1944. British publications such as *Notes on Camouflage* contain sections which are virtually interchangeable with both German and US documents. The German *Manual of the British Army* (1942) specifically claimed 'imitation of German methods', while one British *Army Training Memorandum* told officers to avoid using German tactical terms. Even the Home Guard had several remarkably





ABOVE The British infantryman prepared for battle, from *Infantry Training* (1944).

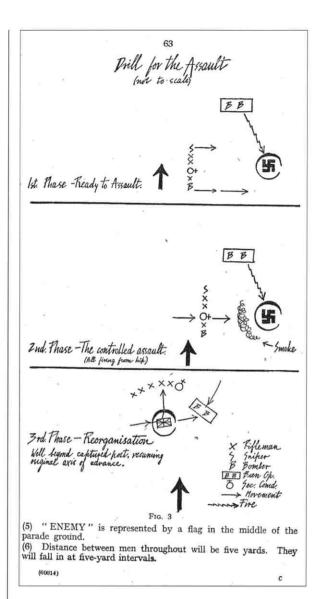
RIGHT An extreme contrast: a Canadian soldier smoking a cigarette while moving briskly about a position near Colombelle, Normandy, in summer 1944 - there is clearly a danger from enemy fire. He has a field dressing around an injury to his upper right arm, which is supported by a sling (note also another dressing tucked, typically, under the back of his helmet net). He has dumped his webbing and BD blouse but keeps firm hold on his rifle and fixed bayonet. Note also the Fairbairn Sykes fighting knife in its sheath fixed to his trouser leg. (IWM AP 269916)

modern fieldcraft manuals. One of the most detailed was the privately produced *Home Guard Fieldcraft Manual* by Maj John Langdon-Davies first published in 1942, 'based upon practical experience as Commandant of the South Eastern Command Fieldcraft School'. Despite the title this volume was also intended to supplement the materials available to army cadets and regulars. In addition to the now familiar content on camouflage, natural cover, movement and defending against paratroops, it contained useful hints on urban concealment and sniping.

By 1942 British training recognized several ways of moving about the battlefield:

'The Walk' When not actually engaged, soldiers were encouraged to keep the head up, observing 'all the while' during movement. Riflemen were to keep the rifle ready for action, in the left hand across the body or poised in two hands. The weapon was to look as though it was 'part of you – not just an umbrella'. Walking was to be well balanced and fluid, allowing the soldier to freeze instantly and avoid jerkiness which would attract the eye.

'The Leopard (or Stomach) Crawl' To be executed with the rifle held forward, or in the left hand with the small of the butt under the right armpit. In a 'Russian' version the muzzle cap was grasped in one hand and the rifle rested on the opposite forearm. Other crawl variations for two-man Bren teams included taking one end of the weapon each, or hooking the bipod legs through the equipment on the back of one of the team while the other kept the butt off the ground. One man could also side-crawl slowly with the Bren, resting it on the instep of the lower leg.



British squad assault drill for practice on the parade ground, from the Instructor's Handbook (October 1942). The squad is still shown as eight men, distinguished between 'riflemen' 'sniper', 'bomber' and a two-man Bren group.

'The Cossack Crawl' Advertised as 'convenient for moving behind low cover', this was done from the squat, moving one leg at a time around the side to the front, with the other knee taking the weight on the ground.

'The Monkey Run' A hands-and-knees movement with clenched fists, this was best done as fast as possible. To avoid exhaustion the monkey run was in short bursts of 15 yards, followed by dropping flat and a pause before continuing.

'The Roll' This allowed the man to get out of sight quickly if spotted when prone. It could be done with the rifle in hand but off the ground, so as to keep it clear of mud.

'Running' This was perhaps most difficult for

Bren gunners, who could put the weapon over the shoulder, carry it between two men, or better still port it on a sling to allow for firing on the move. 'The Ghost Walk, Cat Walk, and Kitten Crawl' were specifically adapted for use by night when stealth and quietness were more important than speed. In the Ghost Walk the legs were lifted high and moved slowly, avoiding long grass and obstacles. The Cat Walk was a very slow hands-and-knees advance, using the hands to avoid twigs or noisy debris. The Kitten Crawl was even more tiring, being effectively a stomach crawl in which the body was kept clear of the ground with toes and forearms.

The opposite side of the game from avoiding being seen was skill in detecting the enemy, and various observation drills, with and without field glasses, were used. An interesting practice for 'eye and ear' was an exercise colloquially known as 'Crack and Thump'. Hidden riflemen fired over the heads of the trainees, who learned to distinguish the 'thump' of discharge from the

'crack' of the passing bullet. By listening for the discharge and looking for wisps of smoke it became possible to locate even well-concealed shooters. For cases of desperate necessity, methods of drawing fire were also taught. In one technique a sniper fired into likely spots while others waited ready to respond to return fire. In another, more hair-raising variation a man would jump up, run a few yards and throw himself down again, trusting that such brief exposure would not give an enemy time to aim properly.

'Battle Inoculation' was a significant, if risky, concept employed in the training of British infantry. The purpose was to make men 'accustomed to the noises and shocks of war by reproducing these things as realistically as possible' (an idea which had in fact been employed as early as the 16th century - though primarily on cavalry horses). Not content with using live ammunition in as much training as possible, the Instructor's Handbook suggested that marksmen be deployed to fire live rounds over trainees' heads during exercises; pyrotechnic 'thunder

flashes' should be used to represent enemy mortar fire; and low flying aircraft should appear. In perhaps the hardest test, the trainees dug weapons pits and were overrun by tanks. They would understandably 'regard this experience with considerable misgivings', but on discovering that a tank could do no harm if they lay at the bottom of the pit they would eventually gain confidence. It is interesting that Guy Sajer, serving with the German Grossdeutschland Division, described an almost identical exercise:

'As we had already been taught to dig a foxhole in record time, we had no trouble opening a trench 150 metres long, half a metre wide, and a metre deep. We were ordered into the trench in close ranks, and forbidden to leave it no matter what happened. Then four or five Mark III [tanks] rolled forward at right angles to us and crossed the trench at different speeds. The weight of these machines alone made them sink five or ten centimetres into the crumbling ground. When their monstrous treads ploughed into the rim of the trench only a few centimetres from our heads, cries of horror broke out...'

Typically, 51st Highland Division added another twist to the idea. In their version the Vickers guns of the Middlesex machine gun battalion fired live over the highlanders, and then Canadian tanks were used to run over the Middlesex 'while lying in their trenches'. Nevertheless,

troops got used even to this treatment. As the Instructor's Handbook put it, 'Generally the final attitude of the troops should be that they are bored and "fed up" when they see tanks and aircraft and take no notice at all of noises or of live ammunition passing close tothem. On no account try to frighten the men; that would entirely defeat the whole object of battle inoculation.'

As far as detailed tactics were concerned, British training methods stressed the importance of the 'Battle Drill' - simple set procedures which everyone was taught in order to deal with a specific problem. This had the ready advantage of giving conscripted citizen soldiers a swift grounding in the basics of combat, and made panic less likely. Nevertheless, 'Battle Drill' was regarded as merely the start. As the Instructor's Handbook explained, 'It does not, if properly taught, cramp initiative nor lead to stereotyped action regardless of the circumstances... Rather it gives the junior commander a firm base on which to develop his individual initiative, much in the same way that the young cricketer is taught the basic principles of stroke play on which later he develops his own style.'

Unarmed combat and knife fighting, developed as skills for raiders and scouts during the Great War, were relatively neglected prior to 1939. Thereafter they underwent a revival – partly through necessity as special forces skills, but also

Disarming an enemy, from the US manual Bayonet (September 1943).

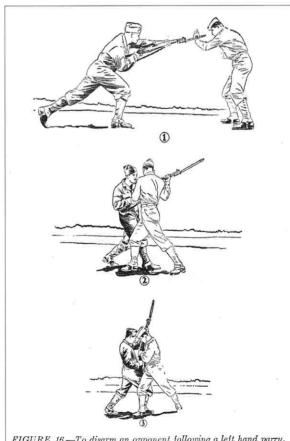


FIGURE 16 .- To disarm an opponent following a left hand parry.

symbolically as a sign of acceptance of 'total war'. In the wake of Dunkirk new British interest was signalled by an *Army Training Memorandum* of July 1940. Here the object of unarmed combat training was explicitly defined as to 'inculcate the spirit of self confidence, initiative, and determination', even though the soldier found himself in 'the most desperate of situations'. War being a matter of 'life and death' there was to be no scruple about the use of 'complete ruthlessness'. Though kicking and eye-gouging, for example, were 'foreign and detestable to the Britisher', they were to be used without compunction, while the value of a 'good solid punch' was not to be underestimated. The steel helmet could likewise become a weapon, for a head butt, or held in the hand as a parrying or smashing device.

Such bulldog sentiments doubtless inspired the privately produced manuals of the period. These included such gems as Bernard's 'Key to Victory' publication *Commando and Guerrilla Warfare: Unarmed Combat*, for 'Home Guard and service use', which promised the secrets to holds, releases, silent killing and the 'extraction of information'. Amongst the less useful moves were one for preventing a Nazi pulling your hair; and a means of securing a German soldier to 'any pole or street lighting standard', using only his legs to form a 'self locking grape vine hold'. At the other end of the spectrum was the best known and most successful of the genre, Captain W.E.Fairbairn's *All In Fighting* of 1942. Overcoming the 'cricket mentality', this was designed to teach the soldier to act 'instinctively and automatically' with a well-illustrated series of blows, holds and kicks. Most famously, it contained a section on knives, including the new Fairbairn Sykes fighting knife and the Smatchet. (Nevertheless, it also repeated the anti-hair pulling stunt.)

Interestingly, the prime objective of US unarmed combat, as outlined in the manual *Bayonet*, was becoming armed. The GI whose weapon was lost or useless was supposed to do one of two things. Ideally he should gather up a discarded weapon and continue the fight but, failing this, he should attempt to take one from an opponent. The main moves were intended to wrest a rifle or knife from an enemy's grasp; in the process the soldier was encouraged to kick, jab at the eyes or throat, elbow, punch, or throw things, as opportunity allowed.

THE SQUAD ETHOS

The squad or section of ten or a dozen men was the basic building block of the infantry and its smallest tactical body – what some German instructions called the 'fire unit'. Just as importantly, it was the cornerstone of morale. Few veterans cite patriotic idealism, still fewer a political creed, as the impulse which made them pull the trigger or march the extra mile; almost invariably, they talk of the fear of letting their comrades down. As signaller Ronald Elliott of the 16th Durhams put it, the motivation was respect for yourself and 'for your mates'. The Americans, who usually worked in pairs, have referred to the importance of 'foxhole buddies': what Maj Dick Winters of 101st Airborne Division called the 'very unusual bond' of the combat veterans. It was what one recent American commentator has called 'a deadly brotherhood'. British manuals made explicit reference to this



Kameradschaft - men of a German infantry Gruppe led by an Unterfeldwebel (right) photographed near Kiev, Russia, 1941. The Wehrmacht veteran Günter Koschorrek wrote that after men had been at the front for a while, 'You no longer fight for Führer, Volk und Vaterland. These ideals have long gone. And no one talks of National Socialism or similar political matters. From all our conversations, it is quite obvious that the primary reason we fight is to stay alive and help our front line comrades to do the same. But we often also fight for a superior, such as our Oberleutnant, who through his exemplary attitude manages to instil spirit into dogtired and almost indifferent warriors.'

vital cement. As Infantry Training (1944) explained, the section was 'the team'; its personnel were to be altered as little as possible, and everything was to be done to foster 'group morale'. Shared experience was a major part of this powerful bonding process. For Lt Peter White of KOSB this was a life 'so departed from known values' as to be unreal: a world in which one could be huddled together with friends for animal warmth one moment, and stacking their frozen bodies an hour later. In this insane situation, where near-children had machine guns, and civilians and animals were in the line of fire, White believed that he and his 'Jocks' had a unique opportunity of 'getting to know our real selves'.

For the Germans, all this translated as Kameradschaft – comradeship. As Unteroffizier Friedrich Bertenrath put it, 'The worst thing that could happen to a soldier was to be thrown into a group in which he knew no one... We were comrades, and always came to the rescue. We protected our comrades so that they would go home to wives, children and parents. That was our motivation.' Guy Sajer, with the Grossdeutschland Division, heard a sergeant explain that it was only

the soldier's life that brought men close together in 'absolute sincerity'. The Wehrmacht soldier Harry Mielert philosophised that the front was a sort of 'homeland' in its own right, where a 'solidarity of fate' actually led to 'higher ethical values'. It is interesting that Hitler made explicit political capital from the parallel between 'soldierly comradeship' and 'national comradeship' – Frontgemeinschaft and Volksgemeinschaft. In this way he sought to graft Nazi values on to a pre-existing military ethos, in a corruption of an essentially generous and unselfish impulse.

Loyalty to the squad was of similar, if not greater, significance to the American GI. It was all the more remarkable in an army drawn from so many different backgrounds, although it should be noted that African-Americans were still segregated. (This separation could have bizarre consequences, as when German prisoners were allowed into 'white' mess halls from which black GIs were excluded.)

A potential weakness in the US system was the method by which replacements were fed in to a unit in action, like so many individual spare parts. Green soldiers, plunged into their first experience of combat as recent additions to an inward-looking group of veterans, often suffered accordingly. The British system was not perfect, but at least those in authority were aware of this problem. For example, Gen Montgomery wrote addressing the concerns of Col Cooper of the Border Regiment on 16 July 1944, assuring him that 'every regard possible in the circumstances shall be paid to regimental affiliations, and that where possible officers and men will be posted together in units, in parties approximating to a platoon in size'. The Germans similarly intended that replacements for field formations should be trained



A veteran German Unteroffizier squad leader, armed with an MP40 sub-machine gun, pictured on the cover of the Munich Illustrierter Beobachter of 7 October 1943. His decorations include two tank destruction bars, and the Nahkampfspange or Close Combat Clasp; the latter was awarded in bronze, silver and gold classes for 15, 30 and 50 days in close combat.

up in Ersatz or 'supplementary' units from the same home area, although this was not always possible in practice.

The squad leader

The junior NCO who led the squad or section was of central importance. The 1942 US Infantry Field Manual: Rifle Company, Rifle Regiment gave one of the most demanding squad leader job specifications. He was to be responsible for 'discipline, appearance, training, control, and conduct' of the squad, enforcing proper standards of hygiene, sanitation and weapon cleaning, and leading from the front in combat. Ideally he would control fire, although it cannot always have been practicable to 'shift the fire of all or part of the squad from one target to another' as the manuals hoped. The leader of the German squad (Gruppe) bore similarly heavy responsibility:

'The group leader must be an example – and a combat example – to his men. The most effective means for gaining the confidence and respect of subordinates and for getting the most out of them is to set an example. But in order to set an example, the squad leader must have a stronger will than his men, must do more than they do, and must always discharge his duties and obey orders cheerfully... In order to be a leader in the

field, a superior must display an exemplary bearing before his men in the moment of danger and be willing, if necessary, to die for them.'

Interestingly, the role of the section commander was not quite as strongly stressed in British literature, although he too was seen as controlling and leading in battle. The 1938 pamphlet *Infantry Section Leading* has been described as a weak document for its relative lack of tactical detail. Even so, there was a growing appreciation of the importance of the junior NCO, and the section leaders' course was an established part of training. According to the British manual *Application of Fire* (1939), one of the section leader's prime duties was fire control. He would specifically direct the light machine gun, give snipers their tasks, and control the rifles 'according to circumstance'. Fire could be concentrated or distributed depending on the target. The grimmer language of the 1942 edition said that one of the leader's most important jobs would be to determine when to hold fire in order to maintain maximum surprise, and to 'ensure killing of the enemy'.

All this may sound superfluous, until one remembers that most units had chronic 'non-firers'. As a frustrated Lt Dick Hewlett of the Durhams remarked, 'One is inclined to freeze up so that you can't do anything – but the only thing to do is fire.' Post-war American research would identify not only men who would not shoot, but many who shut their eyes when they did.

SQUAD ORGANIZATION & WEAPONS

The idea of small groups living and fighting together is long established. As early as the 17th century 'files' of men from larger units are recorded as acting under a 'file leader' or junior NCO, who was responsible for their conduct in battle or billet. Yet it was not until the early 20th century that the squad achieved tactical significance. Arguably this began when various types of weapon were grouped as far down the chain of organization as the company, so making a range of tactics viable. By 1916 the platoons of many nations contained a mixture of rifles, grenades and light machine guns. By the end of World War I platoons were considered viable units in their own right, and there were even instances of the use of rifles and light machine guns in mixed squads.

According to the manual *Rifle Company* (1942), the **US squad** comprised 12 men: the sergeant squad leader; a corporal who acted as his assistant and anti-tank rifle grenadier; an 'automatic rifle team' of three – the BAR man, his assistant and an ammunition carrier; and seven riflemen. Of these last, two were designated as scouts.

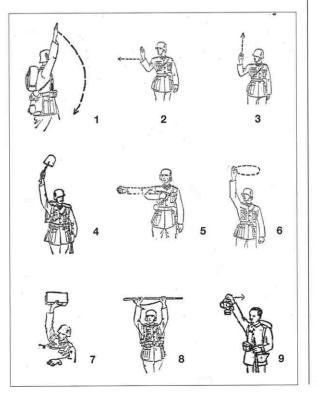
The **German squad** or Gruppe underwent particularly significant changes over time. Interwar German training literature, such as Zimmermann's *Die Soldatenfiebel*, regarded the squad as composed of two sub-sections: the machine gun Trupp and the riflemen of the Schützentrupp. By 1939 it had been realized that close integration was tactically most effective, and the distinction was abandoned. The wartime Gruppe was therefore very much a machine gun-based unit.

The notional complement was ten for much of the war: the NCO squad leader; his deputy; the three-man light machine gun team comprising the firer, his assistant and an ammunition carrier; and five other riflemen. German Infantry in Action: Minor Tactics (1941) suggests a scheme of equipment for a model squad. The squad leader is equipped with a machine pistol with six magazines, field glasses, wire cutters, compass, whistle, sun glasses, torch and map case in addition to his basic equipment. Two of the three machine gunners carry pistols, the third a rifle, and the team carry three ammunition boxes between them. The six riflemen carry extras such as an MG tripod mount, grenades and explosive charges as needed. The official German Ausbildungsvorschrift adds details such as the carrying of a drum magazine on the LMG, and a belt of armourpiercing ammunition by the second gun number.

An order for the creation of 'new type' divisions came in October 1943. Within these '1944 type' infantry divisions the squad was reduced to nine, the complement of weapons being six rifles, two sub-machine guns, the light machine gun and a pistol. In the last year of the

Nine of the most important hand command signals shown in the German 1941

Ausbildungsvorshcrift für die Infanterie. (1) Lie down, (2) Go right, (3) Fall in, or Speed up, (4) Dig in, (5) Clear the street – take cover from air attack, (6) Adopt next stage of operational readiness, (7) Ammunition to the front, (8) Area not cleared or impassable, (9) Put on gas masks.





German soldiers readying their MG34 squad light machine gun, c1939. For some reason the No.1 has raised the top cover plate and is repositioning a partly expended belt in the action to bring the next cartridge up against the feed stop. Normally a new belt was simply pulled through the action by its feed tag, without lifting the top cover. and a single crank on the cocking handle made the gun ready for firing. Note that the empty metal clips are still attached - the belt is not made up of 'disintegrating link'. The excellent MG34 was arguably the world's first true 'general purpose machine gun', equally practical as a bipod-mounted assault weapon, tripod-mounted for sustained fire, and clamped to a vehicle mounting.

war there were two further permutations which co-existed for some time. The Volksgrenadier divisions of late 1944 were effectively ordinary infantry divisions following rebuilding and reorganization. In these, although there were still nine men to the squad, these were either 'rifle' or 'sub-machine gun' squads. In the rifle squads the armament remained the same as previously, while SMG squads were supposed to be armed entirely with that weapon. The exception to the rule was to be one squad within each 'SMG' platoon which carried three rifles and five SMGs in addition to the LMG and pistol; presumably the idea was to give the SMG units some longer range firepower, but shortage of automatic weapons may also have played a part.

Armoured infantry or Panzergrenadier squads conforming to the 1944 establishment were more powerfully armed, and even more machine gun-oriented. Among the 11 men riding in a half-track or truck there were supposed to be no fewer than three light machine guns. One of these remained mounted on the transport in the care of the driver and his assistant, who were also supposed to have a rifle and a machine pistol. The other two MGs moved with the nine-man team when they dismounted. Four men made up the two machine gun teams, with four riflemen and the leader completing the squad.

It should be recalled that at this date a progressive attempt was being made to replace both the K98k single-shot bolt action rifle and the MP40 sub-machine gun with the MP43/StG44 series of selective fire semi-/fully automatic weapons, whose designation was changed from 'machine pistol' to 'assault rifle' for essentially political reasons. The final '1945 type' infantry divisional organization would aspire to have roughly half of the infantry armed with the Sturmgewehr assault rifle; theoretically each company was to have two Sturm platoons. Squads armed with weapons which had the mid-range firepower of semi-automatic rifles, and the close-range impact of sub-machine guns, were potentially revolutionary, but the change was never fully implemented. Sniper rifles were now fixed at six to the company. Presumably some of these were of the G43 semi-automatic variety, a type of weapon already listed in small numbers on the inventory of 'Field Replacement' battalions.

The **British section** was originally planned to have a reserve, as was explained in *Army Training Memorandum* 38 (1941):

'The size of the infantry section on the higher war establishment is one corporal and ten men. The battle strength of the section is one corporal and seven men. The three additional men were provided by the higher establishment to ensure that the basic strength of one corporal and seven men can be maintained during the absence of personnel due to sickness, leave and other causes. In battle the section should not exceed one corporal and seven men; the additional men may be employed on working parties and other duties.'

An interesting picture of the ideal eight-man fighting section and its equipment is drawn in the *Light Machine Gun* manual (1942):

Section commander, with machine carbine (Thompson SMG) and six magazines, two Bren magazines, wire cutters, 'matchet' (machete) or knife, and whistle; weight carried, 65lb. (Typically the corporal would also carry a mapcase and torch.)

No.1 Rifleman, sniper rifle, 50 rounds, bayonet, four Bren magazines; weight, 61lb

No.1 Bomber, rifle, 50 rounds, bayonet, one Bren magazine, two No.36 grenades, two smoke grenades; weight, 60lb

No.2 Rifleman, rifle, 50 rounds, bayonet, four Bren magazines; weight, 61lb

No.2 Bomber, rifle, 50 rounds, bayonet, three Bren magazines, two No.36 grenades; weight, 60lb

Second-in-command, rifle, 50 rounds, bayonet, two Bren magazines, two smoke grenades; weight, 65lb

No.1 Bren, Bren gun, four Bren magazines plus 50 rounds, spare parts wallet; weight, 75lb

No.2 Bren, rifle, 50 rounds, bayonet, four Bren magazines in two 'utility' pouches; weight, 63lb. (Oddly, the Bren No.2's 'holdall' with spare barrel and cleaning tools is not listed – this would add about another 12lb to his load.)

Such an arrangement was intended as a guide, to be modified for specific tasks. Nevertheless, it shows a section of only eight carrying a total of 1,250 cartridges, and eight grenades. The majority of the ammunition is ready to be fed to the light machine gun. Interestingly, the average weight carried is 62lb, or a fractionally heavier load than the textbook soldier of 1914.

By 1944 the formal distinction between 'riflemen' and 'bombers', with its echoes of World War I, had disappeared; and *Infantry Training Part VIII: Fieldcraft, Battle Drill, Section and Platoon Tactics* (1944) lists the section as ten strong:

Section commander, Sten SMG and five magazines, two grenades, wire cutters, 'matchet' and whistle No.1–No.6 Riflemen, each with rifle, bayonet, 50 rounds plus one grenade and two Bren magazines in basic pouches, plus 100 rounds in two cotton bandoliers

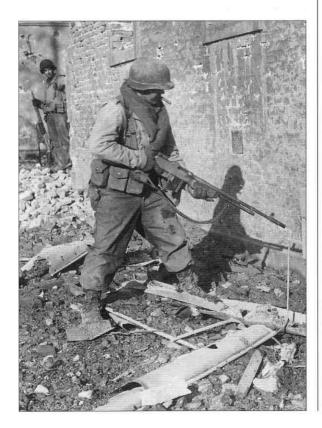
Second-in-command, with rifle, bayonet, 50 rounds in pouches plus 50-round bandolier, four Bren magazines in utility pouches (at various dates the machete also became part of his load, to clear fields of fire for the Bren)

No.1 Bren, Bren gun, four Bren magazines, spare parts wallet

No.2 Bren, rifle, bayonet, 50 rounds plus two grenades and one Bren magazine in basic pouches, plus four Bren magazines in utility pouches, plus one 50-round bandolier, spare barrel holdall.

The total of small arms ammunition is thus 2,260 rounds, plus ten grenades. The intention was that when opportunity offered, the Bren No.2

Although the scene is re-posed for the camera, this is a good study of a US infantry squad BAR man – in this case Pte Edward McCabe, from 29th Div, shortly after the capture of Julich on the Roer River in late February 1945. Note a second BAR man at the corner behind him; by 1945 it was not uncommon for a squad to have two automatic riflemen.





NCO commanding a British 'sniper clearing party' in Normandy, 1944. Armed with a 9mm Sten Mk II sub-machine gun, the platoon sergeant leads a number of riflemen on to a flank of the suspected enemy position while others, probably including a Bren team, engage the sniper frontally to keep his head down. The sergeant's helmet net has been camouflaged to match the bocage countryside: he wears the lightweight 'denim' fatique version of the Battledress. without any insignia of unit or rank. (IWM B 8971)

would move around the riflemen, collecting their Bren magazines and handing out empty ones, which the riflemen would refill from their extra bandoliers. In the late stages of the war it was not unknown for the section to carry two Brens (see under Plate E). The burdens had increased all round; in practice there was no set limit to the extra weight of ammunition, grenades, and bombs for the platoon mortar which the infantryman might have to carry into the line, and by 1944 the section also carried up to five large General Service shovels and two picks. This increase in personnel and the equipment they carried was particularly marked in the 'assault' divisions detailed to make the initial landings in Normandy on D-Day, but the burdens remained

heavy until the end of the war.

Weapons

Weaponry was a significant factor in the differences between the minor tactics of the various nationalities. In the **US Army** the squad was very much a group of riflemen with light support. According to Gen Patton, the M1 Garand semi-automatic rifle with which the majority of GIs were armed was the 'greatest battle implement ever devised'. It was certainly the general issue weapon with the greatest firepower. Using full size .30cal cartridges loaded in a complete eight-round *en bloc* clip, it was accurate to about 600 yards and capable of about 30 rounds per minute. The drawbacks were few, and essentially minor: topping up the magazine part way through a clip was not possible, and when the last round was expended the clip itself popped out with a distinctive 'ping' – audible to the enemy if he was close enough. The fumble-fingered loader could also get 'M1 thumb' if he did not remove his digit fast enough when the bolt slammed forward.

The Browning Automatic Rifle provided only light support. Weighing just over 20lb, it used the same .30 rifle ammunition, and could be fired from the support of its muzzle bipod (although this was often discarded). Theoretically it had a high rate of fire, but it did not have a quick-change barrel, and this lack, plus its 20-round box magazines, limited it in practice to short bursts. The result was an 'automatic rifle' which could be used in a very agile manner, from the hip on the move or even from the shoulder when standing, but it was unusual for it to lay down more than about 60 rounds per minute. Nevertheless, the value placed upon the BAR was underlined by the fact that in many squads a second weapon was carried, a practice which was officially recognized late in the war. Taking the Garand and BAR together, it is clear that the US squad had good firepower, with fairly even distribution throughout the group.

The **German** MG34, and its MG42 successor to an even greater extent, were genuine multi-role, general purpose machine guns with high rates of fire. With cyclic rates of 900 and 1,200rpm (MG34 & MG42) they could fire off a 250-round belt in 30 seconds even in measured bursts, the main limitation being simply the number of belts

carried. High rates of fire made fleeting targets and anti-aircraft fire practical propositions. They could fire from a bipod in the light role, and from the hip, sometimes fed from 50- or 75-round 'assault' drums. For sustained fire an excellent tripod mount was provided with telescopic sights, in which case engagements at 3,000 yards were possible. With 13 or more machine guns per infantry company, an effective fire screen could be maintained even if the unit was only at half strength.

The 'Spandau's' high rate of fire created a distinctive ripping noise which veteran Allied infantry learned to recognize. British Commandos had a training exercise during which various weapons were fired to attune the ear for identification. An official army film, *Under Fire*, gave some hint of the noises of modern battle. (US accounts talk of a number of distinctive types of weapon sound: the swishing noise of mortar bombs, which was like 'passing telephone poles in a fast moving automobile'; and the dreadful 'Screaming Meemie' or Nebelwerfer multiple rocket launcher. The '88', by contrast, had a 'peculiar whine'—like the scream of a madwoman, so it was said.) Sound sensitivity was useful; but there are recorded instances when US Rangers, for example, used captured weapons only to come under fire from their own side.

Compared to the veritable hail of bullets that the German machine guns could put down, the standard K98k rifle was a relatively modest contributor to the firefight. It featured the classic Mauser bolt action with a fixed five-round magazine: that is, after each shot the firer had to work a bolt-like lever to eject the empty case and feed another cartridge up into the chamber, so it was not usually fired at a rate of much more than ten aimed rounds per minute. Given that the Gruppe was usually smaller than the US squad, and that the MP40 or any other sub-machine guns available were essentially short range, the picture is of high firepower very unevenly distributed.

In terms of distribution of firepower the **British** section lay somewhere between the two extremes. The Bren gun was very accurate at normal

battle ranges and weighed only slightly more than the BAR, but had a quick-change barrel and took 30-round box magazines. It was therefore almost as handy as a BAR, but capable of a greater concentration of fire. As a position weapon it was not capable of the annihilating curtain laid down by the belt-fed MG34 and 42, since its cyclic rate of fire was 30 to 50 per cent slower, and changing magazines slowed it further. While it could be tripod-mounted, and with virtually the same muzzle velocity it was capable of comparable maximum range, the tripod and sights were much less sophisticated and gave less accuracy.

British thinking was that the Bren was the heart of the section, around which much of the action would revolve. As early as 1937 the small arms training manual *Application of Fire* was stating that the light machine gun was the 'main fire-producing weapon', while designated snipers were the skilled shots. The other riflemen were there essentially to augment fire 'in an

The soldier's best friend –
his rifle. This German soldier is
cleaning his five-shot, bolt-action
K98k, which remained the most
numerous arm available to the
Wehrmacht despite increasing
issues of automatic weapons;
total K98k production is thought
to have been well in excess of
ten million.





A Waffen-SS junior NCO in the Ardennes, wearing the jacket of the 1944 camouflage-printed SS combat uniform and armed with the revolutionary Sturmgewehr 44, capable of selective semiand fully automatic fire; note the large curved magazine pouches. The key to this new 'assault rifle', planned to take the place of both the K98k and the MP40. was an intermediate 'short' cartridge less powerful than the existing 7.92mm rifle round but more powerful than the 9mm pistol ammunition used in the sub-machine gun. This sequence of photos taken at Poteau on 18 December 1944 shows men of 2.Kompanie, SS-PzGren Regt 1 from Kampfgruppe Hansen, around vehicles abandoned earlier by the US 14th Cavalry.

emergency' or protect the Bren. While the Bren was a robust and popular weapon, the British rimmed .303in cartridge – in contrast to the rimless American .30in and German 7.92mm – put a premium on careful loading of magazines, and could cause feed stoppages if magazines were roughly handled.

The British SMLE (Short Magazine Lee Enfield) 'No.1' rifle, and its slightly modified 'No.4' offspring of the later war years, similarly lay somewhere between the K98k and Garand in terms of firepower and efficacy. Both British rifles were bolt-action, but with a ten-round detachable magazine they were capable of 15 or slightly more aimed rounds per minute. Rifle training at the outbreak of war aimed at producing a 'steady and accurate shot'; quickness in engaging unpredictable and fleeting targets; and – perhaps most significantly – 'a handyman with the rifle, able to

fire bursts [sic] of five to ten rounds at a rapid rate'. Reloading was practised 'in the shoulder', that is with the rifle still levelled and aimed toward the target; and in an army with a strong musketry tradition, practised men took pride in their rapid aimed fire, sometimes working a well-eased bolt with thumb and forefinger and the trigger with the second finger. Obviously the bolt-action Enfields, reloaded with the thumb from five-round 'stripper' clips, could never compete with the much more modern semi-automatic Garand in terms of volume fire. The overall result was a British rifle squad centred on the light machine gun, with considerable flexibility, but less concentrated firepower in absolute terms than either the German or US equivalents.

The sub-machine gun, or 'machine carbine' in British official literature, was commonly issued to section commanders, and on a larger scale in certain formations (e.g., as already mentioned, in German Volksgrenadier divisions). The British Sten and German MP38 and 40 were similar in that they were 9mm fully automatic weapons with 32round box magazines, accurate to about 50 yards. In detail there were significant differences. The Sten was as cheap and light as possible - as crude as a piece of cheap plumbing, but simple for even a novice to assemble and dismantle. The side-mounted magazine could be clumsy. but had the significant advantage that it was easy to use lying down. The German MP38/40 series was a much more refined piece of work, machined to high standards rather than welded up from cheap steel pressings; but it too was best fired in very short bursts to maximize accuracy and avoid jams, and its bottom-mounted magazine made prone firing awkward. British weapons training in 1944 - of which 'the sole objective' was to 'teach all ranks the most efficient way of handling their weapons in order to kill the enemy' - stressed the SMG's value in street fighting and other enclosed environments at ranges under 100 yards. Firing was taught in short bursts and single shots. The SMG was at its best in circumstances where the enemy 'may appear suddenly at close range and in different directions, and can be attacked immediately by fire from the shoulder without using the sights, or from the waist'.

Classic, although posed study of a Bren gunner of 6th Bn, Durham Light Infantry from 50th (Northumbrian) Div, at Douet, Normandy, 11 June 1944. The 'Tyne & Tees' division would be withdrawn from the front that November, and disbanded shortly afterwards - the normal British response to heavy infantry casualties, rather than keeping a division in the line indefinitely with successive drafts of individual replacements. The Bren was modified from the original Czech Zb26 LMG to take the British rimmed .303in round: despite the rimmed cartridge's potential for feed problems it was judged essential that the section LMG and the service rifle took the same ammunition, and Britain's massive investment in the .303 cartridge over many years made a change in the late 1930s impractical. Fired from the shoulder and bipod the Bren was accurate and pleasant to shoot, and with its weight of just over 22lb a practised man could deliver effective fire from the hip in the assault. The key to its practicality was the quickchange barrel; in a true combat situation the No.2 man would be lying close on the No.1's left, where he could change magazines in a few seconds and barrels in not much longer, due to the quick-release feature.



Sub-machine guns were not standard issue to the ordinary US infantry squad, but were used by specialists and special forces. The .45in US Thompson and M3 'grease gun' had great stopping power, but were at opposite ends of the scale in weight, quality, and expense. The elderly Thompson, dating from 1928, was superbly engineered but heavy and costly. The M3 was cheap, simple, and never very popular. Sub-machine guns were ideal for enclosed spaces, trenches, street fighting and dense vegetation. In open areas they were not of much use: a US 29th Division joke which circulated in 1944 suggested that the M3 would be handy if they happened to find 'a Kraut in a closet'. Hollywood has given a misleading impression of the American usage of sub-machine guns; more reliable is, for instance, the 45th Infantry Division history, which records that in Italy there were just 90 SMGs with the entire division of 14,000-plus men, at a time when the establishment table listed more than 6,500 rifles.

If the sub-machine gun's value was limited to close-quarter battle, pistols were the weapon of last resort. Many officers and senior NCOs carried them, but squad leaders had pistols only as a back-up to another arm. Semi-automatic P38 Walther or P08 Luger pistols were standard issue to German machine gunners and mortar men, and were used essentially at point-blank range for self-defence when the main weapon was out of action. The 9mm Parabellum cartridge was common to both, and was a sensible compromise in that it was powerful enough for most purposes, yet not so violent as to be unmanageable even for occasional shooters. Sensibly, German instructions were that 'the pistol is always to be treated as loaded'; the basic posture taught was a two-handed grip, with the muzzle pointed downwards to the front unless actually firing. Undoubtedly one of the best combat pistols was the .45in US M1911A1 ('Army Colt'), which combined excellent stopping power with the speed of semi-automatic action and a seven-round box magazine.

The British battalion *Provisional War Equipment Table* of September 1941 shows that each rifle company was entitled to five issue .38in No.2 revolvers, with a further 22 at company headquarters; many officers also

possessed private purchase alternatives. Semiautomatic 9mm Brownings also saw significant use by special forces. While acknowledging that its use was rare, British training literature stated that the pistol, used with 'cunning, initiative and determination', was handy for close-quarter fighting in enclosed environments such as buildings, woods, and trench systems. Although it was very occasionally possible to hit something at greater distance, under battle conditions the pistol - particularly the .38 revolver - was normally useless at more than 25 yards, and required considerable talent and practice (rare among infantrymen) to hit a man-sized target consistently even at that range. Except when firing from cover men were not taught to use the sights, but to point and shoot instinctively commonly, two swift shots at a time.



The march appears casual, but this early war Propaganda Kompanie photo shows a German squad advancing in the textbook *Gruppe in Reihe* formation – 'squad in column'. Seen here is the MG No.1 gunner or *Richtschütze*, followed by his No.2 with the spare barrel case and an ammunition box; the *Gewehrschützen*, riflemen, bring up the rear.

SQUAD TACTICS - OFFENSIVE

The basic aggressive squad tactics of all nations were devised with similar ends in mind: they were solutions to the problem of how to advance by means of fire and movement, and dislodge the enemy from his position. The achievement of these aims was combined with a desire to minimize casualties, while maintaining unit effectiveness and control. The specifics varied with arms, numbers, and the subtleties of doctrine, but there were obvious similarities in method.

The **German** squad would play its part by winning the 'Feuerkampf' or fire fight, and occupying key positions. It was enjoined to remain well concealed unless active in the fire fight or advancing to contact, but never to hesitate on the battlefield so as to become 'mere targets'. The machine gun team and the rifles were not separate entities, but part and parcel of the Gruppe even though the men would generally be firing at will. Victory was likely to go to the side achieving the

most concentrated rapid fire on target. Usually troops were instructed to hold their fire until 600 metres or closer. Even then only large targets would be engaged; individuals would not normally be shot at until within 400 metres.

When moving on the battlefield the German squad had two main formations. Advancing in the 'Reihe' or loose single file formation, the squad leader took the lead, followed by the machine gunner and his assistants; these were followed by the riflemen, with the assistant squad leader bringing up the rear. The Reihe was highly practical for moving along tracks, presented a small target from the front, and allowed the squad leader to take decisions, directing the squad as needed. In some circumstances the machine gun could be deployed while the remainder were held back. In all instances the men were to take advantage of terrain, keeping behind contours and cover, and rushing across exposed areas when alternatives were lacking. As Wilhelm Necker observed in *The German Army of Today* (1943), loose formation was important to 'avoid losses', and 'clustering' around the machine gun was to be avoided, but 'connection' had to be maintained.

From the Reihe the squad could easily be deployed into the 'Schützenkette' or skirmish line. With the machine gun deploying on the spot, the riflemen could come up to the right, left, or both sides, bringing their weapons to bear. The result was a ragged line with the men about five paces apart, taking whatever cover was available. The advance to contact was in bounds from one visible objective to another, with a new objective specified as soon as the leaders had reached the first. Where resistance was serious the advance became fully fledged 'fire and movement', either with a whole squad taking part, or a machine gun team down and firing while others advanced. However, instructions

cautioned squad commanders not to open fire with the machine gun until forced to do so by the ground and enemy fire; Weber's 1938 *Unterrichtsbuch* stated that in the assault the MG was to open fire 'as late as possible'. The objective of the fire fight was not simply destruction of the enemy, but 'Niederkampfen' – to beat down, silence or neutralize them, thus ensuring the success of close assault.

As described in the 1941 manual *German Infantry in Action: Minor Tactics*, the final phases of aggressive squad action were the fire fight; advance; the actual assault; and occupation of a position:

'The Fire Fight The section is the fire unit. When fire has to be opened, the section commander usually opens fire with the LMG only. He directs its fire. When good fire effect is possible and when plenty of cover exists, the riflemen take part early in the fire fight. The majority of riflemen should be in the front line and taking part in the fire fight at the latest when the assault is about to be made. They usually fire independently, unless the section commander decides to concentrate the whole of their firepower on to one target.

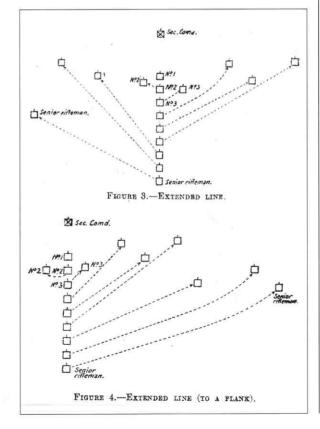
The Advance The section works its way forward in a loose formation. Within the section the LMG usually forms the spearhead of the attack. The longer the riflemen follow the LMG in narrow, deep formation, the longer will the machine guns in the rear be able to shoot past the section. The Assault The section commander takes any opportunity that presents itself to carry out an assault and does not wait for orders to do so. He rushes the whole section forward into the assault, leading the way himself. Before and during the assault the enemy must be engaged by all

weapons at the maximum rate of fire. The LMG No.1 takes part in the assault, firing on the move. With a cheer, the section attempts to break the enemy's resistance, using hand grenades, machine pistols, rifles, pistols and entrenching tools. After the assault the section must reorganize quickly.

'Occupation of a position When occupying a position the riflemen group themselves in twos and threes around the LMG in such a way that they are within voice control of the section commander.'

The Ausbildungsvorschrift adds significant additional colour on the assault phase, first noting that it is 'self confidence' in overcoming the enemy that makes the soldier successful in close combat. The LMG assault posture is specified as with the hand around the pistol grip, with the weapon couched under the right arm and held close to the body. The left hand clutches the feet of the bipod, so as to hold the muzzle down on firing, or ready to set up the weapon on arrival at the position. Riflemen are also enjoined to indulge in assault firing, the best method being to cant the rifle on to its left hand side at the hip, with bayonet fixed, and to let fly at just five to ten metres' range. The soldier then wades in, able to use both arms to full effect in any ensuing handto-hand fighting with bayonet and butt.

The method for deploying the German squad column into the extended order or *Kette* ('chain') formation for action to the front, and the same manoeuvre to one flank, as depicted in *German Infantry in Action: Minor Tactics* (1941). Neither the squad column nor the chain are rigid lines, but loose tactical deployments.



Although grenades were best thrown from behind cover they could also be used on the move. The soldier was instructed to grasp his rifle in the left hand and the grenade in the right, using the fingers of the hand holding the rifle to pull the fuse cord at the opportune moment. In circumstances where showers of grenades were needed the order 'Handgranaten!' from the squad leader would prompt the men to throw.

Basic American squad formations as described in the Rifle Company manual of 1942 were remarkably similar to the German equivalents. The US 'squad column' saw the squad strung out, with the leader and BAR man to the fore, and the remainder in file to the rear to a length of roughly 60 paces. Such a formation was 'easily controlled and manoeuvred', and 'suitable for crossing areas exposed to artillery fire, for utilising narrow covered routes, and for movement in woods, fog, smoke, and darkness'.

The 'skirmish line' was similar to the Schützenkette. The squad was deployed in a rough line about 60 paces long; the skirmish line was of benefit in bringing all weapons to bear, and useful for short rapid dashes, but not so easy to control. An alternative was the 'squad wedge', suitable for ready movement in any direction and when emerging from cover or a defile. More vulnerable than a skirmish line, wedges were best used beyond the range of effective rifle fire. Once under fire the US squad was taught to advance either by short rushes, or by 'creep' and 'crawl', taking advantage of cover. Although it may only rarely have been practicable, a detailed scheme of 'fire distribution' formed part of squad training for the fire fight:

'Each member of the squad fires his first shot on that portion of the target corresponding generally to his position in the squad. He then distributes his next shots right and left of his first shots, covering that part of the target on which he can deliver accurate fire without having to change position. The amount of the target which one man can cover will

> depend upon the range and position of the firer. Frequently each man will be able to cover the target with accurate fire: this should be done whenever possible. Fire is not limited to points within the target known to contain an enemy; on the contrary, all men space their shots so that no portion of the target remains unhit. Automatic riflemen fire bursts of about five rounds at the slow cyclic rate (in about one second). This method of fire distribution is employed without command. The squad leader observes the fire to

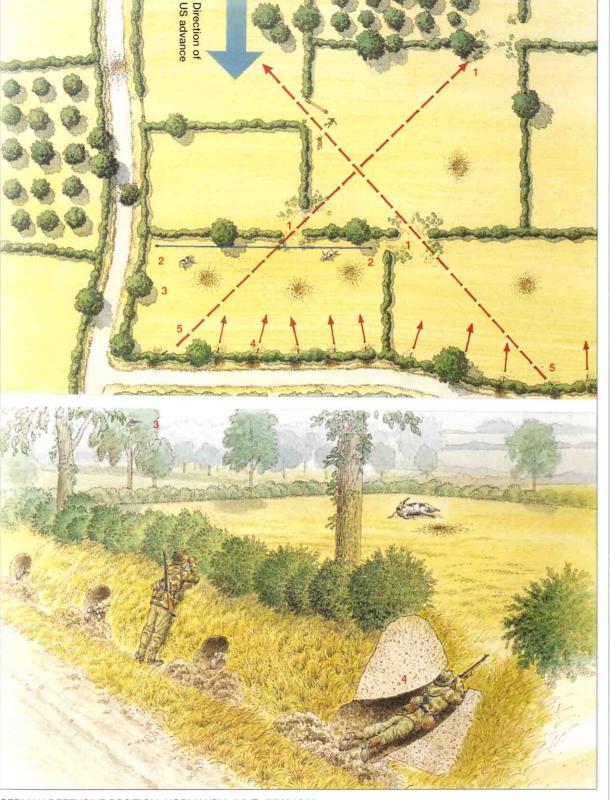
> > (continued on page 41)

trucks. The 71st fought in France in 1940, but was later destroyed in Russia; this photograph was taken by Johannes Heinrichs, listed missing at Stalingrad in January 1943. Even in Panzergrenadier units armoured personnel carriers were in short supply, and were usually only available for the first battalion of each regiment. The great mass of the unmotorized infantry moved longer distances by railway or truck as available; otherwise they marched on foot, usually accompanied by horse wagons for much of their heavy gear.

Men of the German 71st Infantry

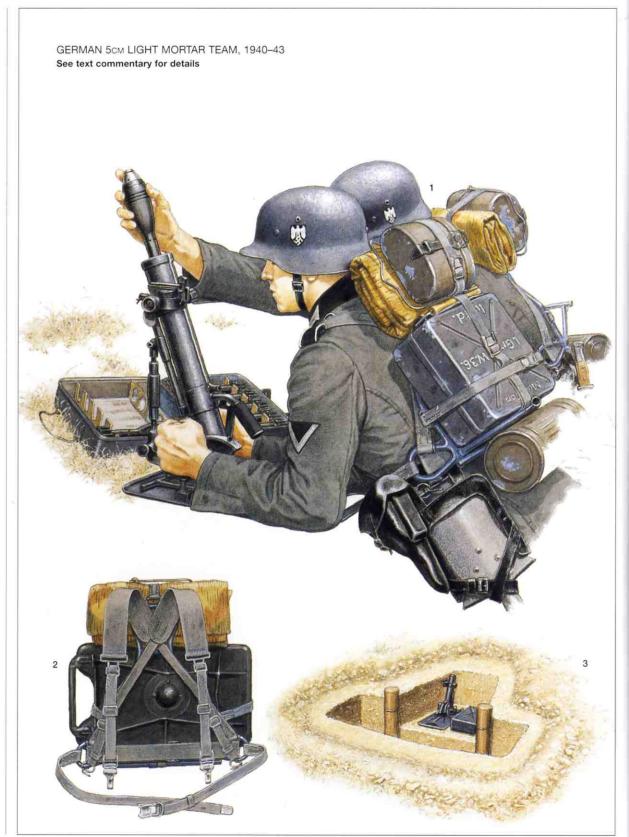
Div moving up to the front in

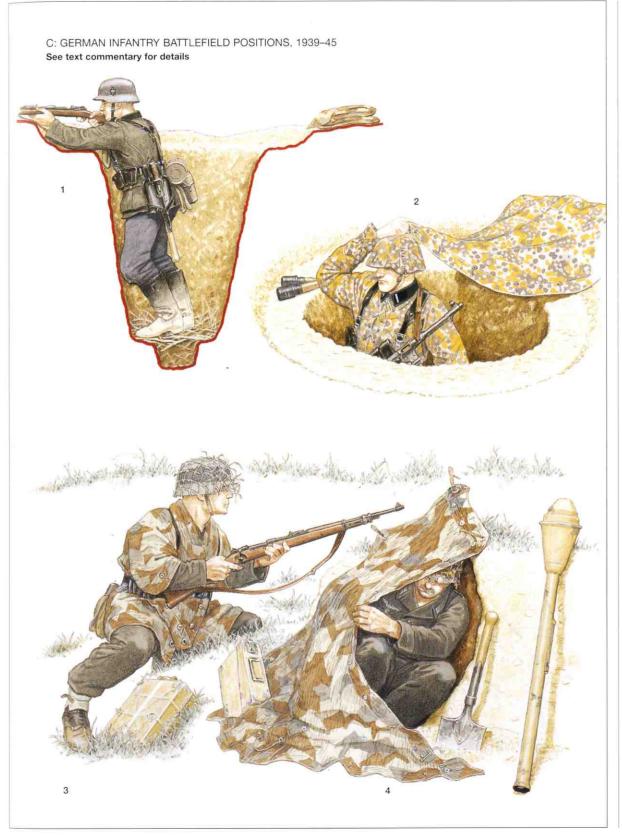


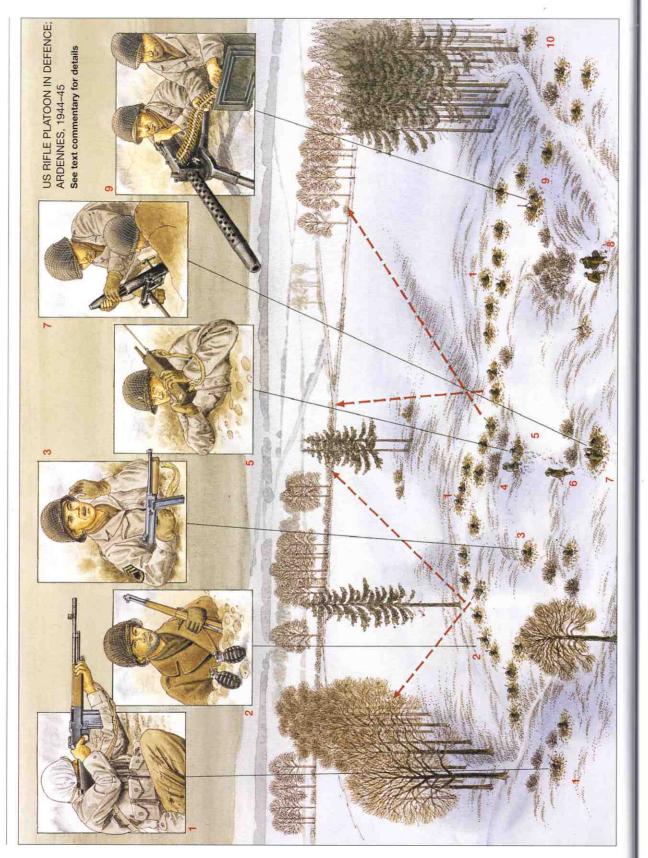


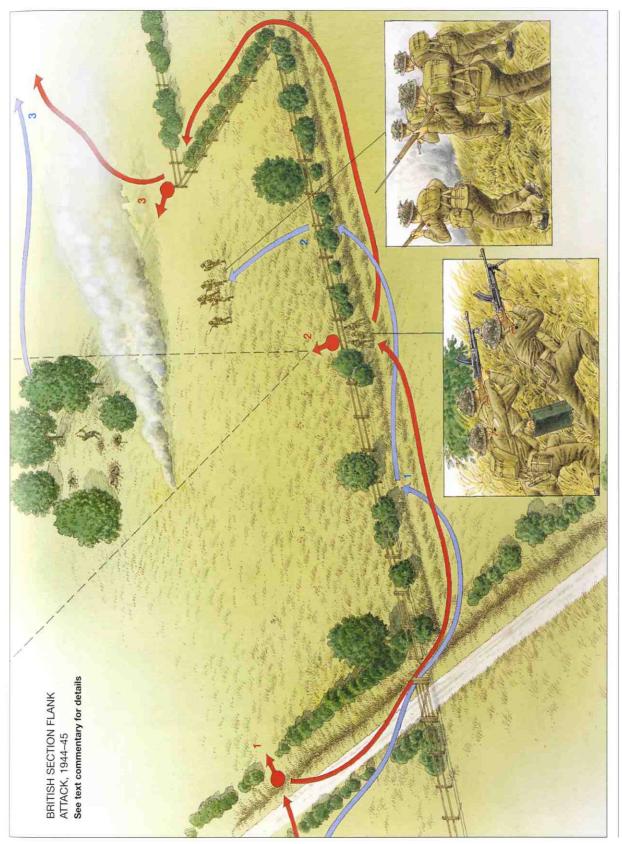
GERMAN DEFENSIVE POSITION; NORMANDY, JUNE-JULY 1944

See text commentary for details



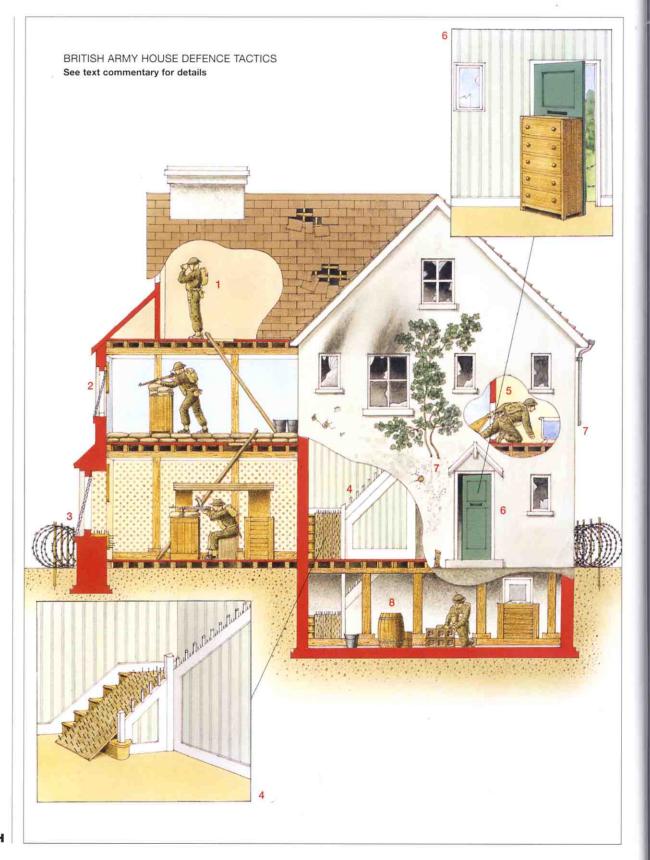






BRITISH 'WEAPON SLITS' See text commentary for details 1: Two-man weapon slit, according to 1944 manual 2: Three-man V-shaped slit, 1944-45 - the usual 'hasty' defence





insure that the entire target is kept under fire. If other targets appear, he announces such changes in fire distribution as are necessary.'

Even if the niceties were ignored, the implication is inescapable: the US infantryman was taught to treat the enemy position as an area target, to be evenly filled with lead whether or not specific individuals could be seen and hit. Frequently this is exactly what was done; it was definitely no mere 'theory'. A letter of instruction issued in April 1944 by Gen Patton to his unit commanders in US Third Army specifically stated that 'If you cannot see the enemy, you can at least shoot the place where he is apt to be.' According to Patton's opinion fire was better aimed short than long in cases of doubt, since 'ricochets make nastier sounds and wounds'.

For the textbook attack, US squad leaders were enjoined to give specific orders to individuals and as much information as possible about what was intended. The squad would then move forward, 'fire and movement' being employed when 'fire action' became necessary to cover the advance. At the first firing position the squad attempted to gain superiority of fire over the enemy - this being achieved 'by subjecting the enemy to fire of such accuracy and intensity that his fire becomes inaccurate or so reduced in volume as to be ineffective'. In order to maintain this superiority it would often be necessary for some squad members to remain in position, putting down large volumes of fire, while others moved forward to new positions, from which they in turn would take up the fire fight. Suitable cover, including rises and depressions, could allow short moves at small hazard, but open areas would need longer rushes prepared by commensurately greater applications of fire. The BAR man was best placed to support the advance from a flank, husbanding his fire to the needs of the situation so as not to exhaust his ammunition prematurely.

Again, Patton's Third Army instructions of 1944 had an even more aggressive tone, and encouraged even heavier use of fire. It was to be seen as integral to movement: 'Infantry must move in order to close with the enemy. It must shoot in order to move.' Moreover, 'marching fire' was to be encouraged as the infantry went in, since it increased confidence and unsettled the enemy. 'To halt under fire is folly. To halt under fire and not fire back is suicide. Move forward under fire.'

In some circumstances, especially where a US squad was acting independently to seize an enemy position, the squad leader might decide to fight as sub-teams. 'Team Able', comprising the two rifleman scouts, would locate the enemy; 'Team Baker', with the BAR and three rifles, would put down fire; and 'Team Charlie', the five remaining riflemen and the squad leader, carried out the actual assault. In such conditions the squad leader would have his work cut out - leading a specific part of the squad, communicating with the platoon leader, or moving from man to man to give instruction or encouragement. Here the assistant squad leader would come into his own, leading whatever part of the squad was not in the immediate control of the leader. The actual assault was to be delivered at 'the earliest moment that promises success and without regard to the progress of adjacent squads'. At this moment the squad was to advance, bayonets fixed and dodging from cover to cover, to move 'rapidly toward the enemy and fire as they advance at areas known or believed to be occupied by hostile personnel.

Such fire is usually delivered from the standing position and is executed at a rapid rate.' On taking the enemy position the squad leader would reorganize the squad to defend, or resume the advance.

* * *

British methods, as outlined in *Infantry Training* (1944), show significant improvement in both theory and practice since the start of the war. Formations were to depend 'chiefly on the ground and the type of enemy fire to be encountered'. Five formations were recognized: 'blobs', single file, loose file, irregular arrowhead, and extended line. The term 'blob', first used in 1917, now referred to ad hoc gatherings of between two and four men, hidden as best they were able, in a manner calculated to give concealment and control. Ordinary single file was fit only in certain circumstances, as for example when the section was advancing behind a hedgerow, and was not good for producing fire. Loose file denoted a slightly more scattered line, suitable for rapid movement and control, but vulnerable. Arrowheads allowed rapid deployment to either flank, and were difficult to spot from the air. Extended line was the ideal for the final assault, but had drawbacks in terms of control, and was vulnerable if fired on from a flank. In all formations except 'blobs' it was expected that intervals of about five yards would be maintained between individuals.

Chillingly, attacks were to be launched not just to take ground, 'but also to kill all enemy holding that ground'. Covering fire on the way in was seen as essential, and the transition between fire and physical assault was to be seamless: if an interval occurred the enemy would be able to start shooting again. As the manual put it, 'remember that if the enemy is dug in, covering fire seldom kills him; it merely makes him keep his head down so that he is unable to shoot back'. As the prime fire producer the Bren gun was critical to the advance to contact, and was best worked as far as possible around a flank so as to threaten the enemy rear. This had three advantages: ensuring 'the extermination of the enemy'; preventing enemy reinforcement; and the psychological impact of a threatened encirclement, which might induce retirement or surrender.

Commonly the British section would break into two for the attack. The 'Bren group' - the two-man Bren team and the second-incommand - formed one element, and the main body of riflemen with the section commander the other. The larger group with the leader bore main responsibility for closing with the enemy, and would advance at the double when under threat. In the event of coming under effective fire the riflemen would go over to fully fledged 'fire and movement'. Falling to the ground 'instantly as if shot', the men were ordered to crawl rapidly sideways or forward to a good firing position, taking rapid aim and firing independently until the section leader shouted the command to stop. In some circumstances it was also deemed necessary for the Bren group to advance by bounds, to a position where they could pour in fire, preferably at an angle of about 90 degrees to the main attack. In this case the two groups would give each other covering fire alternately. The final rush on to the enemy position was to be made by the riflemen 'firing from the hip as they go in'.

A more complex variation on the theme was to allow full strength sections to form three groups, thereby achieving the maximum tactical dispersion. In this scheme one man in each sub-section took his orders The US 'diamond' eight-man patrol formation, from the official 1944 manual. One man of each of the leading pairs observes for ground targets while his buddy scans trees for snipers. At the rear, one man looks backwards while the other covers his flank, and checks the movements of the patrol leader. The patrol is well spread out, but visual

contact is maintained.

from the leader, reducing the burden of command. The way this was supposed to work was a remarkable statement of the group ethos of comradeship: 'Groups are formed from friends as far as possible, in order that friends keep together and fight together. One man in each group which is not commanded by an NCO acts as leader. He should be chosen because of his natural gifts of leadership and because the rest of the group look to him as leader. This leader can be changed whenever considered necessary.'

The assault was horribly frightening but often exhilarating, almost to the extent of temporary insanity. The most successful infantrymen were often those who succeeded in entirely suspending their view of the enemy as fellow humans, and functioned almost automatically according to a long-familiar choreography of combat. Once raised to the frenzy of battle, disengagement was by no means easy. Private Dennis Bowen of the 5th East Yorkshires remembered of Normandy:

'If a German soldier appeared everybody fired at him. It was no bother, we didn't think of them as human beings... everybody is shouting and screaming and suddenly you see this figure. In the excitement you fire at him... a man at 100 or 150 yards is an awful big target... Some Germans were trying to surrender but in the excitement we fired at them before they had any chance... I don't think our lads were saying, "Well, I don't care if that man wants to surrender"... I don't think that was in anyone's mind. I think it was the excitement of constantly stuffing fresh ammunition into the magazines and blazing away. A lot of men were just firing from the hip as we walked forward... There was a lot of small arms fire, more than you would think.'

SQUAD TACTICS - DEFENSIVE

SCOUT

PATROL LEADER

SCOUT

30.50YDS.

ASST AUTO RIFLE

100 YDS.

Figure 46. Diamond formation, eight-man patrol.

German squad defensive methods stressed the importance of integration with larger plans, and the principles of posts scattered in depth. The individual Gruppe was expected to dig-in on a frontage of 30 or 40 metres, this being the maximum that a squad leader could effectively oversee in a defending battle. Major landmarks such as single trees or crests were best shunned as too attractive to enemy fire. During the digging one member of the squad was to stand sentry, preventing surprise from ground or air. Gaps between squads might be left, although covered by fire. Key to the defence was the location of the machine gun, which would be given several alternative positions, perhaps 50 or more metres apart, that were identified from the outset. It would cover longer range targets, while the riflemen who might well be held further back - were concerned mainly with sweeping the terrain at close and very close range.

The usual deployment would see the men of the squad in pairs in foxholes, trenches, or



British and US troops meet at Champion in the Ardennes, a photo passed by the field censor in January 1945; the greeting is somewhat forced for the camera, but the interest in each others' weapons is genuine enough note the GI holding a Sten gun. Folklore insists that US Army kit was consistently superior to British; but this was not invariably true, and certainly not in the matter of snow camouflage suits - the British Army issued these in large numbers, while the GIs had to improvise when they could find old bedsheets. (IWM B 13690)

ditches, posted close enough to communicate with their partner. These little sub-section nests would be slightly separated, echeloned, or at different levels, thus decreasing the effect of enemy fire. In the event that enemy attack did not materialize immediately, the second phase of construction would see the digging of trenches behind the main line in which much of the squad could be kept back under cover until needed. Good camouflage was complemented by the avoidance of any obvious movement to attract enemy observation. The defensive fire fight was commenced by the machine gun at effective range, riflemen remaining concealed until the enemy assaault, at which all were to open fire regardless of cover. Hand grenades falling on the position were to be dealt with either by the men diving away into cover, or by picking up the

grenade and throwing it back. This was obviously a particularly dangerous game: US sources speak of casualties minus a hand or foot where grenades had been tackled with a return throw or kick.

In the latter part of the war there was particular emphasis on resistance to armour. Ideal defensive positions were therefore on a 'tank proof obstacle'; equipped with at least one anti-tank weapon; capable of all round defence, and having artillery support directed by a forward observer. Active patrols with anti-tank weapons, as small as a single squad, were to be encouraged to intercept enemy tanks probing a defence.

Some squads would be detailed to act as 'Vorposten' or outposts beyond the main line. Acting as defensive 'door bells', they might also contain observers and listening posts. Such details were given advance orders as to what to do in specific eventualities, for example when to fall back on the main line. The job of the Vorposten was made slightly more secure by preplanned artillery support, numerous dummy positions to distract attention, and identified safe routes away from the front. According to the 1943 British publication *Regimental Officer's Handbook of the German Army*, advanced posts were commonly within range of close support weapons such as mortars and infantry guns, and were thus to be found within about 2,000 yards of a main position.

In defence the American squad was usually seen as playing a part in the overall plan laid for the platoon. The duty of the squad leader was to explain the larger picture, and position his squad, starting with the BAR. Generally the men would go prone, at least five yards apart, to cover predetermined sectors of fire. If time allowed, the squad would then dig-in, camouflage the position, and clear any obstructions in the field of fire. The squad leader would then prepare rough sketches of the sector for reference both by the platoon commander and himself. Under bombardment the squad was supposed to take cover in its holes, peering out to adopt firing positions as soon as the shelling or bombing ceased. No shooting would be allowed until the enemy troops had approached within 500 yards, and then in accordance with the squad

leader's directions. In the event of enemies overrunning the position, 'they are driven out by fire, grenades, and the bayonet'.

British instructions for defence were similar, with the section commander placing and concealing the men, taking the trouble to view the potential fields of fire 'with the eye close to the ground'. Weapons pits or 'hasty' defences were dug whenever possible, but *Infantry Training* (1944) placed particular stress on the value of 'improvement of natural cover'. Banks, hedges, and ditches were to be used as a matter of course. Sunken roads and railway cuttings could also be useful, but had a tendency to become 'shell traps', so were best used with excavations dug into the bank nearest the enemy. Walls and rocks were also possible cover, but had the potential disadvantage of splintering, or being obvious aiming points. The shell hole could be regarded as an instant weapons pit, but overcrowding was to be avoided, and when possible the shell holes were to be linked to provide communication.

FIELD WORKS

On battlefields swept by shells and machine gun fire there were really only two tactical options: swift and purposeful movement, or staying still under cover. Given the ingrained experience of World War I, it is not surprising that the British *Infantry Training* manual of 1937 stressed the importance of solid entrenchment, with 'extensive digging between platoons and company localities in both forward and reserve areas', concealment being a useful but secondary consideration. 'Effect before cover' was also a maxim that survived in official German manuals until at least 1941. Yet the speed of the movement of armies in the early stages of the war, and the destruction that could be brought down upon obvious fixed defences, soon led to a distinct change in emphasis. As the much improved 1944 British *Infantry Training* manual observed:

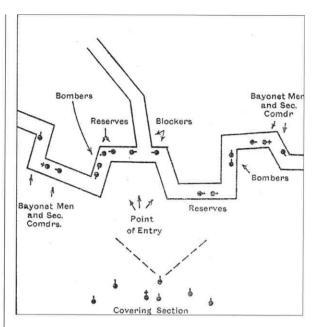
'An outstanding lesson of the present war is that, if their positions are accurately located, defending troops at the point of attack will be neutralized by overwhelming air, artillery or mortar bombardment. If, however, their positions remain undetected, the bombardment will be ineffective provided that their weapons slits are designed to afford reasonable protection.'

For the infantry company in the field 'reasonable' protection was usually the 'foxhole' or 'weapons pit'. Although some early manuals

show these being joined into full blown trench systems, in practice most remained small and – unless part of a major defensive line – were not normally expanded beyond squad- or platoon-sized battle positions. As the 1942 *Instructor's Handbook* explained, the weapons pit was 'comparatively safe against all forms of fire, except a direct hit from a shell or bomb'. This could be demonstrated to trainee soldiers by getting them to fire against dummies, petrol tins or balloons in dug-in positions, which would seldom be damaged. Nevertheless, it had to be remembered that any bombardment or suppressive fire would usually be

The most basic and perhaps most typical of all hasty defensive positions on the battlefield: a German soldier takes advantage of the cover and concealment of a natural earth bank in heathland, rapidly improved by a few moments' work with the entrenching tool. He waits with his rifle at the ready, and 'egg' and 'stick' grenades laid at hand for close defence.





Recommended British tactics – virtually unchanged since 1915 – for clearing trenches by 'bombing', from Fieldcraft and Elementary Tactics (March 1940). It is a truism that every army starts a war with the doctrines of the previous one; in May 1940 the German Blitzkrieg would banish any illusions about this being a war of fixed trench systems.

followed by an attack. Therefore defenders of field works had to be trained to 'bob up at once' as soon as fire ceased, to take advantage of the last hundred or so yards of comparatively open ground the enemy had to cross.

According to Weber's *Unterrichtsbuch für Soldaten* (1938), the ideal 'Schützenloch' or rifle pit for a standing soldier was an excavation about 140cm (4ft 7in) deep. It was shaped with a slight lip to provide an elbow rest, and a small deeper sump hole at the base to give some drainage. A small niche provided a handy ammunition store. The infantryman would peg his folded Zeltbahn or shelter-quarter to the rear of the hole in such a way that it could be pulled over the aperture to provide both concealment and protection against the elements.

A more elaborate machine gun nest or MG-Stellung could be dug in the field by two men, working to enlarge a hole while concealed by a

camouflage net. The resulting position was about four times the size of a rifle pit, and was ideally provided with a flooring of brushwood or other means of keeping the floor well drained. Holes dug horizontally into the face of the excavation nearest to the enemy provided the crew with a sheltering 'Fuchsloch' or foxhole, a munition store, and an MG-Unterschlupf – literally a 'machine gun refuge', a lined oblong cavity in which the gun could be stowed during bombardment or heavy rain. The somewhat simpler advice of the *Ausbildungsvorschift* could be summed up in relatively few words: 'deep and narrow' was best against artillery and aircraft.

Following experience in Russia in 1941/42, the 1942 German *Taschenbuch für den Winterkrieg*, 'Pocket Book for Winter Warfare', acknowledged that a totally different system of cover had to be used on ground frozen hard. Here logs could be cut and bound together in low walls to form a three-sided enclosure, pierced by one or more weapons slots. Drifting snow provided some additional protection but, more importantly, served to make the position difficult to see. White cloths or a Zeltbahn covered with snow completed the illusion. Similar effects could be created with sandbags sunk into holes dug down through the snow and placed directly on the frozen ground.

The ideal British weapons pit of 1944 was described as 'designed to hold two or three men and adapted to suit each particular site. Pits should be two feet wide at the bottom with sides as near vertical as the soil will allow... there should be no parapet or parados, all spoil being removed and well hidden, and elbow rests provided where needed by digging. Silhouetting of the occupants' heads should be avoided by siting against a suitable background.' Reverse slope positions were particularly advantageous, as they made works difficult to see and tended to improve drainage. Care was to be taken that pits were not betrayed by obvious paths; a 'track plan' made in advance would lead defenders in by discreet routes, perhaps around field boundaries or through hedges and ditches. The best pits were those which could be well revetted, using stakes and pegs to anchor the structure into the surrounding ground.

Nevertheless, in cases of emergency or during a steady advance it was recognized that 'hasty defences' could be dug, which obtained their concealment by position rather than systematic removal or covering of the spoil. These improvisations would begin with 'the smallest hole in the ground that will give the occupants protection, and from which they can use their weapons'. It was perfectly feasible to start with a hole that catered for men in a sitting position, to be improved and deepened at a later stage.

In practice there were variations. In Normandy the 5th Bn, Seaforth Highlanders constructed

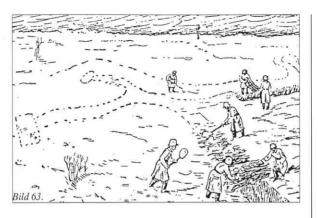
customized 'doovers' – a term borrowed from the Australians in the Western Desert, meaning a covered slit trench or foxhole. During a static phase of the campaign early in July, Capt Alastair Borthwick recalled:

'The firm clay of Normandy made good digging, and we soon learned to make ourselves snug. Although the basic model was only a pit six feet long by two and a half feet wide by four or five feet deep with a sheet of corrugated iron and a heap of earth on top, there were many things a man could do to improve it. There were doovers lined with parachute silk, doovers with electric light, mosquito-proof doovers with face veils over the entrances. Doors were lifted from their hinges and used to strengthen roofs (though some preferred earth-filled wardrobes), and few houses had a shutter left five minutes after the battalion moved into the area.' (In units which had not served in North Africa the term 'doover' was not current, 'slitters' – for 'slit trenches' – being the common slang.)

Where hasty cover was needed the smallest hole or 'scrape' that would give some protection was dug immediately with the personal entrenching tool which – unlike the large picks or shovels also carried by many British infantry – could be used while lying down or crouching. Failing this, the nearest natural ditch would do; around Anzio in Italy the ditches were never quite deep enough, and the US troops who spent time in them developed a cramped shuffle, long afterwards known as the 'Anzio Slouch'. For the GI in a real hurry instant cover could be blown with explosives. The approved method was to take a half-pound block of TNT, put it into a hole dug about a foot deep, and detonate it. The result was a pit just big enough for immediate requirements. In 1942 US doctrine called for individual foxholes, as providing a smaller target. By 1944 it was judged that the psychological isolation of one-man pits was a weakness, and that a two-man slit (in which one GI could try to rest while his buddy stood guard) was better for morale.

Yet even with American generosity of supplies, technical know-how and the encouragement of company a hole was still a hole, as Pfc Egger of 26th Division recorded of his two-man position in November: 'It was still raining and the water was rising. We kept throwing sods in the hole so we wouldn't be sleeping in water. By the time the leaks were stopped the hole was almost at ground level.' Lieutenant Otts of the 26th recalled the situation a couple of weeks later near Giverycourt:

'The men set about digging two-man foxholes. It was raining as usual, so they improvised covers for them with whatever they could find. But they were far from leakproof; the water seeped in through the walls and



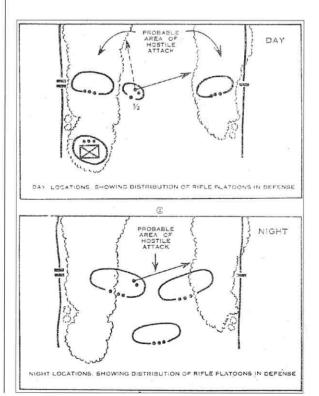
Recommended method of concealing German trenches with timber, brushwood and snow, from *Taschenbuch für den Winterkrieg* (November 1942).

the man on guard had to bail continually with his helmet. There was plenty of straw available and that helped to make the holes warmer and drier.' To be fair, Otts described himself as 'allergic to digging', with the result that in some sketchily dug foxholes he would find himself with limbs sticking out of the top. Nevertheless, by winter he was a veteran at the game, and found that snow was to be preferred to rain since it was less wet. Warmth was provided by a generous sandwich of shelter-halves and blankets in the hole, while he jammed on three sets of underwear – two winter and one summer; a sweater, field jacket ('Ike' jacket), combat jacket, two pairs of trousers and socks, gloves, a wool cap and his steel helmet. He drew the line at an overcoat, as being 'too bulky'.

The consequences of not digging-in properly could be catastrophic. Corporal Kenneth Lovell of the Durhams recalled remonstrating with two men who refused to dig deep, and returning later only to find them with 'their heads blasted off'. In Italy an entire heavy weapons company of 36th (Texas) Division paid the price, as Lt Trevor Evans recalled:

'There were bazookas and rifles hanging from the trees... Their faces had turned black and hard... They evidently had started to dig foxholes, but they were only three or four inches deep, and there were C-rations scattered around. My guess was that the battalion commander had felt sorry for them and failed to post security. Many had dug holes along the road where the digging was easier, but it was the wrong thing to do. The German tanks had just sprayed them with machine guns and then dropped their treads down off the road and crushed them in a long line.'

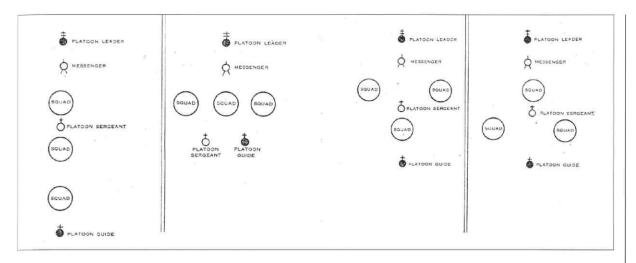
Day and night defensive deployments of US rifle platoons, from the manual of 1942. Note how the platoons are moved closer at night, and may be moved out of cover during the hours of darkness.



THE PLATOON

The platoon was the first level at which a junior officer would be expected to be in command, and at which the bureaucratic demands of record-keeping and contact with higher headquarters might intervene. It was also the first point up from the bottom of the infantry hierarchy at which a light mortar (and in the US Army, a .30cal light machine gun) might be issued or attached, as well as – in 1943–45 – a man-portable anti-tank weapon. The presence of several rifle squads within a platoon made possible the use of more complex tactics in which they could be manoeuvred together to achieve an objective.

The **US Army** platoon of 1944 consisted of three 12-man rifle squads and a 'command group', which included the platoon commander, platoon sergeant (second-in-command), guide sergeant, and two messengers; in 1943 it had also included extra privates detailed to act as replacements. The 41-strong platoon might also have attached to it a 60mm mortar and/or a



.30cal machine gun drawn from the rifle company's separate heavy weapons platoon, each with a three-man crew; and a two-man 2.36in bazooka team from the infantry battalion's anti-tank platoon. An advantage was the presence of radio communication at platoon level in the form of an SCR-536 'handy-talkie'. This battery-powered transmitter/receiver weighed only 5lb, but its maximum range was only one mile; otherwise communication with company HQ was by running messenger. Like squads, platoons frequently carried far more firepower than allowed for in regulation 'tables of equipment'. Lieutenant Otts recalled that though low on men, his platoon sometimes had two bazookas attached instead of the regulation one, and anything up to double the prescribed number of BARs. Conversely, the carrying of packs was discouraged in his unit, with necessities stuffed into pockets and pouches and inessentials thrown away.

According to *Rifle Company* (1942), the US platoon had four basic formations in the advance: 'platoon column'; 'line of squads'; 'two forward and one back'; and 'one forward and two back'. In 'platoon column' the formation strung out, one squad behind the next, over about 100 to 150 yards. Easily controlled and manoeuvred through gaps, woods and darkness, the column was vulnerable to fire from the front. 'Line of squads' abreast gave maximum firepower but was difficult to control. This formation was useful for short rushes to cross enemy fire zones which could not be avoided. The other two arrangements, with either one or two squads to the fore and the other/s behind, were intended to provide

security to the front and flank while enabling flexible development. For the regulation of movement the platoon leader designated one squad as 'base squad' upon which the others would conform. In all instances it was usual for the platoon commander to lead, with a messenger close at hand, and for the 'guide sergeant' to follow up, preventing straggling and observing the situation on the flanks and rear. Where needed, scouts would be sent ahead, or the platoon commander would carry out his own reconnaissance.

The recommended formations for US platoon movement, from Rifle Company (1942). Left to right: platoon column; line of squads; two squads forward and one back; one squad forward and two back. Distances and intervals between squads and individuals are not to scale; and scouts are not shown.

Original annotated return for II.Zug (second platoon), 10.Kompanie of a German infantry regiment 'in the field' (most likely on the Western Front), dated 1 April 1940. Total 'book' strength is 42 all ranks one officer, five NCOs and 36 men. However, ten men are kommandiert or on detached duty, and seven sick, leaving a service strength of just 25.

4. 64				
i'	Off.	Unteroff.	Mannsch.	Sa.
Iststärke :	1	5	36	42
zum Dienst:	1	5	19	25
kommandiert:	-	-	10	10
krank:	-		7	7
Urlaub:	-	-	-	_

¹ For various tables of organization and equipment at different stages of the war, see also Warrior 45, The US Infantryman in WWII (1): Pacific Area of Operations; W53, ... Mediterranean Theater, and W56, ... European Theater

Ideally, attacks were carefully preplanned and the squads briefed in advance. In many instances it was desirable to try to work either a squad or a selected group on to a flank, or close to the target, so as to provide covering fire for the main assault. Frequently one squad was kept in reserve, unless the firepower of all was needed from the outset. Before the attack squads would adopt the desired formation, usually with their scouts thrown out to the front. The platoon would then go forward with the leader seeking to direct his main effort at weak points, on to which the reserve squad could also be brought up. Then,

'When the platoon comes under effective small arms fire, further advance is usually by fire and movement. The enemy is pinned to the ground by frontal (and flanking) fire, under cover of which other elements of the platoon manoeuvre forward, using all available cover... In turn the original manoeuvring elements may occupy firing positions and cover the advance.' If resistance was weak the platoon would drive on into the enemy position in the same fashion. Where the enemy had strong positions, or nests to the flank or rear of the objective, it was necessary to build up an 'assaulting force' as close as possible to the point to be attacked. Other men, notably the BAR gunners, could be detached to give covering fire to the assault.

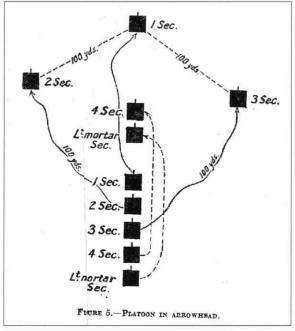
'The assault may take place either on the orders of the platoon leader or as a part of the general assault ordered by the company or battalion commander. The attacking echelon of the platoon works its way as close as it can get to the hostile position without masking friendly supporting fires... For a platoon assault, the prearranged signal for the lifting of supporting fires is given by the platoon leader. A general assault is delivered at an hour fixed by the company or battalion commander or on his signal. Frequently in the heat of battle the assault is started on the initiative of a squad or even of a few individuals. Wherever and whenever the assault begins, it should receive the immediate cooperation of every

individual and unit within sight. When the assault is launched, assault fire may be directed on the defender's position in order to keep it under fire and prevent the enemy from manning his defences.' Wherever possible, upon the capture of the objective the platoon leader was intended to make a quick assessment as to whether it was possible to press on any further. Platoons in the forefront of the attack were not supposed to linger to mop up every last vestige of resistance, this being left to those following up.

The German infantry platoon (Zug) had much in common with the US equivalent, although it saw considerable change over time. Under the organization pertaining from 1940 to the end of 1943 the Zug had four sections, a headquarters, and a three-man 5cm light mortar section – a total of 49 personnel at full strength. Under the 1944 organization this was drastically reduced on a three-section model; so, even at maximum strength, the German platoon of the latter stages of the war was

OPPOSITE March halt for a tired German platoon, 1940 or 1941; three men brandish stick grenades for their comrade's camera. The Tornister knapsack is not carried; among the scattered equipment are entrenching tools, mess tins, canteens, anti-gas capes, MG ammunition boxes, and at upper left the 5cm light mortar.

Forming the German platoon 'arrowhead' formation during the advance, from German Infantry in Action: Minor Tactics (1941).





3. Gruppe

An example of a German platoon advance with three squads and the commmand element (Zugtrupp) forward, and one to the rear with the light mortar team; from Ausbildungsvorschrift (March 1941). German platoons would be reduced to three squads under the 1944 infantry reorganization; the light mortar was discontinued, but the fourth LMG was retained.



German officers were

taught that inactivity and delay were greater crimes than the wrong choice of action. In specific cases where two solutions to a tactical problem offered equally good prospects of success, 'then the more aggressive of the two must be chosen'. Interestingly, exactly the same instruction was given to British officers in a *Training Memorandum* during the war, but this did not always square with the safer, more methodical train of thought detectable in *Infantry Training*.

Commonly, the German platoon advanced in an 'arrowhead' formation, although both column, and line with sections forward and back similar to the US model, were also used. According to *Minor Tactics* it was up to the platoon commander to state the deployment areas and objective, to decide the formation, and to detail the sections to their tasks. Attacks would be carried out in bounds, with platoon commanders

identifying weak spots in the enemy defence and deciding exactly where the blow would fall. Thereafter,

'If the first assault is successful, even if penetration is made only on a narrow front, the attack must be pressed forward into the depth of the enemy position. At this moment the personal example of the platoon commander, who must concentrate on maintaining the momentum of the attack, is of great importance. Immediate pursuit at places where the enemy resistance weakens is therefore required. Premature movement to a flank before the enemy position has been completely penetrated is wrong. The flanks of attacking sections must be protected by troops in the rear. It is the duty of reserves following up the attack to destroy any centres of resistance which remain.'



The **British** platoon organization as recommended in 1944 was three ten-man sections, and a platoon headquarters which comprised the commander,



British platoon movement along a road, from *Infantry Training* (1944). The distance between individuals is about 5 yards, to reduce casualties. No provision is made here for the two-man PIAT anti-tank team which was in practice almost invariably attached to each platoon at least from D-Day onwards.

the platoon sergeant, a three-man 2in mortar team (who also carried rifles), a runner, and the officer's batman/orderly. The standard platoon was thus 37 strong, armed with one light mortar, three Bren LMGs, five Sten SMGs and 29 rifles, as well as at least 36 grenades. This set-up was not intended as invariable, however, and could be altered according to the numbers available and the type of operation. In practice the head-quarters group almost always included two men crewing one of the three anti-tank weapons from company HQ (initially the .55in Boyes AT rifle, by 1943 the PIAT projector), and the orderly doubled as a runner or radio man. It must be borne in mind that once committed to combat, infantry platoons of all armies suffered casualties which took days, even weeks, to be replaced, often reducing platoons to a fraction of their establishment strength.

Communications were a vexed question in 1944. The manpack No.38 wireless set had been partially introduced from 1943, initially to special forces but later more generally, to supplement at platoon level the No.18 sets carried by company HQs; but they were subsequently officially withdrawn from line rifle platoons. An *Army Training Memorandum* of January 1944 explained that this was because:

'...Their conspicuousness attracted fire from the enemy and frequently made it impossible for the man carrying it to remain with the platoon commander, when in close contact with the enemy. Consequently, the set was seldom available when most required.

Moreover, the platoon commander had to make a difficult decision, whether to go and lead his platoon, which was his proper task, or to remain with his set in contact with his company commander. For these reasons, the platoon sets will not be available until a more inconspicuous set can be developed. Meanwhile each company is allotted two sets for its internal use.'

In fact memoirs and photographs often give evidence of the continued use of No.38 sets by rifle platoons in NW Europe, but they were far from universal issue. With a range of about four miles, the set weighed 27lb, and was carried in a frontal webbing cradle and a separate haversack for the battery box; its throat microphones were popular, leaving both hands free.

Although the sections would go forward in blobs, files, or 'arrowheads', it was up to the platoon commander to study the ground to decide which line of advance should be used; in building an attack he was to reconnoitre and then issue orders. He was to bear in mind that 'if the platoon is not put into battle properly, it will merely suffer a lot of casualties, however brave the men may be'. While 'battle drill must be our servant and not our master', different drills were taught as 'basic strokes' which could be modified and adjusted to circumstance. In moving across country, one possibility was to throw forward the

first section in a rough arrowhead, behind which came the command group, and finally sections two and three in open line abreast. For a flanking move a good plan was to pin the enemy frontally with one section and the mortar (typically, under the direction of the platoon sergeant), while the others took advantage of any covered approach to move around the enemy. Smoke from the mortar would help make the flank attack a success.

For clearing small woods the Brens could be worked forward into positions outside or on the fringes from where they could cover escape routes; the

sections then worked through the wood, strung out as 'beaters', with a 'support group' behind them. The beaters would move forward cautiously in rough lines, dodging from tree to tree and taking up one fire position after another. They would engage the enemy, and if the opposition stood to fight the support group would come up and attempt a flanking manoeuvre. If the enemy ran they would do so into curtains of Bren gun fire.

Though improvisation often occurred, some attacks were literally 'textbook', as related by Lt W.A.Elliott, a platoon commander of the Scots Guards in Italy:

'Having halted my platoon just below the final ridge, I walked forward with my section commanders to site their new positions. In doing so I came over the brow where there were more rows of stone sangars [piled-stone positions] apparently deserted like the rest. Suddenly a white face topped by a mop of ginger hair appeared over a parapet only thirty yards ahead. We gaped at each other for a brief instant. Without a helmet the individual did not look a bit like a German. Then I quickly fired my tommy gun from the hip shouting "hands up" in German; but my weapon jammed. Cursing I recocked it and fired one round, when it jammed again. Then there was a deafening crackle of German machine gun bullets all around my ears...

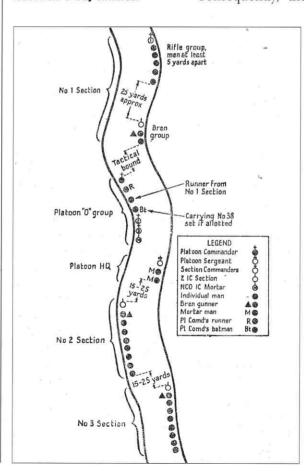
'I leapt backwards into dead ground and retreated to rejoin my platoon while the rest of the company on the hill behind fired at German heads popping up along the line of the ridge. With a large audience now watching from all sides, I laid on a model battle drill attack "according to the book" with one covering section, two flanking sections and 2-inch mortar smoke. Our battle school attack, however, was somewhat assisted by the complete withdrawal of the enemy...'

The Sniper

Sniping could be indulged in by virtually any soldier, but it would be entirely wrong to assume that it was a random activity, without



A British platoon make a short local advance (they are wearing only 'musketry order', without the small pack) in Normandy, 1944. At left is a corporal section commander, identified by his badges of rank, a machete hanging behind his left hip, and his Sten SMG. Beside him is his second lieutenant platoon commander, also armed with a Sten Mk III as well as his pistol; he has added one pouch for its magazines to his belt kit. A single medal ribbon marks the officer as a veteran of a previous campaign in North Africa or Italy. In Normandy the casualty rates among British infantry, and particularly junior officers, rivalled those of the Great War. The 4th Somerset Light Infantry in 43rd (Wessex) Div went into action on 25 June 1944; by the time Lt Sydney Jary arrived on 18 July, the battalion - with an establishment of 36 officers and just over 750 men - had already received battle replacements for 17 officers and 541 other ranks. Jary's 18 Ptn, D Coy was down to 17 men, of whom 12 were recent replacements, and he was their third officer. (IWM B 5380)





The British platoon's 2in mortar weighed about 12lb in its final form and had a range of 500 yards, firing high explosive, smoke or illuminating rounds as fast as it could be loaded. Some models had a sight, but experienced men usually estimated elevation and aim by eye. Here, in the Netherlands in October 1944, men of the 3rd Monmouths, 11th Armoured Div prepare to fire a 2lb HE round. (IWM BU 1233)

theoretical background or specific training. Though somewhat neglected between the wars, the basic techniques had been evolved by 1918. and now the deadly trade was a highly organized business.2 As Maj Nevill Armstrong of the Canadian Army observed in his unofficial 1940 publication Fieldcraft: Sniping and Intelligence, disorganized sniping was of little use, while properly snipers could deployed have disproportionate effect in relation to their numbers. According to his rationale, the main purposes of sniping were to screen one's own positions and movements, kill enemy snipers, and shake enemy morale. This would be achieved not merely by hitting as many of the enemy as possible, but by 'obtaining a superiority of fire' which would keep him down, and by 'visual

reconnaissance' which would allow the gathering of information.

In the American synthesis scouting and sniping were similarly linked. In the US manual of 1944 sniping was described as specifically intended to pick off key enemy personnel, thereby softening his resistance and weakening morale. In US theory snipers were deployed in two distinct roles. Stationary two-man 'observer-sniper' teams occupied specific, well-camouflaged posts. These covered designated areas, preferably from more than one position, and the team took turns to observe with binoculars. To avoid fatigue observation duty alternated every 15 to 20 minutes. Where possible range cards were drawn up for each post, showing landmarks and distances to designated points. These would allow for quick direction of the shooter to targets, and accurate shooting on known data. Concealment and patience were primary requirements for the observer-sniper team, with rifle barrels not to protrude beyond cover and smoking strictly forbidden. By contrast, the 'mobile sniper' was intended to be far more aggressive:

'The mobile sniper acts alone, moves about frequently, and covers a large but not necessarily fixed area. He may be used to infiltrate enemy lines and seek out and destroy mobile targets along enemy routes of supply and communication. It is essential that the mobile sniper hit his target with the first round fired. If the sniper is forced to fire several times, he discloses his position and also gives the enemy time to escape. Therefore, although the mobile sniper must be an expert shot at all ranges, he must be trained to stalk his target until he is close enough to insure that it will be eliminated with his first shot.' Where snipers were acting behind the enemy line it was recommended that they carry a second weapon, such as a pistol, submachine gun or even an automatic rifle.

The US sniper was warned that 'the telescopic sight does not make the rifle or the firer more accurate' – accuracy depended on marksmanship. The telescope was mainly to allow him to pick up obscure targets, and perhaps enable him to engage targets that might otherwise have been out of range. Several men per platoon received sniper training, being selected for their ability to use map and compass and

their physical agility as well as their potential with the rifle. Training stressed the importance of advanced marksmanship, range estimation, concealment, the identification of sounds, care and use of telescopic sights, and the study of trajectory and drift.

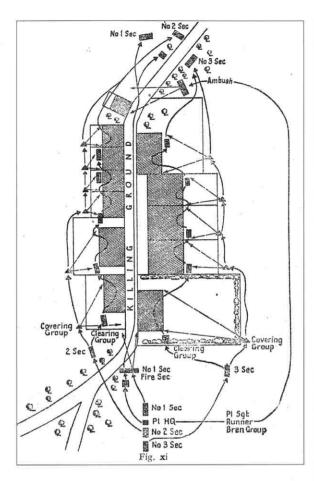
The basic sniper weapon was the highly accurate M1903 bolt-action Springfield rifle with telescope, properly described as the 'US Rifle Cal .30, M1903A4 (Sniper's)'. Even so, the sniper manual observed that scopes would not always be mounted, and that in close country carbines might also be used. When weapons without telescopes were used at night it was recommended that a strip of white tape along the top surface of the barrel could be used as a primitive sight for close targets. In practice, e.g. in the case of the 29th Division, it was quickly observed that snipers with a well-developed sense of self-preservation discarded the relatively slow bolt action and its delicate scope in favour of the semi-automatic Garand. Work was also done to fit telescopes to both the Garand and the M1 carbine. Official figures state that almost 7,000 Garand M1C sniper rifles were produced by the end of the war, although precious few actually made it to Europe.

Snipers could have a significant impact on the tactical battle; Bud McMillan of the 45th Divison recalled a German counter-attack at Anzio:

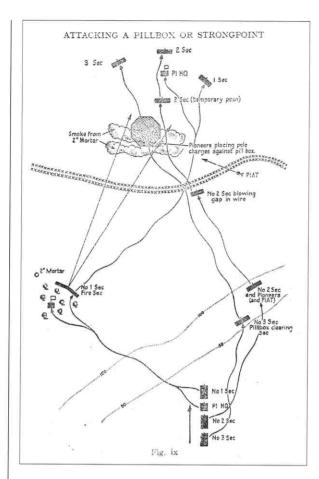
'As soon as it got light, they started the artillery barrage all around and then started running across the open land... With my sniper's rifle, I was able to shoot the ones I thought were officers or NCOs. You pretty well had your choice of what to shoot at. Up to 400 or 500 yards, you could really pick 'em off. The enemy used fire and movement, where they'd run forward, hit the ground, roll, come up and run some more.'

Most German snipers used bolt-action rifles, but examples of the semi-automatic G41 and G43 types were also fitted with telescope sights. In Normandy all types were an absolute plague. As one US 90th Division platoon commander noted, a favourite enemy trick during the campaign was to take up positions in trees wearing 'camouflage suits for concealment'. These men were 'bothersome', until the American squads took to getting their BAR man to empty his magazine into the thickest parts of each suspicious tree. Some snipers had tied themselves in, and so were left hanging after they had been shot. Captain Marshall of the 7th Somerset Light Infantry recorded enemy snipers who lay in the mud of ditches or hid in haystacks. One determined character barricaded himself on the upper floor of a barn, and was only silenced by a Bren gun burst through the closed door.

German instructions from the latter part of the war stated that snipers should wear a camouflage smock or suit, but that if none happened to be available 'fatigue dress must be imprinted or sprayed with appropriate camouflage colours'. Where a belt was worn this should be of



Clearing a village, from the **British manual Infantry Training** (1944). An 'ambush party' - here the platoon sergeant, with a Bren team and a runner - creeps around one flank to set up a stop line for any fleeing enemy. Meanwhile a 'fire section' takes up position with platoon HQ to cover likely windows and sweep the main street, which is designated as the 'killing ground'; they subsequently advance by 'fire and movement' as needed. The other two sections break into 'clearing groups' protected by 'covering groups': they work their way from building to building down the rear of the gardens and houses. Doors, partition walls and ceilings are shot through before men enter, preceded by grenades as necessary.



Attacking a strongpoint, from Infantry Training (1944). The British platoon breaks down into its composite sections, the first bringing the objective under heavy fire while it is blinded by smoke from the platoon HQ's 2in mortar. The second section is accompanied by assault pioneers and a PIAT from the unit headquarters assets. It closes in, blasting with the PIAT at close range, while the pioneers gap the wire with charges. Both second and third sections now rush the gap; the second secures the ground beyond the pillbox. taking any defensive trenches, while the third section attacks the objective with grenades.

webbing rather than the more conspicuous leather. Helmet covers and nets were likewise to be worn as available, and the rifle wrapped in strips of canvas or hessian, the sniper's motto being 'Camouflage ten times, shoot once'. A recommended ruse was the camouflage fan': this was a natural branch about 40cm (16in) long, to which end-pieces were attached so as to create a former over which camouflage netting covered with natural foliage camouflage could be placed. The result was a small portable hide from which the sniper could operate. Rather more elaborate was a 'grass mat' camouflage, created by binding together ordinary small camouflage nets and braiding them with appropriate local foliage. The sniper then put on the whole thing like a coat, with the upper third right over the head and loops around the arms and waist to hold the shapeless mass to his body. Some thought was applied to tree positions, slings and Zeltbahn shelter-quarters being used to make long occupation more comfortable and less obvious. Unobtrusive assistance to tree-climbing could be provided by banging spent cartridge cases into the trunk to give the feet a little additional purchase.

Patient observation was recommended, preferably by men working in pairs, but deceptions were also encouraged. Dummy heads

were useful to attract attention, as were figures stuck up trees: the enemy would fire upon them, thus giving away his position. An improvement on the theme was to put a rifle in a dummy position, and have one of the team discharge it from a distance using a long cord. According to interviews with leading German snipers, the vast majority of shots were taken at under 400 metres, with priority targeting of enemy officers, observers, and support weapon crews. In many instances snipers were deployed in front of their own lines, and would remain in position from dawn to dusk. A German sniper's sleeve badge, depicting an eagle's head and oakleaves, was instituted in August 1944; three classes were to mark 20, 40, and 60 kills respectively, but understandably these were seldom seen on uniform, particularly in the field.

British snipers used bolt-action rifles; at the beginning of the war the US-manufactured P14 fitted with a telescopic sight was termed the No.3 Mk I(T) in this role. By 1942 the new Enfield No.4 rifle was also modified for sniper use as the 'No.4 Mk I(T)'. A 'Sniping Wing' was set up at the old National Rifle Association grounds at Bisley, and new schools were later established at Llanberis in North Wales and on the Continent. Early British sniping methods differed relatively little from those of World War I, being summarized in 1940 and 1941 in *Notes on the Training of Snipers*. Eight men per battalion were designated as a sniper section, intended to operate either individually or as 'sniper-observer' pairs. Rifles were best dulled with hessian wrapping, brown paper or

mud being emergency alternatives. Patience and observant stillness were important virtues – restless snipers were recommended to chew gum if they had to do something.

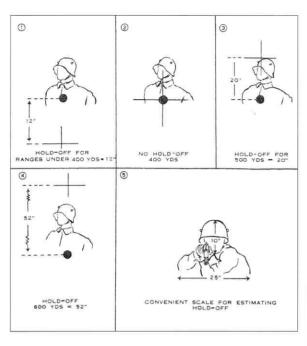
Many possible sniping posts were identified, the ideal being one which could be entered or left during daylight by means of covered approaches. Where time allowed, field positions could incorporate a dug-in sniper position, and 'mousetrap' observation loops consisting of wooden boxes with a camouflaged hinged lid on the outer end. Sniping from buildings and behind walls was encouraged. Upstairs rooms were particularly effective, and snipers were taught to stand well back in the room taking an oblique angle through the window. Higher up again, possible hides were identified in the rafters or behind the chimneys of shelled buildings, which were both 'advantageous and difficult to detect'. Bricks could be removed from walls, creating loopholes to be used kneeling or prone. Walls were best fired around

The number of British snipers increased with time. By mid-1942 common practice was two 'sniper-observers' per company headquarters, and one sniper per section. These were expected 'to locate and kill enemy commanders, reconnaissance parties, and snipers. By intelligent fieldcraft they should never have to shoot at more than 300 to 400 yards.' An *Army Training Memorandum* of January 1944 gave additional detail:

or through, unless the top of the wall had a very uneven profile.

'Those who have been in close contact with either the Germans or Japanese realize the menace of the enemy sniper, and, conversely, the value of first class snipers. Snipers, if carefully chosen and trained into really good shots, will pay ample dividend in the field for the effort put into training them. In the Mediterranean it has been found invaluable to train one "section sniper" in each section, over and above the War Establishment scale of snipers equipped with snipers' rifles. The section sniper cannot be so equipped, but is the best shot in the section – if possible a marksman. In attack he is employed to pick off, from a suitable position to a flank, individual enemy in the post which the remainder of the section is assaulting.'

By D-Day British sniping had advanced considerably, with greater numbers of men receiving training. In the 5th Seaforths it is recorded that, following a slow start, schools were established during the Italian campaign and the establishment of snipers was doubled, resulting in a 'good team' in Normandy. In Commando and Airborne battalions, over and above ordinary 'section' snipers, the official complement was anything from 30 to 38. A piece of airborne clothing generally adopted by snipers was the camouflaged Denison smock, which had the additional advantages of a crotch piece which prevented it riding up while crawling, and ample pockets for ammunition and grenades for close defence. A typical issue of equipment to a sniper in the latter stages of the war comprised the Denison, camouflage net face veil, binoculars (or a 'Telescope, Scout, Regiment'), compass, two grenades, emergency



Aiming diagram from the US sniper manual of 1944. For the sake of speed, snipers were trained not to fiddle with sight settings for individual shots but to leave the weapon zeroed-in at 400 yards. If an enemy appeared at about this distance the sniper fired directly at the middle of his chest; if the target was closer he aimed about a foot lower, and at 500 yards the aiming point was the top of the head. In both instances sights set at 400 yards would bring the round back into the middle of the body mass. At 600 yards the ideal point of aim was 52in above the intended point of strike, but shooting at greater ranges was discouraged since hits were unlikely.



A photo taken on the Russian Front in May 1943 by a man named Heuberger, from Propaganda Kompanie 666. The subject is a German sniper-observer team working from a prepared position; the sniper fires through – rather than over-the parapet.

British snipers from the Royal Norfolk Regiment training on a range behind the lines in Normandy, July 1944. The foreground man has a No.3 Mk I*(T) rifle – the old P14 Americanmade Enfield fitted with a telescopic sight. (IWM B 8178)



ration and water bottle. The ammunition carried was commonly 50 rounds of ordinary 'ball', five of tracer, and five of armour-piercing.

One should not deduce from these guidelines that British snipers were anything like 'uniform', since an unimaginative outlook would soon have alerted the enemy. Scrim (hessian strips – 'burlap' in US terms), nets, painted canvas and captured camouflage clothing were all used to advantage. The impressive *Home Guard Fieldcraft Manual* by Langdon-Davies even contained stage by stage instructions for making what is now called a 'ghillie

suit'. This consisted of a loose hessian smock and hood on to which camouflage patterns could be painted, in schemes suited to specific localities; three main types were illustrated. Irregular patches of dark, 'almost black' olive green and mid-green were suitable for 'agricultural, hedge, field and parkland'. Dark brown with big areas of warm grey or light earth was deemed best for backgrounds of rock, stone, or sandbags. A striking geometric camouflage of dark brown with stone or brick red was shown for built-up areas. In all instances greater or lesser amounts of unpainted hessian were also allowed to form part of the designs.

British snipers achieved some notable successes, particularly in the final stages of the war. Alastair Borthwick records that in the Netherlands the 5th Seaforths' snipers – a thoroughly independent-minded and slightly piratical gang – went so far as to keep a 'game book' of kills:

'We did not lose a single man by sniping, and by the end of the campaign our total bag was 38. So great was our ascendancy at Olland that the redoubtable Fraser was seen one evening disappearing into No Man's Land on a bicycle. It was also a time when the snipers, never a particularly self-effacing crew outside working hours, developed an even more than usually vivid turn of phrase in describing their exploits. Fraser's best contribution was: "I got him through the head. How did I know? Och, he just curled up and twitched his toes like a rabbit".'

How unnerving sniping could be is recorded by German machine gunner Günter Koschorrek, pinned down under Russian fire: 'Somewhere, in front of us, a sniper has dug himself in, so well camou-

> flaged that I can't pick him out even with my telescopic sight. I am aware of his presence only because of the dangerous explosions all around our position which have a noticeably higher tone.'

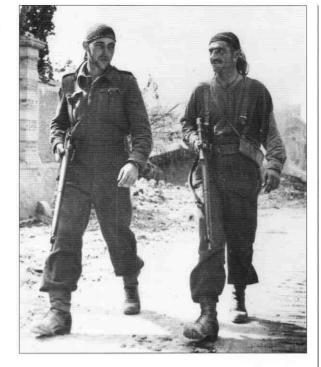
Koschorrek's assistant poked his head up from the gun pit, just at the moment when a fur cap was spotted. Both men dived to the bottom of the foxhole and were unable to move, while the battle

continued around them. After a while Koschorrek risked lowering the tripod a little:

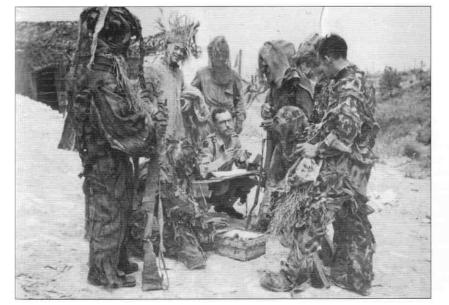
'... Then there is another sharp crack, right in my eardrum. Quick as a flash, I duck down and then freeze. With his eyes wide open, as if struck by lightning, Paul slumps in a heap at the bottom of the foxhole... I stare aghast at the fist-sized hole in Paul's head just above his left eve, from which blood is leaking in dark red streams on to his steel helmet and from there right over his face and into his mouth, which is moving up and down. I am in total panic and try to turn his body... the blood is now streaming out... so fast that I can hear a light "clucking" sound.' Koschorrek shouted for a medic, only to get the sensible reply that 'No one can get the bugger out' while the sniper was active. Eventually the dead man was pulled from the pit, and the gunner's assistant was replaced, but the replacement did not last long either.

Sniping was the prime motivation for experienced officers wishing to appear as much like other ranks as possible. In the US Army, with the

connivance of officers, saluting almost disappeared in the front line. Maps and binoculars were concealed inside jackets, and the tell-tale white bar on the back of an officer's helmet was often painted over or camouflaged with mud. The US 29th Division history records that both officers' bars and sergeants' stripes were commonly removed from field clothing, despite official orders to the contrary. Many British line officers adopted other ranks' webbing equipment, and some carried rifles.



The function of these Canadian snipers at Falaise, Normandy, in summer 1944 is much less obvious than those in the photo below. Equipment is limited to No.4 rifles, one with a telescope sight, ammunition bandoliers, and piratically tied face veils round their heads. Their expressions may betray relief: an earlier photograph in this same sequence shows an explosion among the buildings in the background. (IWM HU 28888)



Briefing scouts and snipers from 10th Indian Div in Italy. The full panoply of camouflage kit can be seen: 'scrim' suits with hessian (burlap) strips sewn on, netting face veils, foliage on head-dresses and tucked in to break up the body outline, and hessian wrapped around rifles. It is not immediately apparent that there are eight snipers in this photograph. (Queen's Lancashire Regiment)

THE PLATES

A: GERMAN DEFENSIVE POSITION; NORMANDY, JUNE-JULY 1944

Based primarily on eyewitness sketches by men of the US 90th Infantry Div, this plate shows both plan (above) and oblique (below) views of a typical German squad position in the *bocage* countryside of Normandy. With its many trees, narrow sunken lanes, high banks and thick, centuries-old hedgerows, this terrain offered very limited visibility. Tanks were often ineffective, and normal infantry tactics had to be modified according to circumstances which usually favoured the defenders.

- (1) Gaps have been deliberately cleared in some hedgerows for the interlocking fields of fire of machine guns located on the flanks, arranged obliquely to cover the natural avenues of advance.
- (2-2) A tripwire strung with noise-making tin cans is stretched low in the grass across a likely line of advance, to provide a warning and make the attackers pause.
- (3) The tree position of a sniper, forward of the main line of defence. His height enables him to spot enemy movement at a distance, picking targets inaccessible from ground level. His first shot or signal will alert the squad.
- (4) Riflemen occupy tunnels dug right through the base of the hedgerow bank, with a narrow aperture at the front; the rifle muzzle hardly protrudes and is masked by vegetation. When they have to withdraw they can wriggle back out of the holes and crawl along roadside ditches. Sentries keep watch through small apertures in the foliage, not over it.
- (5) The MGs cover the front from different angles, and may also be positioned to fire from holes through the banks. Alternative positions will have been selected to sweep the lanes and potential enemy observation points, and guns can be moved to secondary positions in case of compromise or opportunity. (Plate by Brian Delf)

B: GERMAN 5cm LIGHT MORTAR TEAM, 1940-43

Issued on a scale of one per platoon, the leichte Granatwerfer 36 was a 5cm (50mm, 1.9in) smoothbore mortar intended to engage otherwise inaccessible targets at ranges of between 75m and 575m with plunging fire. By June 1943 approximately 30,000 of these weapons had been made, and they were very widely used: in the brief French campaign of May–June 1940 alone, over half a million rounds were fired.

(1) Two of the three-man IGrW 36 detachment, based on illustrations in Hauptmann Carl Siwinna's Kommandobuch, and a colour picture by Propaganda Kompanie photographer Deman; the third man, the Truppführer detachment commander – usually an Unteroffizier – is nearby, observing targets and directing his team. The No.1 holds the levering handgrips to adjust the aim as required; the No.2 loads the bomb. Ammunition was carried in ten-round metal cases, five of which comprised the detachment's 'textbook' load. Apart from the barrel, baseplate, or an ammunition case, the Tragestell M1939 pack frame accommodates the soldier's Zeltbahn and messtin; his breadbag, canteen, gas mask canister, entrenching tool, and personal sidearm are slung as belt kit below it.

(2) Detail of the pack frame and harness worn by all three members of the team; this example is loaded with the base plate (which could also be carried in one hand by its integral handgrip). For swift action the manual recommended that the team dive to the ground under cover and unload each other's frames, unpacking the barrel and baseplate first.

(3) A light mortar pit dug according to the 1940 field fortification manual. Textbook depth was 1.45m, with a width of 2.5m (approx 4ft 6in x 8ft 2in). (Plate by Mike Chappell)

C: GERMAN INFANTRY BATTLEFIELD POSITIONS, 1939-45

Protection and concealment were literally a matter of life and death to the infantryman in battle; as an old German saying has it, 'Sweat saves blood'. In each of these scenes we have unrealistically 'cleared away' long grass and scrub from around the figures, for the sake of clarity.

- (1) Profile view of a textbook Schützenloch or rifle pit, as originally depicted in Weber's 1938 *Unterrichtsbuch*. It is 1.4m (4ft 6in) deep, and features both an elbow rest round the rim, and a sump covered with brush to improve drainage. (2) An oblique view of a similarly 'textbook perfect' foxhole occupied by an SS-Sturmann in c1944. Note how the camouflage-printed Zeltbahn could be pegged down and folded at one side, to be pulled forward above the hole for total concealment or to keep out rain.
- (3 & 4) Tactical use of a roadside embankment or hillside, c1944 the omission of the vegetation should be marked particularly here. Infantryman (3) maintains tactical mobility below the cover of the bank, camouflaged by his Zeltbahn worn as a poncho and with matching local foliage in his helmet net. He will observe through rather than over the vegetation, moving behind the crest so as to engage from several different points. Not expecting immediate action, Panzergrenadier (4) has dug a burrow into the reverse slope, covered and concealed with his pegged-down Zeltbahn. In bad weather he would normally bring the head of his Panzerfaust anti-tank weapon under cover against the damp. (Plate by Mike Chappell)

A GI operates the air-cooled .30cal Browning M1919 machine gun, fed by 250-round fabric belts – see Plate D. In the US infantry organization of 1944 two of these machine guns and three 60mm mortars formed a fourth 'weapons' platoon within each rifle company, its assets normally being dispersed to support the rifle platoons. (US National Archives)



D: US RIFLE PLATOON IN DEFENCE; ARDENNES, 1944-45

A US infantry platoon deployed in front line defence, based on the instructions in the Rifle Company field manuals of 1942 and 1944. The men are entrenched in hasty one- and two-man foxholes, the spoil concealed as well as possible with snow, with the primary mission 'to stop the enemy by fire in front of the main position of resistance, and to repel him by close combat if he reaches it'. Typically a platoon frontage in broken terrain could extend up to 250 yards, while open country (and thus more open fields of fire) allowed greater dispersal. The squads are disposed to provide interlocking zones of fire, while also covering the gaps between adjoining platoons. The outer pair of broken red lines indicate the edges of the central squad's field of fire; the inner lines show the overlaps from the flanking squads. Ditches and folds in the ground were used for concealed movement.

- (1) Browning Automatic Rifles reinforce the squad positions, and can fire across the fronts of adjacent squads.
- (2) Riflemen form the bulk of the line, being assigned main 'sectors of fire' by their squad leaders according to the terrain. Grenades are laid ready for close defence if the target is out of the line of sight for Garand fire.
- (3) The platoon sergeant is positioned just behind the main line, where he can supervise a broad sector, and can keep in visual and voice contact with the platoon leader.
- (4) An observer from the 60mm mortar team, attached from the company's weapons platoon, is positioned so that he has a good view, close to the platoon leader and within hand signal distance of his crew.
- (5) The lieutenant platoon leader is centrally located for the best observation and control; his radio allows him to maintain communication with his company commander during any action.
- (6) Within the platoon, a messenger relays information and orders from the platoon leader by word of mouth.
- (7) The attached 60mm mortar crew is located in a suitable defilade position no further than 100 yards from its observer. Its position is selected 'to cover the most dangerous covered approaches to the platoon area'.
- (8) The cache of small arms ammunition, and bearers for machine gun ammunition, concealed but handy for the weapon pits. A second cache would hold mortar ammunition and carriers.
- (9) Attached .30cal machine gun team. In the defensive, fire will be withheld until the enemy present a good target.
- (10) Flank rifleman from the adjacent platoon. A close connection is maintained, particularly where there are woods or other obstructions. (Plate by Brian Delf)

E: BRITISH SECTION FLANK ATTACK, 1944-45

A typical British 'battle drill' for attacking an enemy position from the flank, based closely on the instructions given in *Infantry Training* (1944). The **red arrows** indicate the movement of the 'Bren group', the **blue arrows** that of the 'rifle group' – the remainder of the section led by the NCO armed with a Sten gun. In the vignette we have shown two Bren No.1s and the section second-in-command, to dramatize the fact that by 1944/45 sections were sometimes issued two LMGs, often by redeploying weapons that were



A British sniper in Normandy, July 1944. His headdress is a face veil with liberal addition of scrim – irregular strips of coloured hessian. Remarkably, he chooses to wear a captured Waffen-SS camouflage smock; this would seem to put him at considerable risk when working his way back through British lines. (IWM B 8177)

no longer needed for anti-aircraft protection. In such cases the Bren group would comprise four or five men, since each gun needed a two-man team.

As soon as the advancing section comes under fire from the enemy-held copse the Bren group deploys under cover and returns fire (red 1). The riflemen also drop to fire from cover. The section leader assesses the situation and orders a flanking manoeuvre. Taking advantage of the covering fire from the Bren group, he leads the rifle group in working its way through cover around one side, using fire and movement if needed (blue 1). The men dash across any gaps in concealment, avoiding such obvious spots for mines as actual gateways. Once the riflemen have reached their second position behind the enemy flank (blue 2), the Bren group can also move round to a position where it can give effective support to the assault. At all times either the Bren group or rifle group are ready to fire, thus giving the section 'one leg on the ground'. If no voice control is

possible then the groups listen for the sounds of each other's fire, or use hand signals.

When the Bren group are in position to open fire from the flank (red 2), smoke bombs are dropped by the platoon 2in mortar to mask the rifle group's assault; when closer, the riflemen can add smoke grenades to the screen. The rifle group now dash forward to the assault, firing from the hip, throwing fragmentation grenades and, in the final clash, using their bayonets. Once they are fully engaged the Bren group can no longer support them safely, and so moves rapidly to its third position behind the enemy (red 3), in order to cut off any who try to disengage. With the attack successfully concluded, the section re-forms well beyond the enemy position (blue 3) to resume the advance. (Plate by Brian Delf)

F: BRITISH 'WEAPON SLITS'

(1) This fully revetted 'two-man weapon slit' was illustrated in *Infantry Training* (March 1944), but in practice it was limited to units in home training. The ends of the pit are 4ft 6in deep from the parapet, with a 2ft drainage sump between them; solid stakes, braced with guy wires to tent pegs, give resilience, support the revetting of hurdles or brushwood, and allow the erection of overhead cover. Such elaborate constructions took time to build, and were very rarely seen on the more fluid battlefronts of 1943–45.

(2) Typical of those later battlefields was the 'three-man V-shaped weapon slit', also 4ft 6in deep, and long and wide enough to accommodate the two-man Bren team and the section second-in-command. Such 'hasty' defences were usually commenced with 'the smallest hole... that will give the occupants protection, enlarged where possible to the dimensions of the standard weapon slits'. If there were any time and opportunity to improve the position further, all effort would be devoted to improvising some sort of overhead cover against mortar and artillery fragments. In this instance the slit is occupied by a Bren group of 5th Bn Northamptonshire Regt, 5th Infantry Div, in Germany in spring 1945; a veteran battalion transferred from the Italian front, the 5th Northamptons still carry the SMLE rifle. Their

slit has a low earth parapet and the No.1 is firing without using the bipod. The No.2's yoked 'utility pouches' of magazines, and the holdall with the spare barrel and cleaning kit, lie on the trench lip. Apart from GS picks and shovels these were usually the only items laid aside when rapid movement was possible – nobody wanted to waste time collecting up their small kit, perhaps under fire.

In addition to the two-man and V-shaped slits, Infantry Training also gave details of a 'cross-shaped three-man slit', useful for all-round defence in fixed positions. (Plate by Mike Chappell)

G: US INFANTRY SQUAD AND PLATOON WEAPONS

(1) .30cal Browning Automatic Rifle M1918A1. The BAR, which originally entered service in the closing months of World War I, was a highly versatile light support weapon at squad level. Unlike the MG34/42 series and the Bren, the BAR did not have a quick-change barrel; this, together with its 20-round magazine capacity, prevented it from performing as a true light machine gun. Despite these drawbacks it was described by S.L.A.Marshall as an 'indispensable' mainspring of infantry action.

(2) .30cal Garand M1 rifle, the first semi-automatic weapon to be standard issue to the infantry of any combatant power. Later the German StG44 assault rifle was more effective, but for most of the war the Garand – firing eight rounds as fast as the trigger could be pulled – gave the American GI a significant firepower advantage over soldiers armed with bolt-action types.

(3) .30cal M1 carbine. This semi-automatic, firing a short .30cal cartridge of inferior stopping power, was not really intended as a combat infantryman's weapon but as a substitute for sub-machine guns and pistols carried by junior leaders, heavy weapon crews, in vehicles and in rear areas. Nevertheless, its light weight – at 5.45lb, little more than half that of the 9.5lb Garand – and rapid rate of fire made it popular. Here pouches with two spare 15-round magazines are looped to the butt.

(4) .45cal M3 sub-machine gun. Costing only \$25 to make, this was a cheaper and much simplified late war

Anholt, Germany, 29 March 1945. During a campaign of frequent advances Ptes Wingate and Bailey, a Bren team from 43rd (Wessex) Div, enjoy a brew-up in the most basic two-man slit trench. To judge by their relative heights, it apparently either has a deeply 'stepped' floor, or is less than 4 feet deep overall. They have not bothered to consolidate the very low parapet of spoil with sandbags or other cover. Their webbing equipment is laid round the edges, with spare magazines in a pair of 'utility' pouches close by the gun. (IWM BU 2834)



The infantryman's personal equipment of belts and pouches was scientifically designed to carry the ammunition and small equipment items which it was anticipated he would need. In practice, because expenditure of ammunition was faster than allowed for, and new items were repeatedly added to the squad or platoon's inventory, the load-bearing equipment always lagged behind the fast-evolving reality of the battlefield. Extras had to be accommodated by festooning soldiers with bandoliers, slung musettes and satchels (often improvised for new purposes), and even sandbags and bits of string. This 1944 GI is also wearing an inflatable lifebelt for beach landings. (US National Archives)

replacement for the M1928A1 Thompson. The 'grease gun' was never popular with Gls, being their introduction to the new generation of weapons made from relatively crude steel pressings; the continued high reputation of the traditionally crafted Thompson, and the success of the rifle and carbine, ensured that it never had more than a supporting role, but at short range its .45cal round had good stopping power.

(5) 60mm M2 mortar, often attached at platoon level from the company's weapons platoon. It had an all-up battle weight of 42lb, and could deliver up to 18 x 3lb rounds per minute for brief periods (depending largely upon the amount of ammunition carried), out to ranges between 100 and 2,000 yards.

(6) M3 trench knife, often carried by soldiers armed with the carbine, which initially had no provision for a bayonet. A similarly sized bayonet was used with the Garand.

(7) Mk IIA1 fragmentation grenade, the standard issue all-purpose infantry hand grenade.

(8) Mk IIA1 in the Grenade Projector Adapter which fitted to the rifle muzzle, giving a range of up to 250 yards.

(9) Mk IIIA2 'offensive' grenade, with a fibreboard rather than a steel casing, relying on the blast effect alone; it was intended for use close ahead of advancing troops, and was at its most useful in clearing buildings and bunkers. The uncertainty of having it to hand when needed for such specific tasks meant that fragmentation grenades saw more general use.

(10) .45cal Colt M1911A1 semi-automatic pistol. Fired from a seven-round magazine, the .45in ACP round had considerable stopping power; nevertheless, like all pistols its short accurate range made this a weapon of last resort for hand-to-hand encounters. (Plate by Mike Chappell)

H: BRITISH ARMY HOUSE DEFENCE

Although drawn from official documents of 1944, this plan for house defence builds on previous schemes prepared by the Home Guard in 1940–43, and on that published for use by the regular army in the *Instructor's Handbook on Fieldcraft and Battle Drill* in 1942.

(1) Attic post, with a few bricks and slates removed to provide loopholes for observation and sniping. The loft hatch is enlarged, and a sturdy ladder fitted. Snipers might also find positions in parts of the roof.

(2) Upper floor. The floor and ceiling are reinforced with timber props and arrangements of 'capsills' and 'groundsills' at right angles to the joists; two layers of sandbags are laid over the floor. All window glass has been



knocked out and anti-grenade netting fitted. Curtains of hessian or blankets obscure the top halves of the windows, so that riflemen positioned well back in the room can fire unseen from oblique angles. Furniture is filled with rubble or sandbags and used for protection. A new hatchway has been smashed through the floor and a ladder fitted, giving quick access to and from the ground floor. Any handy container is filled with water. Windows not needed for fire or observation are blocked with planks, corrugated iron or antigrenade netting.

(3) Ground floor. 'Concertina' rolls of barbed wire all round the house keep the enemy back from the doors and windows, the latter being prepared as above; additional planks with exposed nails discourage climbing in over the window sills. Jammed and propped timbers again reinforce ceiling and floor, and also the lintels of interior doorways. Earth-filled furniture provides protected firing positions.

(4) The staircase has the banisters broken away, and the treads and risers covered with nail-studded planks. One narrow gap is left until attack is imminent, then blocked with a last prepared plank.

(5) Crawl-holes are knocked through interior partition walls throughout, so defenders can move freely through the house at floor level. The bath is filled with water for emergency use.

(6) Ground level doors to the exterior are barricaded with earth-filled furniture and sandbags, leaving only a narrow gap for observation and fire.

(7) Down-pipes and climbing plants are removed above ground floor level, denying attackers any handholds if trying to reach the upper windows.

(8) The cellar serves as a store for ammunition and other supplies. It is reinforced with beams, and the stairway is prepared for blocking with nailed planks. Any external doors are secured. Even if the house is more or less demolished the cellar may still provide a last strongpoint. (Plate by Brian Delf)

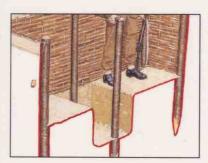
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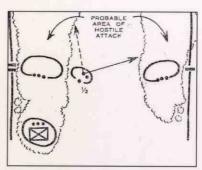
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