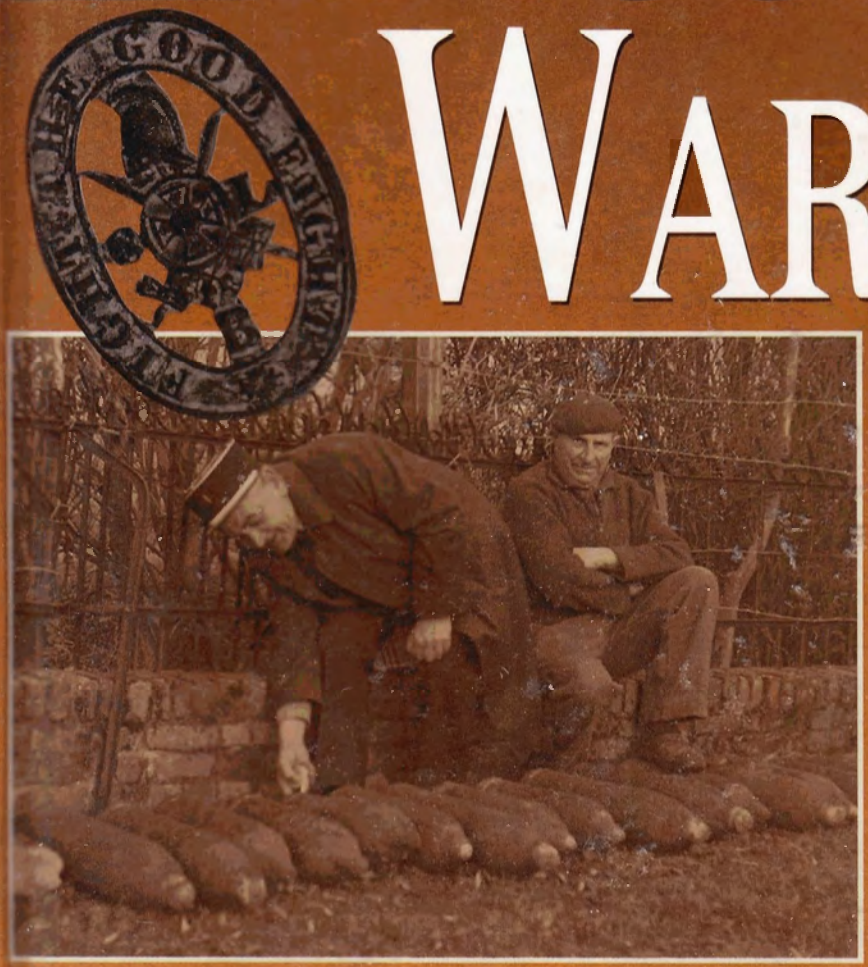
Digging Up the Diggers' War



Australian Battlefield Archaeology

John Laffin

In this book John Laffin, an acknowledged expert in the field of unearthing relics from the fighting areas of two world wars, explains in detail how and where to search for artefacts remaining from these great battles, with particular emphasis on the areas along the Western Front in which the Aussie Diggers were subjected to some of the fiercest fighting.

The course of these battles along the Western Front is described, with extensive information on how to search for tell-tale evidence of battle, and on knowing where to dig. The author's vast knowledge of the subject, together with lists of available information sources, is a valuable asset to the novice archaeologist. A fascinating photographic selection of relics of these famous battles complements the text, and provides examples of the treasures to be uncovered by the battlefield archaeologist.

In addition to catering for the specialist reader, the author aims to attract people to the large areas of battleground accessible and open to the public in France and Belgium.

Cover design by Darian Causby.

Left: A French farmer found these live shells on his property in 1988.
Right: Private Alan Kilminster of the 17th Battalion was killed when a bullet pierced the steel cover of his notebook and went through his heart.
Inset: A badge of the Church Lads Brigade, found near V Beach, Cape Helles, Gallipoli.
Back cover: Troops on the edge of the flooded Ancre River at St Pierre Divion on 5 December 1916.

Australians in the railway embankment on the Bullecourt battlefield on 8 May 1917, during the second battle. The main attack was launched from here and a battalion headquarters and brigade headquarters were sited along this stretch of embankment. The boxes held grenades and ammunition. In these situations the soldiers trod many things into the earth.

For my wife and children —
Hazelle, Bronwen, Craig and Pirenne,
all of whom understand the compulsion
which drives me to dig up the Diggers' war.

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One Man's War
The Walking Wounded
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Scotland the Brave (The Story of the Scottish Soldier)
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Author's Note

All my archaeological work has been undertaken with the permission of the owner of the ground, whether farmer, French *département*, national government, army or other organisation. Battlefield archaeology in its serious professional form requires an expert knowledge of explosives. *It is dangerous to handle unexploded bombs and grenades*. Because of my training and experience I am very cautious in my study of such things. In some parts of France the use of a metal detector is illegal, though farmers rarely object. However, they are angry when explorers do not ask permission and then trample through the crops.

Acknowledgments

In putting my wife, Hazelle, at the head of my thank-yous I am not merely conforming to a courtesy traditional among authors. She has been on many battlefields—ancient, modern and contemporary—and has endured discomfort, fatigue and sometimes danger in what I have assured her is a 'good cause'. Following in the footsteps of the Diggers is one good cause which Hazelle has embraced. In our many years of war research I have come to trust her judgment, patience and fortitude and to lean on her cheerfulness, optimism and encouragement. Our daughter Pirenne has accompanied us on several expeditions, working with enthusiasm and sensitivity and remaining buoyant under adverse conditions.

Anny De Decker, a Flemish-Belgian friend, has been an indefatigable researcher and our interpreter in three languages. Tony de Bruyne of Ieper (Ypres) probably knows more about ammunition—from bullets to heavy shells—than any other expert and I am grateful to him for his advice over many years in this field. André Coilliot, the battlefield archaeologist of Arras, has the largest private collection of war artefacts in France and each time I visit it I learn something more. Jean Letaille of Bullecourt and Martial Delebarre of Fromelles, both profound admirers of the AIF and intent on perpetuating in their region the memory of the Diggers, have been of great help to me in my work.

I am grateful to two Canadian friends in France, Marcel Robidoux and Jean Pierret, each in his turn director of the Canadian Battlefield Memorial Park at Vimy Ridge. My thanks too to employees or former employees of that superb organisation the Commonwealth War Graves Commission, in particular to Steve Grady, Jacky Whyte and Norman Christie. Various staff members of the Australian War Memorial have been helpful over the years, notably my friends Peter Burness and John Bullen. The Office of Australian War Graves is another reliable source of information; for their help in recent years Alan Heggen, the director, and his deputy Don Taggart deserve mention. I appreciate Martin Gilbert's permission to reproduce the maps of trenches on the Western Front from his invaluable book *First World War Atlas*.

Some of the material in this book was published in 1987 in my book *Battlefield Archaeology* (Ian Allan, London). This was of more general appeal, rather than of specific Australian interest, and few copies of the book reached Australia. It is now out of print. *Digging Up the Diggers' War*, in its text and photographs, concentrates on battlefield archaeology as it concerns Australian military history.

Digging Up a War

War and writing about war has been so much part of my life that it is not possible to separate the personal aspects from the professional. My preoccupation with armed conflict should not, however, be taken to indicate that I glorify war or gain any satisfaction from it. Few people who have experienced war in all its horror would claim that it had any element of glory. In truth, war is barbarous and evil while participation in warfare as a combatant is dangerous and shocking, exhausting and filthy. When in action, soldiers—much more than warriors of the sea or air—are often bitterly cold or gaspingly hot, soaked with rain or sweat, strained to the limit of physical and mental endurance and sometimes desperately afraid.

Following my youthful direct participation in war, my interest in conflict became intellectual and historical. Leadership, morale, courage, fear and other military stresses, all intrigue me, as do differences and disputes inspired or exacerbated by religion, nationalism, imperialism, expansionism and rampant commercialism.

As an historian, I track the course of combat, from the clash of great armies to the No-Man's-Land patrols of only a few soldiers. Much can be learned from the written word, in the form of official records or personal letters and diaries, and I have spent a lot of time in libraries and archives, delving, analysing and assessing.

But my researches go beyond this. Armed with maps of various kinds, with a compass and occasionally a metal detector, I venture onto old battlefields in an effort to get closer to the soldiers of earlier generations and their activities. In a vicarious and sometimes emotional sense I want to join them. This applies most of all to my own people—the Australians—and in particular to the Diggers of the Great War, or what we now call World War I.

They saw active service on the Western Front, which, in France and Belgium, divided the armies of Germany and its allies from those of the Western allies, on the Gallipoli peninsula and in the deserts of Palestine. In all three theatres of war I have sought evidence of the Diggers' presence through the objects they left behind. This involves digging into the battlefields. I long ago coined the term battlefield archaeology to describe this exploration, which in practical terms is a matter of unearthing relics from trenches, shell-holes, mine craters and No-Man's-Land.

Except in a few areas these battlefield features no longer exist, having long since been obliterated by farmers, foresters and others reclaiming the land which war had disfigured. However, it is possible to locate precisely where trenches and craters existed and where the trenches and the belts of barbed wire which protected them created No-Man's-Land, the disputed territory which lay between the opposing armies. By the same means of research—described in detail elsewhere in the book—I can place the position of mine dug-outs, as they were called, the deep shelters where large numbers of soldiers sheltered from barrages of high explosive and shrapnel shells. Similarly, I know the position of military hospitals and of dumps where stocks of shells, ammunition, rations and other impedimenta of war were stored. In addition, I have located many barns and farmhouses where soldiers were billeted.

These are the places where, beginning in 1956, I have carried out my battlefield archaeology. It is a form of archaeology with an extra dimension compared to traditional archaeology, since I include the artefacts of military history that I find in barns and billets where soldiers once sheltered and slept. I justify this in a metaphorical sense, since I am 'digging up' such artefacts.

Knowledge of the soldier's way of life and his

pattern of thought is required to discern just where he could have secreted something he valued. Where might a soldier who desperately craved sleep find a suitable possie which was his alone and where he might not be disturbed by some sergeant or corporal looking for men to form a carrying party? If a soldier had an illicit jar of rum—a not infrequent occurrence among Diggers—where might he hide it? Many a soldier, overburdened with souvenirs and duplicate items of equipment, hid parts of his property in the expectation of collecting them later, only to be killed or wounded or moved to another sector of the front. An amazing variety of things has stayed hidden for decades.

The Western Front is more fruitful for my work than Gallipoli or Palestine. Large numbers of Diggers were in clearly defined areas from April 1916 until the end of the war in November 1918 and in some cases until well into 1919. Their service and fighting took place along a more or less stable front and it was of such a fierce and concentrated nature that collectively the men used a massive amount of material.

In contrast, the Diggers who served at Gallipoli were in position for only eight months in an uninhabited and precipitous area without the thousands of miles of trench lines of the Western Front. I have found artefacts at Gallipoli but they are few compared to the thousands of France and Belgium. In Palestine the Australian Light Horse fought a war of movement, hence any trench lines were undeveloped and only briefly held. Between 1916 and 1918, these Diggers, who were mounted infantry rather than cavalry, fought 36 battles, all brief by Western Front standards, and won 36 victories. Any property that they left by chance or design was quickly grabbed by the Arab scavengers who traditionally accompanied armies in the Middle East. Nevertheless, I have found a few artefacts in the harsh environment of the Sinai Desert and elsewhere.

Few military historians practise battlefield archaeology in any systematic way, they merely collect whatever comes their way. Not many are prepared for days and weeks of hard and heavy work—and it can be very hard. In the wet seasons the vast areas of the old battlefields turn to clay, a fearsome glutinous mixture which sticks to boots and tools and to any buried objects. My daughter Pirenne and I once spent nine hours—18 manhours in all—unearthing a German sniper's shield from its post-battle resting place on the Somme. The clinging clay prevented us from hauling it out by force and we dug a hole of roughly three cubic metres before we extracted the trophy.

In summer, the ground is almost rock hard, except in ploughed fields, and at Gallipoli it is as solid as concrete. Working in a deep mine crater or a tunnel has its own discomforts and dangers. In 1978 I found a mine crater littered with unexploded grenades which had lain there since some forgotten fight in 1917. They were mostly German grenades and my speculation is that Germans were defending the crater when they were overrun, possibly by Australians. Several grenades had been thrown and had failed to explode but most were still intact.

I do not reveal in this book precisely where my excavations have taken place. This is partly because I do not want to lead amateur battlefield archaeologists into potentially dangerous places but mainly because many of my digs have been, and remain, a personal matter between me and the owner of the land, generally a Belgian or French farmer or other private landowner. Sometimes I dig in private vegetable gardens that were once battlefields and on two or three occasions I have been permitted to dig in flower gardens.

I practise my craft on private and government land with the permission of the owners, some of whom I have known for decades. They trust me not to bring hordes of souvenir hunters to the areas they own or control, just as they trust me not to be foolhardy in my search. As a one-time soldier trained in the handling of explosives, shells and grenades I know when something that I have uncovered is dangerous. If it is nowhere near habitation or a path I might rebury it or warn the owner of the property. If the shell lies in a position where it might be dangerous for children or a farm tractor I will report it to a bomb disposal unit, French or Belgian. Thousands of shells are found each year. The French authorities generally bury their deadly harvest at sea while the Belgians collect theirs at Houthulst, near Ieper in Flanders, and each week blow up scores of shells in one almighty explosion.

While shells and grenades must be left alone anybody can be a battlefield archaeologist on the basis of what they might learn from reading this book and without special skills or equipment. The

war explorer needs nothing more than a good eye—which will become sharper with practice, a probe made from a pointed stick or length of thin metal, such as a curtain rod, and a willingness to get hands, knees and boots dirty.

I must urge caution not only in leaving unexploded munitions where they lie but in watching for other hazards. The armies planted vast areas of battlefield with barbed wire strung from steel pickets and in places these entanglements still exist. Even where the wire has rusted away thousands of broken-off and twisted pickets remain, often hidden in the summer grass and weeds. They can cause nasty cuts and gashes to legs moving too quickly through the vegetation. The foliage covering shell-torn ground conceals many an ankle-breaking hole and careless trench walkers have fallen into military mine shafts. Also, in the drainage ditches of Flanders—fruitful places for relics—infections lurk. They have never harmed me but then I wear rubber gloves when groping in suspect places.

This book, then, has two purposes. One is to give later generations a better appreciation and understanding of the active service sufferings to which the Diggers were subjected. The second and more important purpose is to commemorate that service through the objects which the Diggers once valued and left behind.

This is what happened when shells hit a trench. In this case British guns have wrecked a German position somewhere in the Ypres Salient on 31 July 1917. With the three mangled bodies is a jumble of equipment, which includes a clip of four cartridges, a mess tin (lower left), a gas respirator container and a Mauser rifle. It is unlikely that the exhausted and busy British troops had time to bury these Germans properly; they probably scooped earth over the whole mess. It may still be there, awaiting the archaeologist.

Images of War

These photographs taken during World War I show why Western Front battlefields are so rewarding for the battlefield archaeologist or war explorer.

British troops on the edge of the flooded Ancre River at St Pierre Divion on 5 December 1916. Many activities are evident: Men are cooking, shaving, washing, tidying up their bivouacs, caring for horses. Equipment and supplies are strewn everywhere. Some of these things will be lost, others deliberately discarded. The steel helmet, bottom left, may already have been abandoned. If enemy shells were to explode at this time the 'natural' chaos would be compounded.

A Royal Field Artillery gun limber and its horses hit by enemy shells somewhere on the Western Front. The centre of attention here is the case of 18-pounder shells. It may have been salvaged at the time but a remarkable number of such cases have turned up since the war and some are still found, even with the wood casing intact. A Belgian friend of mine, digging holes for the foundations of his new home at Voormezeele, found that he was building on a sunken ammunition dump of shells in cases.

This mess of bodies and battered equipment was all that was left of a German position in France after Australian artillery pounded it in 1917. Australian infantry then captured the area. There would have been little of interest to the Diggers apart from the contents of the dead Germans' pockets and they would simply have thrown earth over the lot in the interests of hygiene. The large, new-looking shovel was an Australian one used for just that job. Such places, probably with the corpses removed and now deeper under the soil, are still occasionally found.

This German soldier was killed by Australian troops advancing towards the Hindenburg Line, France, in the summer of 1918. His helmet was probably souvenired on the day of battle but his body would be dropped into the communications trench with the rest of his equipment and covered over. Most likely all that now remains are the remnants of his boots and anything metallic in his possession. His back pack has probably perished but I have found similar specimens in old billets.

It is difficult to judge the exact size of this shell since only the photograph, not the shell itself, is available. It is a British high explosive type from either a 9.2 inch 'Mother' howitzer or a 12 inch from a 'Granny' (or railway) howitzer. It was fired into German positions at Kemmel, near Ypres and fell into a mine crater, where no doubt it gave sheltering soldiers a great fright before they realised it was a dud. The photograph was taken in 1918 a few months after the Germans had been driven off Mount Kemmel. The rifling marks on the shell's driving band indicate that it has indeed been through a gun barrel.

The destruction caused by high explosive shelling is not understood by those who have not seen it as it happens or soon after. The havoc at a German position on the Somme provides some idea. German guns inflicted similar damage on Australian positions; the AIF's field guns and their crews were often hit by German counter battery fire. In some places on the Western Front it is possible even now to comprehend the damage caused by the prolonged shellfire, even though bodies and much of the debris have long been cleared away.

Above and below: Battlefield debris: the shell 'empties' are all fired shrapnel shells.

Battle Debris

These photographs were taken in a battlefield museum created by the late André Becquart. He set it up amid the old German trenches at Croonart Wood, near Wytschaete, on Messines Ridge. After his death in 1989 the museum was closed down and most of the relics have been dispersed. While the Croonart Wood trenches were only roughly like the real thing they gave the visitor the trapped and claustrophobic feeling common to soldiers of the time.

Right: A trench rather crudely re-excavated by mechanical trench-digger. The original trench sections were set at sharper angles than shown here, to reduce the damage from bomb blast. This re-dug trench has not been given a firestep on which soldiers would stand to fire at the enemy, consequently it is more like a communications trench running from the rear lines to the front line. It has duckboards—the wooden slats on the ground—and the sides are shored up to prevent collapse.

Below right: The remains of a brick and concrete blockhouse which the Germans built with great skill.

Below: A German jackboot, partly cut away, probably to free it from the mangled leg of a wounded soldier; 75 years later his foot is still in the boot. Many a soldier lost a leg in a shellburst and a find such as this is not so uncommon. At Messines a German officer's legs, still encased in their once magnificent boots, were found in 1978. They were together and standing upright; the assumption is that the victim's legs were sheered off by a whirling shell shard. Those boots are now in a New Zealand museum. The old Croonart Wood museum had a preserved German mine shaft about 35 metres deep; it was from this shaft that the Germans tunnelled under the British positions to lay mines.

1 The Inspiration

I have powerful reasons for following in the path of the Diggers of the Great War and wanting to understand them and their war. The initial one is that *both* my parents saw four years of active service with the Australian Imperial Force (AIF), a claim which few other Australians can make, though hundreds of thousands could claim to have had a Digger father.

This means that I was under a twofold war army influence during my formative years in New South Wales. My mother was Sister Nellie Pike (in rank, a staff nurse) with service in Australian army hospitals in Egypt, on the island of Lemnos (Gallipoli), in France and England. My father began the war with the Australian Army Medical Corps, in which he was a corporal, before he transferred to the infantry and was commissioned into the 20th Battalion. He, too, was in Egypt, and then on Lemnos and from mid-1916 in France.

Two of my uncles also saw active service, Bill Chapman of 18th Battalion losing an arm during the Battle of Morlancourt in 1918.

There was yet another family link with the war. My mother's first sweetheart at the war was Bill Rose of the 3rd Battalion. A staff sergeant, he sent his three stripes surmounted by a crown to my mother when he was commissioned in the field. Those stripes are part of my collection. Bill was killed in France and his body was never found; his name is commemorated on the Australian national memorial at Villers Bretonneux.

Experiences in the Great War profoundly affected those who endured them. Indeed, they never really left the mind of any frontline soldiers or the nurses whose duty it was to tend men with broken bodies and minds. Nearly every day of my boyhood I learnt something more about the war from one parent or the other. When old comrades called at our home my informal education about the war became even more intense. The Digger veterans found it practically impossible to talk about the war to anybody other than those who had shared their experience and when they were in this select company they talked freely.

Many of the veterans who visited our home came to reminisce with my mother, or 'Little Sister' as they called her, a form of address that they maintained even 20 years after the war. 'Little' was appropriate because my mother was a diminutive five feet tall. The Diggers shook their heads in remembered disbelief when they described how she easily lifted them when dressing their wounds. Several of them told me that they owed their lives to her; some still possessed limbs which a surgeon had wanted to amputate but which my mother believed could be saved. She won the professional argument and the consequent fight to save the limb by skilful surgery and nursing. 'It was easier for a surgeon to cut off a mangled limb than to deal with it through complicated surgery,' my mother told me. 'I didn't criticise the surgeons when they made the decision to amputate rather than save a limb. Because they were under so much pressure, they couldn't deal with every case in the way they might have done in civil practice.'

Not all her visitors were fighting men, some were orderlies who had worked with her in field hospitals. They had clearly been devoted to her and they had gone to great lengths to make life a little more comfortable for her and the other sisters. For instance, on the bleak Greek island of Lemnos, where many wounded and ill from Gallipoli were taken for treatment, one of my mother's orderlies, Private Silas Hocking, occasionally appeared with a piece of steak; 'a miracle of scrounging' she called it. Hocking stole the meat from one of the

transports in Mudros Harbour, where staff officers lived a much more comfortable and better-fed life than the rank-and-file ashore in tents.

My father and his mates had battle stories to tell and in doing so they relived their life in the trenches. Often they laughed at some episode which did not seem funny to me at the time—some were bloody and ghastly—but I later realised the macabre humor was a subconscious mental mechanism for keeping them sane. They were casually sentimental about friends who had been killed and a number of stories began with, 'Remember the night that Bill (or Jack or Sam) copped it?'

When I later asked my father how Bill or some other soldier had died he told me frankly and simply. They might have been buried alive by a shellburst, blown to pieces, riddled with machine-gun bullets, drowned in the liquid mud.

Not infrequently the veterans, including my father, became angry about the incompetence of 'the heads' or 'brass hats' in the field and the politicians at home who kept the war going, 'while sitting on their fat arses in front of a cosy fire'.

But the men's anger was mild compared to that of my mother and the other war nurses who visited our home. For them many of the battles were senseless and they were bitter about the 'criminal waste' of good men. They recalled occasions when casualties were so heavy that the medical staff could not cope with them, with the result that some men who might otherwise have lived died before they could be helped. I was always interested when these highly experienced professionals spoke clinically about their cases and I was fortunate that my parents did not shield me from the horrors of the war, as related by themselves or their friends.

Anzac Day in Sydney gave groups of Diggers the chance, after the morning march through the city, to pay their respects to 'Little Sister' at our home in the suburbs. Each with a beer in hand, they sat around in the sun on the lawn, and swapped yarns. One of them talked about a lucky escape. During a night raid in Flanders he had bayoneted a German soldier and that, he said, had nearly been the end of himself because he had made a mistake in his target. 'I stuck my bayonet in the Hun's guts,' he said. 'The poor bastard was in bloody agony and he clung to the bayonet as he tried to pull it out. One of his mates went for me and I only just had time to detach the bayonet from my rifle and hit the second joker with my rifle butt before he nicked my arm with his bayonet.' He eyed me seriously and gave me sober advice, 'Son, never stick a bayonet in a man's guts. Go for his throat.'

I learnt that thousands of Diggers had been officially listed in casualty reports as 'missing believed killed'. Short of euphemism, this meant that they had been blown to pieces, buried by explosions or had sunk into the mud. Of course, at the time of the initial reports some missing men might have been taken prisoner but once this possibility had been dismissed 'missing' meant dead. The remains of most of the missing were out there in No-Man's-Land, between the two front lines.

This term, No-Man's-Land, was the most evocative of my youth because it had connotations of danger and excitement, of the unknown and the mysterious. It was the arena in which, generally by night, reconnaissance and fighting patrols and the men in listening posts did their work. Now No-Man's-Land is one of the most fruitful fields for the battlefield archaeologist.

Through the conversations of the veterans and my own questioning of them I learnt that the battlefields had been left strewn with equipment and war debris of all kinds. Without exception, the Diggers to whom I listened had lost something or other during action: a rifle, waterbottle, grenades, steel helmet, personal property of all kinds. 'If you lost something in No-Man's-Land you didn't bugger about looking for it, you just got to hell out of there,' more than one veteran told me. Most of the equipment of a soldier killed on the battlefield stayed there with him while that of a wounded man was discarded on the spot by the stretcher-bearers. The weight of a wounded man on a stretcher was quite enough for them without the added burden of steel helmet, water bottle and other impedimenta. When the battle or campaign moved on it was safe for salvage units to collect anything that might be returned to stores for reissue, but millions of articles were never collected. It is this material which I find in the old battlefields, with waterbottles and relics of rifles predominating.

My parents' souvenirs of the war intrigued me. My father had exchanged badges with British, New Zealand and Scottish soldiers and fastened them to his broad webbing belt. He still had his officer's swagger cane, his silver-banded walking stick, parts

of his uniform, his dress sword and a bayonet. My mother treasured her nurse's scarlet cape and various professional badges. Both parents had their war service medals, together with many snapshots and some studio portraits taken while at the war. Most Diggers who were in Egypt in 1915 and early 1916 had their photographs taken at the pyramids, usually while mounted on a camel, and some visited a bazaar photographer for a posed shot with a few special mates.

My mother valued an autograph book in which soldiers of all ranks had written messages of affection and admiration. Mother and father possessed brass shellcases ornamented with the engraved names of battles, places and army units, as well as photos of troopships in which the ships themselves were almost obscured by the hundreds of autographs scribbled over them by the soldiers and nurses who travelled to or from the war in them.

My Uncle Bill, he who lost an arm during the Battle of Morlancourt, seldom spoke of his misfortune but I once induced him to talk about the war and on that occasion he explained how his arm had been blown off at the shoulder by a shellburst. He had nearly bled to death before stretcher-bearers dressed the wound. In my boyish way, I said, 'It was bad luck to lose an arm.'

'Not on your life, son,' he said with a grim chuckle. 'It was *good* luck. It got me out of the trenches and out of the war. Anyway, I could have had my head blown off, not just my arm. I saw a lot of spare heads lying around battlefields.' And he chuckled grimly again, watching me to see if I flinched at his story, which he told more bloodily than I have here described. I didn't flinch; I had heard much worse stories than this one.

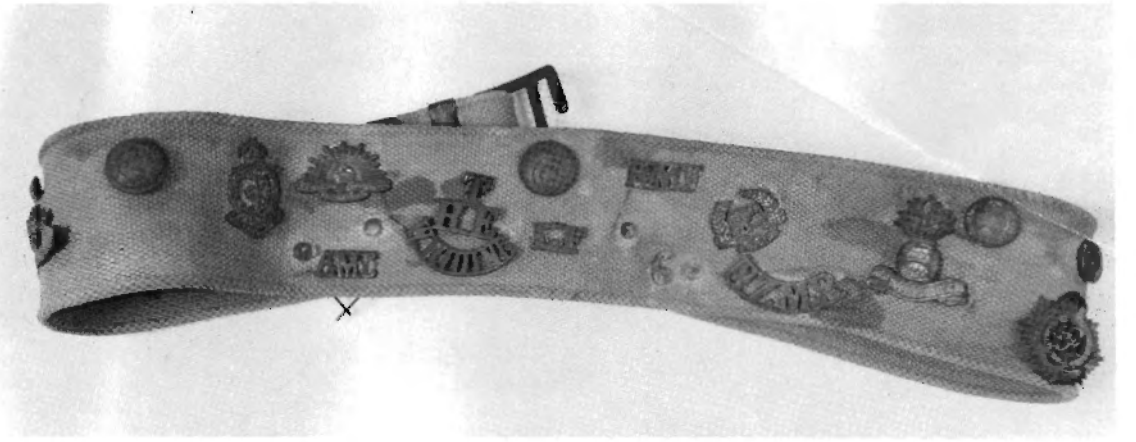
With the background knowledge that came from much exposure to the Diggers' memories of battle and their active service generally, and from insatiable reading about the war, at the age of seven through to fifteen I must have been one of the best informed Australian boys about war. This early knowledge laid the foundation of my life as a war historian and battlefield explorer.

As an infantryman myself in the 1939–45 war I became interested in lost and discarded articles, especially those which might tell a story. I picked up several such battlefield souvenirs in Papua New Guinea but discarded all of them, with deep reluctance. An infantry soldier is weighed down by enough regular equipment without loading himself with a single extra item. I desperately wanted to take with me a steel helmet with a hole smashed by a Japanese bullet because I knew the owner of that helmet, who had been killed. He was Lieutenant Ivan Clarke, an AIF officer and mate of mine, who had been posted to the 36th Battalion, a militia unit. I could not manage the extra weight and left the helmet behind. Ten years later, in 1953, while making a trip back to the jungle to write about Papua New Guinea—in a book that was later published as *Return to Glory*—I paid a forlorn hope visit to the place where Ivan had been killed. I hardly expected to find any possession of his but I hoped I might come across some relics of the fight in which he had died. Large areas of jungle have a monotonous sameness that defeats the efforts of even the most determined researcher, but I had a six-figure map reference to the spot where he had been killed and first buried on the Sanananda track. I located this spot but nothing remained to make the place in any other way identifiable and I discovered no relics of the war in the immediate area. Ivan Clarke was later reburied in Bomana War Cemetery, Port Moresby, as were other close friends of mine, Lieutenants Dick Oliver and Keith Pritchard.

What a story I could tell about Ivan's steel helmet if it were in my collection. It was this experience, probably more than any other, which made me a deliberate rather than an opportunistic battlefield archaeologist. It seemed to me to be the only way in which I could give dead soldiers some further existence, or at least a presence, and their surviving mates some fresh recognition through what they had left behind on the battlefield. To some extent war museums do this, especially a memorial-museum as magnificent as the Australian War Memorial.

The defect about many war museums is that most exhibits are in such good condition that they might never have been issued to a soldier. Uniforms are generally immaculate and, as specimens, they need to be. But bright shiny weapons and gear unmarked by sweat and hard use could give a false idea of a battlefield which is, in truth, a shambles.

Under the surface of the old battlefields the shambles remains for the war explorer to uncover.



Military Memorabilia

Above: This issue belt belonged to my father, who collected most of the badges while serving with Australian Army Medical Corps during the Gallipoli campaign 1915. He was later commissioned into the 20th Battalion, AIF. From left to right: New Zealand Expeditionary Force button, Royal Army Medical Corps, Australian Commonwealth Military Forces (AIF) collar badge, Army Medical Corps (Australian), Territorial Royal Engineers West Riding (of Yorkshire), Canadian Expeditionary Force button, The Lancashire Fusiliers (LF) shoulder title, Royal Munster Fusiliers (RMF) shoulder title, New Zealand collar badge, New Zealand Mounted Rifles, Royal Dublin Fusiliers, Australian button, Royal Army Service Corps. I am unable to identify the numeral 6 in the middle of the belt. Many soldiers swapped badges but they are rarely found mounted on a belt.

Above right: This shield-shaped grave marker is unique. It is made from a brass shell-case, pounded flat and then cut into the required shape, after which the inscription was painstakingly hammered into the brass.

It was found in 1980 in a Somme field, which was then under a potato crop, southeast of Pozières. Bill Outtram was probably wounded on 18 September during the latter part of the Somme offensive. Chaplain Harris would have officiated at his burial. According to records held by the Office of Australian War Graves, Outtram, aged 34, died of wounds on 26 November, not the 25th as shown on the plaque. After the war, in common with many other soldiers, he was disinterred and reburied under a marble headstone in Quarry Cemetery, Montauban, a few miles from his original grave.

Outtram hailed from Casterton, Victoria, where he had been a timber-getter. His grave marker, fashioned with much time and effort, suggests that he was somehow very 'special'. Chaplain Harris was at this time burying Diggers by the score each day and he could not have gone to the trouble of preparing an elaborate marker for each of them. Why did Bill Outtram merit particular attention among so many brave Australians? His son, also named Bill and living at Casterton, was born after his father left for the war and can offer no suggestions. No family records give any clue to anything outstanding about Pte Outtram's service. I speculate that he was Chaplain Harris' batman and that the chaplain was profoundly distressed by his death. He wanted to mark the grave prominently and thoroughly for those who would come after the war to rebury Outtram in an established cemetery. Note the three large holes to take bolts rather than the usual nails for fixing the plaque to a wooden cross. The Outtram family was pleased when I informed them that the plaque had been found and each year, in their name, my wife and I place flowers on Bill Outtram's grave in his quiet, rural war cemetery.

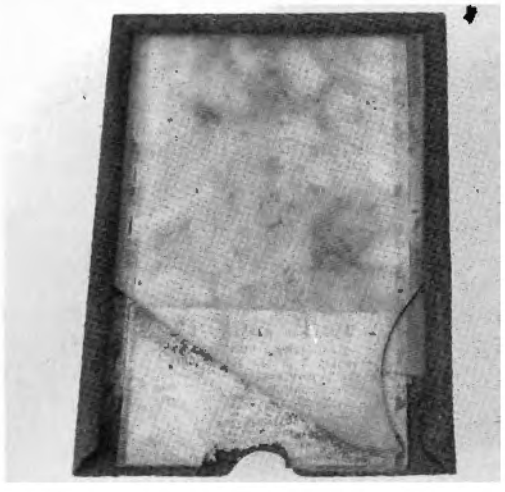
One misty, cold November evening my daughter Pirenne and I were digging in German positions on the lip of a mine crater on the Vimy front. The area had been heavily shelled and mounds of earth were everywhere clearly visible even in the growth of conifers. In one mound we found the bones of a German soldier, together with his steel helmet with its leather liners, his crucifix, a coffee brewer—which still contained some coffee grounds—his boots and the piece of stokes mortar shell which smashed his spine. Soil movement over the decades had carried his finger bones into his helmet. He had not been formally buried; a great eruption of earth from a shellburst had covered all. The crucifix, which still bears the remains of a leather cover, suggests that this soldier was a Roman Catholic. Bavarian troops, most of whom were Catholic, were in these trenches on 9 April 1917, the day of the great Canadian attack on Vimy Ridge. The British-Canadian artillery bombardment was tremendous; almost certainly 'our' German was killed during this attack. Had he been killed during sporadic, routine shelling his comrades would have buried him more formally, perhaps after carrying his body behind the lines. We sifted the soil on three separate occasions but found no identity disc, so we called our man 'Fritz Vimy'. Fritz rejoined his comrades when his remains were buried in a German military cemetery. This particular excavation, in weather conditions resembling the Western Front at its worst, was one of the most evocative I have carried out.

During World War I both sides attempted to pass spies into the opposing lines to collect information about the position and identity of units, enemy morale and the condition of the defences. Usually a spy slithered across No-Man's-Land one night, stayed for a day and sneaked out the next night. They could survive only by donning an enemy uniform, enough to earn them summary execution if they were caught. The owner of this false identity disc was unlucky. I found it in a building on the outskirts of Armentières that was used by the headquarters of a brigade or division, together with the brief description note appended by means of a rusted paper slip. The identity disc is clumsily faked. For instance, British identity discs were *stamped* with soldier's name, army number and religion; the style of naming was surname first, then initials. It is impossible to tell if the German spy was killed after he was discovered to be a spy or if he was first killed—perhaps shot by a sentry because he could not supply the password for the night—and then found to be wearing a false uniform. The disc bears the date 26/5/15, which could be the date of the incident. Records show that the Leinsters, an Irish regiment, had no V.M. McKeag in its ranks. I speculate that the officer of the unit which killed the spy, or the intelligence officer at divisional headquarters, kept the disc as a souvenir or to add to a report and then left it behind. The story has many imponderables but it sets the imagination working.

A Digger's love gift. Gunner H.C. Kennett, a Western Australian artilleryman, presented it to Miss A.B. Walker, an English girl. His hat badge is beautifully mounted on a circle of dark red, within a white circle. The battle honours of his regiment are impressed in gold on a dark blue background. The lining of the lid is soft silk over padding and the outer case is black. Miss Walker, on receiving the closed case, may have expected pearls or a brooch. She was not to know that Gunner Kennett was giving her his most prized possession. I wish I could report that Australian gunner and English girl were later married. In fact, records show that in 1919 Gunner Kennett was repatriated to the wife waiting for him in Australia. The Kennett gift is not exactly a battlefield artefact but it is certainly a symbol of Digger sentiment. I acquired it in Sussex, England, in 1957.

The key to room 169 of the Strand Palace Hotel, London, which I found at Morlancourt, near Albert. (In a previous publication I mistakenly wrote that I had found it at Givenchy but I had confused this key with another one.) The key arouses much speculation. In the first place it almost certainly was in the possession of an officer since no private soldier could have afforded to stay at the Strand Palace—unless he was a better-paid Australian private soldier. An Australian soldier would certainly not have been inhibited about staying at a hotel used by officers. Diggers of the 10th and 11th Brigades were in action at Morlancourt at the end of March 1916, and in the field where I found the key. The 40th Battalion lost several officers here. Someone, somehow, lost the key. It may have fallen from his pocket during violent exertion. Perhaps he was wounded and his tunic was ripped off by bearers trying to deal with the wound, to lie there for years until it rotted away. Finally, only the key remained. Room 169, I now know, was a single room on the first floor. Australians were not averse to sharing a single bed with a charming companion and I have wondered with whom this officer spent his last leave in London.

A German family placed this memorial photograph and message of remembrance on their soldier's grave. I found it not in a cemetery but in the Verdun wilderness, where perhaps it had been thrown by some German-hating Frenchman. With close study the dead man's nose, lips and forehead can be made out. It was commonplace in the 1920s and 1930s for German families to place such photographs in the vast German military cemeteries in France, some with more than 40 000 interments. Only a few of these personal reminders of a vanished life remain.



Above left and centre: Two types of German World War I grave markers. The first shows only that Jockel Gustav was killed on 18 September 1918; an Iron Cross is carved into the top of the upright. Gustav was killed during the German retreat from the Ypres battlefield. The other marker is that of Wilhelm Bausch, killed on 24 October 1917 in the Ypres Salient; he was a corporal, as shown by the abbreviation Uffz. The other digits are a grave registration number. During the 1920s and 1930s all German wooden crosses were replaced with stone markers, most set flat into the ground. Many graves hold the remains of eight German soldiers, nearly all commemorated by rank and name but less frequently by regiment. After years of patient search for German wooden markers these two specimens came to me through a retired gardener who had worked in German war cemeteries.

Above right: Many soldiers relieved the boredom of army life by making souvenirs of the war, now known as 'trench art'. This is a fuse from an 18-pounder shrapnel shell turned into an inkwell and surmounted by a heart and Cupid's arrow. There is nothing to indicate that it was fashioned by an Australian soldier but it came from Hazebrouck, France, where many thousands of Diggers were billeted at one time or another.

Right: In Roman Catholic France and Belgium hundreds of churches in the operational areas of the Western Front were destroyed by shellfire. Their ruins often made adequate shelters for field ambulances or dressing stations. Church statuary was badly damaged and many priceless relics were lost in the rubble. This Christ figure was found in the wreckage of a church near Arras, though it cannot now be identified. According to the soldier who found the artefact it was smeared with dried blood.

Personal Equipment

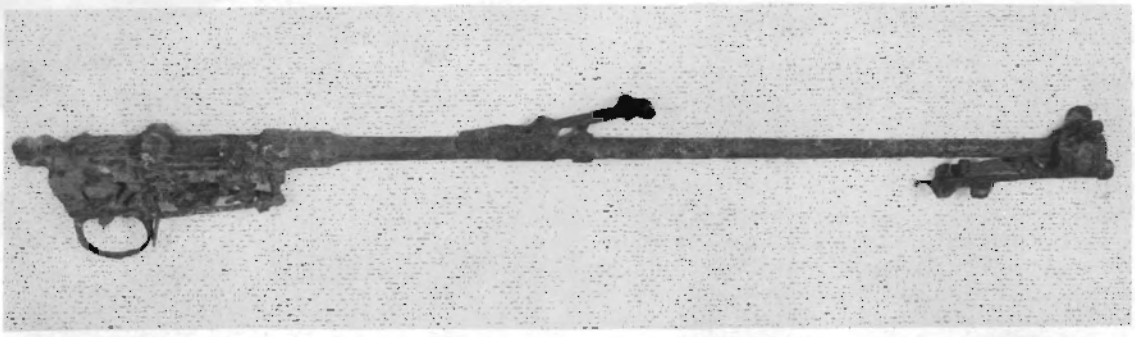
Soldiers use a great variety of objects in their professional life, a life so hazardous for infantry and others and so full of incident that the men lose many things. Most of the artefacts which I find were undoubtedly lost in battle, perhaps when a soldier lost his most precious possession of all—his life. The water bottles that I come across lend proof to my point. A water bottle was a vital piece of equipment because fear of battle and the fighting itself causes intense thirst, and frontline soldiers in action can never be sure when fresh supplies will reach them. A water bottle dug from the battlefield nearly always indicates that the owner was killed. An exception is a bottle pierced by a bullet or shell splinter and then discarded. Some artefacts suggest a poignant story—the German bugle, for instance, illustrated in this section. The bugler's military existence centred on his bugle and he must have been demoralised by its loss—assuming that he survived. I found it in the Messines battlefield.

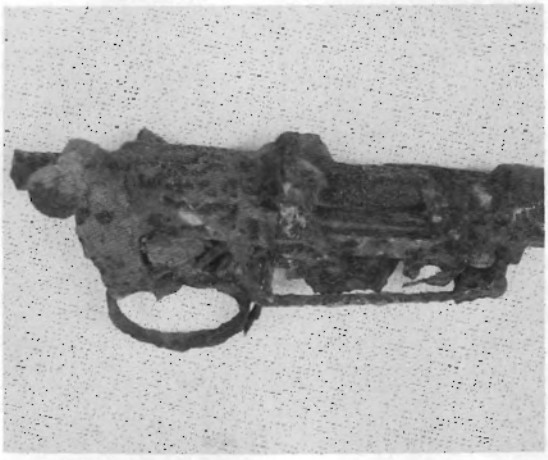
From top to bottom:
An officer's issue whistle for sounding signals. A whistle blast was the usual way of giving the order to go over the top—or 'hop the bags' as the Diggers said—that is, to climb out of the trench and charge across No-Man's-Land. This whistle, made in 1916, was found on the Mont St Quentin battlefield. The whistle was made in England but it could have belonged to an Australian officer.

A British Webley & Scott flare pistol which fired the Very light known to all soldiers on the Western Front. Coloured flares were used as signals, perhaps to request artillery support, to begin an infantry attack, to recall a patrol or to signal the successful conclusion of some operation. White flares illuminated No-Man's-Land—and, hopefully, enemy raiders. This pistol was found in the Menin Road area of the Ypres Salient and, as the hammer is in the cocked ready-to-fire position, perhaps the owner was killed before he could fire the flare.

At some time during 1916–17 a German sniper used this heavy steel shield, which is shown here upside down, from a position close to where I dug it out. I located many cartridge cases at the same spot. It comes from the Arras front. Dimensions: 40 × 29 cm.

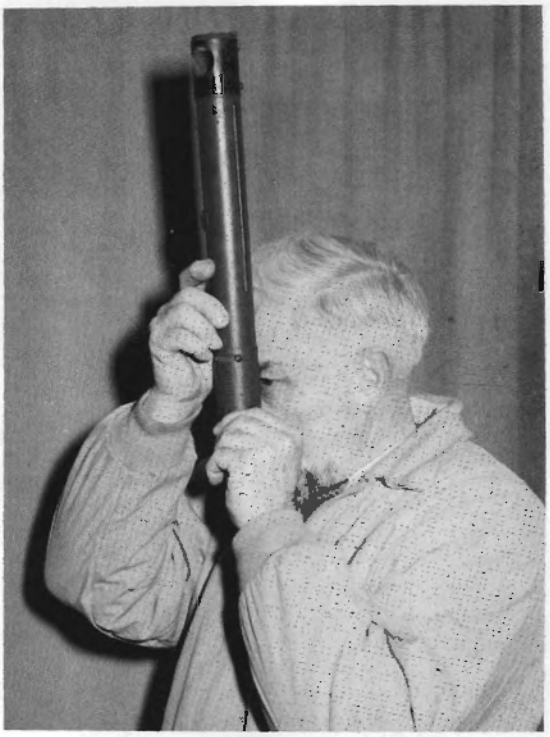
The French army used several types of waterbottle and this is the most characteristic. Some of the original hide covering can be seen at the base. As often as not the *poilus* (French private soldiers) carried wine in their waterbottles, though this practice was supposed to be forbidden. I have found traces of wine in some undamaged, corked bottles. This one came out of the ground near Lorette Spur, Vimy Ridge, where tens of thousands of French soldiers were killed.





Above and right: The breech and trigger mechanism of the .303 Lee-Enfield rifle. I found this particular rifle in a field which had once been German trenches. Australian soldiers fought their way into the enemy line in the summer of 1916. From indications on the rifle it is possible to read what almost certainly happened during the final few seconds of the Digger's life. During the attack against the German trenches he had fired a round and then ejected the spent cartridge. He began the process of reloading—we know this because a cartridge is halfway into the breach and the bolt lever is in the reloading position. At that moment the soldier was hit by a bullet, shrapnel or shell shard and the rifle fell to the ground. To the question, couldn't the soldier have been ejecting rather than reloading, the answer is no. An ejection once begun will continue by itself and would have been completed. Here, the cartridge being loaded has reached the point at which friction grips it.

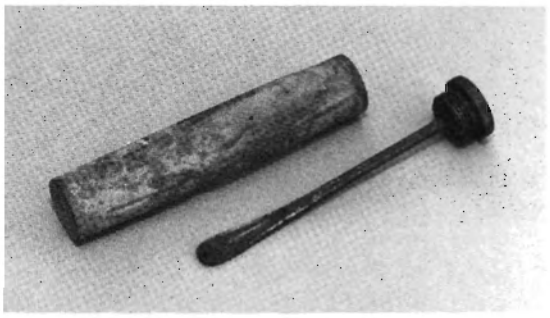
In this photograph it can be seen that the backsight has been somehow turned forward; it would normally lie snug against the stock and be pointing in the other direction. The sight is set at 200 yards (180 m) which, in effect, is point-blank range with the Lee-Enfield. This could mean that the soldier was firing from the hip during an attack. Unusually, some of the original woodwork has survived on this rifle above the trigger guard and just behind the bayonet boss at the muzzle. The magazine has rusted away but one other round remains intact in the magazine aperture. Because it evokes images of an Australian soldier at the moment of his death or serious wounding I regard this rifle as one of my most significant finds.



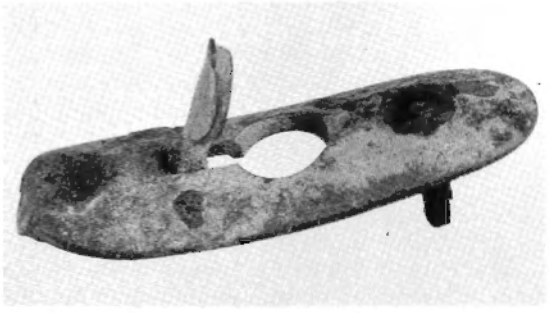
Right: For a soldier to expose his head above parapet level for an instant meant almost certain death, so periscopes came into use on both sides. This is a simple German periscope, so slender it was difficult for an enemy sniper to see and shoot at. The angled mirror at the top reflected the image to the bottom mirror. This one was used on the Lys front, in French Flanders, and was found on a farm near Lille. My supposition is that the soldier owner forgot to take it with him after being in billets.

This is the shoulder and chest portion of German body armour of World War I. Three other smaller pieces were suspended from it so that most of the wearer's trunk in front was protected. It was not 'sniper's armour', as is often supposed. A sniper could use it but only if he happened to be firing from the standing position, which snipers rarely used. It is impossible to lie down in the armour and fire accurately at the same time; indeed it is difficult to aim in any position. Armour was not general issue and was usually worn only by sentries and observers in dangerous positions. This armour has been penetrated by three shell pieces and dented by others. It is clear that the wearer was the victim of a shellburst; with chest and stomach wounds from shell splinters of this size the soldier could hardly have survived. I found the armour in German trench positions near Peronne, on the Somme River.

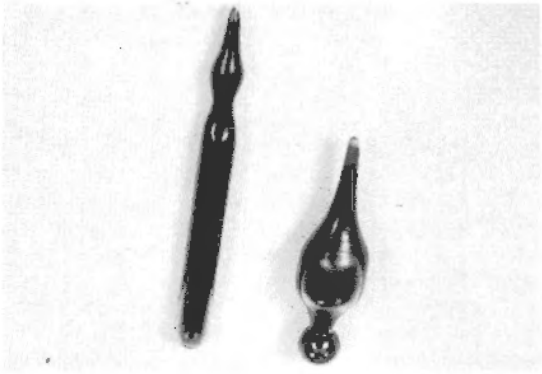
British, Australian or New Zealand wire-cutters, which could probably tell a story of desperate endeavour. They came from No-Man's-Land between Ginchy and Flers on the Somme front. Heavy fighting took place in this wide, shallow valley and the wire-cutters were probably lost by a member of a party sent to raid or reconnoitre an enemy trench. This would have meant cutting through the enemy barbed wire. The long handles of the cutters, which have rotted away, allowed the user to lie on his back and cut the successive strands of wire in relative safety—though No-Man's-Land was never safe.



An oil bottle and its screw-in 'spoon' for the Lee-Enfield rifle. It was kept in a special slot, under a spring cover, in the end of the brass-covered rifle butt. The oil bottle itself is of brass and is generally found in such good condition that the oil remains viscous after 75 years. This one came from the Villers Bretonneux front. Oil was essential to keep the rifle in good order. All soldiers had drilled into their minds that the rifle bolt had to be 'bright, shiny and lightly oiled'. The rifle-cleaning cord, known as the pullthrough, was also stored in the butt.



The brass butt plate of a Lee-Enfield rifle, found on the battlefield of Hamel, near Villers Bretonneux. The Diggers won a famous battle here on 4 July 1918. The wood of the rifle butt has rotted away, leaving the plate. A brass oil bottle and the rifle pullthrough cord for cleaning the barrel were pushed into position in the butt through the central hole of the plate. They were kept in place by the hinged cover, which here has become jammed open.



Despite their fragility, these two glass phials of iodine remained intact in the ground from 1916 until 1982. They were found in the decaying remnants of the pocket of a soldier's uniform. An iodine phial was standard issue; when a soldier was wounded he or a mate would snap off the phial at the neck and empty the iodine into the wound to sterilise it. In World War II more robust bottles of iodine were issued. These phials, 5 cm and 7.5 cm long respectively, came out of the Somme battlefield near Pozières.

The foresight, barrel-end and part of the bayonet of a .303 Lee-Enfield rifle. I found it on the battlefield of Bullecourt, southeast of Arras, where the Diggers fought two bloody battles. In the second fight, 3–26 May, the Australians captured a 3.3 km section of the Hindenburg Line but suffered 7000 casualties. The relic came from a spot where the 19th Battalion held on to the line during ferocious fighting and I speculate that it belonged to a Digger who was killed or wounded there.

A Colt automatic pistol from the battlefield of Passchendaele. It was dropped in 1917 and found in 1989. This firearm was not official issue to officers but many carried one as a weapon of last resort. It could be kept in a tunic pocket or even in a gas respirator case for use in an emergency. The Colt had a magazine of seven .45 rounds in the pistol grip.

The cylinder of a Webley .45 calibre revolver, the standard personal weapon for Australian officers and certain other ranks during World War I. A tremendous blow from a hurtling piece of high explosive shell has knocked the cylinder out of shape and struck it from the revolver. The cylinder is normally smooth and entirely symmetrical. The blow jammed the six rounds in their chambers, all of them unfired. The owner of the revolver had no time to use it. I found the cylinder on the battlefield of Passchendaele, on the far left of the Australian line where the 5th Brigade was in action in October 1917.

2 The Western Front

To understand why the Western Front is such a fruitful field for study and search for the modern war historian it is necessary to be aware of the intensity of conflict and the prodigious use of weapons, ammunition and equipment along its 660 kilometre length.

First, however, I can best indicate what the battlefield offers by listing the types of artefacts that I have found. The catalogue includes rifles, bayonets, revolvers, shells and bombs, a large number of shell shards from exploded bombs and a vast number of shrapnel balls, shell cases that once held the shrapnel balls, clips of rifle ammunition, a score of different types of grenades, gas masks, binoculars, bugles, water bottles, mess gear, food tins, trench clubs, rolls of barbed wire, corkscrew pickets and other steel supports for the wire, flare pistols, caltrops, snipers' shields, stirrup irons, steel helmets, German body armour, rum jars.

Personal gear and equipment includes safety razors, pocket watches and wristwatches, spectacles—some, surprisingly, with unbroken eyepieces—boots and fragments of boots, badges and buttons, compasses, identity discs, chocolate and cocoa tins, packets of cigarettes, phials of iodine, candles, trench dominoes, coins, mirrors and souvenirs fashioned by soldiers in the trenches, billets and rest camps. Finally, there are the shattered bones, human and animal, which provide mute evidence of death or maiming in action.

The Diggers arrived on the Western Front in April 1916, after service at Gallipoli and in Egypt. The war in Europe had been raging since August 1914, both on the Eastern and Western Fronts. Both terms were first used by the Germans, their Western Front being that where they fought the Allied British and French, together with their armies from dominions and colonies, and later the Americans. The Eastern Front referred to the war the Germans were fighting against their Russian foes. Later the Allies, the British in particular, used the term 'Western Front' as if they had some proprietorial claim over the label.

No 'front', in the form of a fixed line of defence, was ever intended by either side. In the years before the outbreak of war in 1914 the general staffs of Germany and France had prepared plans for the campaigns which both expected to be fought, and they were to be campaigns of movement. The German war plan was the creation of Count Schleiffen and after his death the execution of it fell to Count von Moltke. German armies were to wheel in a great arc through Belgium and north-eastern France, thus outflanking the French fortification system and reaching Paris. The weight of the attack was to be on the right flank alongside the English Channel coast, while the left was held against the expected French counterattack of their Plan 17. This was the ambitious French lunge into the former French territory of Alsace and Lorraine, which the French wanted to recover.

At 8.00 am on Tuesday 4 August 1914 German cavalry led the invasion of Belgium to seize the bridges across the River Meuse. The British Expeditionary Force (BEF) of 160 000 well trained regulars was sent to Belgium and on 24 August 353 men of the Middlesex Regiment were killed or wounded along the canal bank near Nimy Bridge and in positions southwards at Mons. They were the first British soldiers to fall in battle in northern Europe for 99 years.

The overwhelming German push drove back the British and French, turned south and almost cut the French armies off from their capital. General Joseph Joffre launched a flank attack from Paris and the British units reorganised and strengthened the French line. After a great and desperate battle

the Germans were driven back from the River Marne. They tried to break through to the Channel ports but again they failed.

By 30 August French casualties amounted to an appalling 335 000; one in every 10 officers in the whole French army was killed or incapacitated by the end of the month. This was largely because the French were still wedded to the concept of *la gloire*, literally 'glory', which in effect meant gallant but futile charges against enemy in strong positions.

In military terms the campaign was already a failure for the Germans because they had failed to destroy the enemy armies. With a dangerous 50-km gap between their 1st and 2nd Armies, the Germans fell back and entrenched north of the Aisne River on 12 September. The Allies failed to dislodge them and the war of manoeuvre was being replaced by immobile dominance and defensive firepower. Both sides believed this standstill to be temporary and each tried to turn the other's flank in what was called 'the race to the sea', meaning the English Channel.

Soon the main battleground moved from France to Belgian Flanders. On 10 October the Germans captured Antwerp and their divisions pressed south down the coast and outflanked the Allied left. The Belgian army bravely held the Germans, but after days of increasingly heavy and hopeless fighting on the Dixmuide-Nieuport line they opened the sluice gates of Nieuport and a great area of land lying below sea level was flooded. The flooding forced the Germans to divert their flanking movement inland at precisely the moment that the British were making an attack, and the opposing armies collided in the Ypres region. From that time the war of movement steadily spent itself. The BEF, which was numerically weaker than the German divisions facing it, went onto the defensive and its supremely efficient infantry held their thin lines east of Ypres.

By mid-November the crisis had passed for the Allies but casualties were enormous and gave clear warning of the horrors to come. Out of the original strength of the BEF of 160 000 men, 86 237 had become casualties. More than 50 000 were killed or wounded during the Battle of Ypres, the first of three battles for the ancient town.

The British now held what was to become famous as the Ypres Salient or, after the war ended, 'the Immortal Salient'. A salient is a piece of land held by one side which bulges into territory held by the other. The Germans could not force back the British bulge and thus straighten their line. Equally, the British never did succeed in enlarging the salient sufficiently to create a breakthrough. The bulge was a liability to the British in that enemy artillery could fire into their trenches from the front and both sides. The tremendous battles of the Ypres Salient, known in Australian history as the battles of Passchendaele, Messines, Menin Road, Polygon Wood and by other place names, were British attempts to expand the salient and thus smash the German lines. There was never the remotest possibility of this happening since the Germans defended their lines more powerfully here than anywhere else.

An impasse was developing but during the winter of 1914–15 only a few military leaders read the warnings. That winter both sides concentrated on linking unconnected positions by means of trenches. This was seen as a purely temporary measure, a way of improving local defence until spring. In European military tradition offensives were renewed in the spring and the generals were sure that great fresh battles of movement would be fought. They were deluding themselves.

The Germans and French were well stocked with heavy guns since they had always expected either to besiege the enemy or hold out against an enemy siege. In contrast, the BEF had few heavy guns and howitzers, an inadequate supply of shells to fire from them, only a few score trench mortars and practically no hand grenades, signal pistols, periscopes and sandbags.

The British troops were reluctant to dig trenches but under the hail of German bullets and shells they readily got to work digging. Training manuals gave details of trench dimensions—2 ft (60 cm) wide at the bottom, 7 ft (2.1 m) at the top and with a depth of 7 ft (2.1 m). To fire their rifles the soldiers stood on a raised platform, the fire-step. The spoil thrown onto the front of the trench to heighten the defences became the parapet and that thrown to the rear was the parados. The parados needed to be higher than the parapet in order to conceal the silhouette of the soldiers firing over the parapet, otherwise they were easy targets. The sides of the trenches were strengthened by revetments—linings of timber, sandbags and thin strips of interlaced wood known as wattling.

In Flanders the water table was reached at a depth of only 18 inches (46 cm) so normal trenches were not possible. Here the defences were not

trenches at all, but breastworks made of sandbags, earth, wood and anything else that could be incorporated, built to a height of about 2.1 m above the ground and from 2.4 m to a massive 9 m thick.

The Germans had better trenches nearly everywhere along the front, generally with reasonable head cover for protection against the rain and cold and against bursting shrapnel shells. From 1915 hundreds of thousands of German soldiers lived in deep, concrete dugouts and chambers in warmer, drier and more comfortable conditions than their British and French enemies.

After a time the Germans built extremely strong blockhouses and pillboxes, resistant to hits from even heavy high explosive shells. The Germans were aware that they held the initiative and had the strategic advantage; they were fighting on French and Belgian soil, not their own. By staying on the tactical defensive the Germans could annihilate the Allies every time they attacked, so it was common sense to build a good defensive system.

The British and French generals thought of the trenches as an inconvenience. Elaborate defences were not necessary, they said, because their troops would soon be attacking and conquering—at least this was the theory—and until the summer of 1916 no shellproof head cover was available. Each man scratched out a 'funk hole' in the trench wall or sheltered under a groundsheet on the fire-step. Life in the front trenches was miserable. Robert Graves, the poet and author, who served with the Royal Welsh Regiment, wrote, 'The familiar trench smell of 1915–17 still haunts my nostrils . . . compounded of stagnant mud, latrine buckets, chloride of lime, unburied or half-buried corpses, rotting sandbags, stale human sweat, fumes of cordite and lyddite.' In parts of the old Western Front I find it easy to imagine that I am smelling this foul compound, but as I actually did smell it during my soldiering days I have an advantage—if this is what it is—over those without army experience.

For a time GHQ, corps and divisional headquarters could not come to terms with the reality of static warfare and continued to organise the supply, transport, engineering, communication and medical services with a view to the type of warfare which the staff officers *wanted* to happen. Nevertheless, by 1916 all mobility and flexibility had vanished and the lines became rigid.

For observant, thinking soldiers it was obvious as early as March 1915 that the British Army was embarking on battle tactics that would result in horrendous losses. During that month the Battle of Neuve Chapelle was fought and in five days the battalions concerned lost 13 000 men in advancing a mere 1000 metres on a 4000 metre front. The Germans recaptured most of this ground in the first three hours. Repeated along the British sector of the Western Front between 1914 and 1917, such attacks made small gains in the Ypres Salient and on the Somme at a cost of 3 000 000 casualties. The French suffered similarly heavy casualties.

Steel helmets were first issued to British troops in 1915 but there were enough only for the men in the front line, who handed them over on being relieved. Some Australian soldiers had them in time for the Battle of Fromelles on 19–20 July 1916 and they were generally in use at Pozières that month.

Experiments were also made with body armour but in the end only the Germans used it in any serious way. I have found German body armour in French barns that were behind the German lines. I have never heard of any being discovered in the old trench lines.

The two sides were evenly balanced in military, economic and psychological terms. Neither could outflank the enemy or break its front line by direct assault. Both brought up more men, more heavy artillery, more machine-guns. Both dug more and more trenches—front line trenches, support, reserve, supply and communications trenches. To defend the trenches millions of miles of barbed wire were strung from steel pickets or stretched out concertina fashion. For a depth of scores of miles behind the trench system were camps, dumps, depots, hospitals, transport parks, repair shops and innumerable headquarters.

All this was in place when the first Diggers reached the battle zone in April 1916. Their experience in Gallipoli and in Egypt was limited in terms of the size of armies and they were astonished by the proliferation and size of army establishments.

For four years the two massive opposing forces, with millions of men on either side, spent most of their time in trenches. They hurled high explosive shells, shrapnel shells, bullets and poison gas; vast numbers of men were smashed, pulverised, shot, burned and gassed. With rescue of wounded men often impossible, many were left to hang on barbed wire until they died or until somebody, friend or foe, decently put them out of their agony.

British battalion commanders—those actually in the front line and responsible for holding it—were never able to modify their front to allow for changes during the fighting because of a rigid order from High Command that under no circumstances could a unit yield ground voluntarily. This was senseless since it meant that when the Germans held strongpoints, rather like mini-salients, within the British lines, they could bring flanking fire to bear on their opponents.

In British practice, the trench system consisted of three lines: the front, support and reserve trenches. They were not dug continuously straight but in lengths of right-angled zigzags or traverses. This method prevented enemy machine-gunners from firing right along a trench and it minimised the destruction of a shellburst at any one point. The three roughly parallel main trenches, separated by up to 450 metres, were linked by communication trenches, which were also dug in traverses. Heavy bombardment generally demolished trenches so that they had to be dug out again.

It is in these trenches, long since swallowed up and reclaimed as farm land, that the debris of war still lies.

No-Man's-Land, the area between the opposing front line trenches, was only 20 metres wide in places but could be as wide as 250 metres. Much infantry activity took place here and archaeology can yield some special finds that tell us about the tensions and dangers of patrols and raids.

Both sides, beginning in 1916, used gas-filled artillery mortar and projector shells to drop gas into enemy territory. In mid-1917 the Germans started to use mustard gas shells, which caused more gas casualties than chlorine, phosgene and chloropicrin altogether. These three gases, being inhalants, could be kept out of the lungs if men put their masks on rapidly enough, but mustard gas penetrated clothing and equipment and caused terrible burning and blistering.

While horror succeeded horror above ground, the belligerents were also tunnelling under enemy positions so as to plant gigantic mines. As nearly always happened, the Germans were the first and they exploded mines under the British positions at Givenchy, Guinchy and at Hill 60 in the Ypres Salient. The British quickly responded and by mid-1916 25 000 troops, most of them professional miners, were digging tunnels. AIF tunnelling companies were engaged in these operations. At first they could do little more than dig to block the German tunnels, which they then blew in, and establish listening galleries to detect German underground activity.

The British tunnelling offensive reached a tremendous peak on 7 June 1917 when 19 mines containing nearly 1 million pounds of high explosive were detonated under Messines Ridge. This probably blew 10 000 Germans to pieces and resulted in the capture of some territory. It was all lost again in March 1918.

While the infantryman's basic personal weapon was the rifle, the Lee-Enfield and bayonet, from the spring of 1915 the Mills bomb (technically the HE36) was the most destructive in attack.. Before the war ended the British and Empire troops threw 33 million Mills bombs and parts of the battlefield are still littered with them. Generally fitted with a 5-second fuse, the grenade had grooves which, on explosion, caused it to break into 48 pieces, the blast effect being lethal. The Germans had several types of grenade but the one generally associated with them is the 'potato-masher' or stick grenade which could be thrown further than the Mills. However, its charge was only black powder and its casing was lighter in weight, hence it caused fewer casualties. These too abound. I have found hundreds of them in places on the Western Front.

Despite the rifle and machine-gun fire power possessed by both sides, the mortar bombs and howitzer shells, the barbed wire and other obstacles, raiding parties did get into the enemy's trenches where bloody and brutal fighting took place. It was rarely possible to use a rifle and bayonet in the confines of a trench so other weapons were improvised—daggers, knuckle-dusters and a fearsome array of clubs, sometimes spiked with nails, wrapped lead or covered with metal studs.

Trench raids had several objectives. One was to distract enemy attention from an area where a more important attack was planned; another was to demoralise an enemy unit which was known to have recently arrived at the front. On most raids officers and NCOs were under strict instructions to bring back at least one live enemy so that he could be interrogated by intelligence officers. At times the entire purpose of a trench raid was to capture a prisoner so as to be able to identify the opposing unit.

For British and Empire soldiers, tours of duty

in the trenches were supposed to be on a regular, fixed basis. During a two-week tour of duty at the front an infantry company (at full strength 120 men) would spend about eight days in the front and support trenches and six to eight days in billets as reserves. After two weeks the entire four battalions of a brigade would be relieved and moved into a rest camp for about six days. In practice, the arrangement rarely worked like this. Being in reserve rarely meant real rest. Units were often called out of reserve to dig yet more trenches for the engineers, to man defensive posts at times of crisis or to unload railway wagons.

The trench system developed into a labyrinthine complex so vast that trenches had to be given names to lessen the risk of men becoming lost, especially in the dark. There was Oxford Street and Piccadilly Circus, the Strand and Park Lane. These names usually did not appear on trench maps in case they fell into enemy hands, but all the German trenches were named on the British maps, as reference points for infantry and artillery attacks.

On part of the Somme front near Hébuterne the names of our trenches included Young, Yiddish, Yellow, Wurzel, Woman, Whisky, Welcome and Warrior.

The names which the British gave to the German trenches included Fit, Fish, Firm, Fir, Fen, Ferret, Fern, Fever, Fetter, Farmyard, Fitter, Fate, Fair, Fact, Fancy, Felt, Feint, Feed, Female, Feast, Fire, Fibre and Felon.

From March 1915, before each infantry attack an artillery bombardment 'softened up' the defenders and was supposed to cut the barbed wire; the attacking troops would not then bunch up as they tried to get through a gap and be shot to pieces. No matter how heavy the bombardment, much wire was always left uncut.

The British used a 60-pounder shell which caused great damage and the 6 in, 8 in and 9.2 in howitzers dropping their shells almost vertically into the enemy trenches were highly destructive. The Germans had their own efficient howitzers. Shelling was shockingly demoralising for any troops caught under it and both sides used sustained bombardment against front line trenches where they had reason to believe that infantry were assembling for an attack. Long-range guns shelled one another and there was saturation shelling of particular parts of the front.

Shelling, no matter how heavy, did not result in any significant success on the Western Front in terms of ground gained until March 1918. Then, in their famous Lys River spring offensive, the Germans let loose a five-hour hurricane bombardment of unparalleled intensity. Working from detailed intelligence reports, the artillery swept from one key area to another, smashed many strong points and completely disorganised Allied communications with a mixture of high explosive, gas and smoke. They very nearly broke through to the French coast.

On 1 July 1916, the first day of the British Somme offensive, 20 000 British and Empire soldiers were killed and another 40 000 wounded; 60 per cent of all the officers and 40 per cent of all the men engaged became casualties. Few waves of the assault reached even the preliminary objectives—they were shot down to a man by the interlocking fire of massed machine-guns.

All changeovers in the trenches took place at night, but as the enemy knew this they would often shell the communication trenches. Each soldier going up had rations for 48 hours, probably made up of two tins of bully beef, eight hard biscuits, a piece of cheese, tea, sugar and a tin of jam between two men. Other food was supposed to reach them but often did not, usually because the ration party could not get through. Many soldiers were killed not in the front line trenches but on carrying duty.

Every man of the relieving party was laden to the limit of his carrying capacity with trench stores, pick and shovel, wire-cutters, 40 sandbags, rolls of barbed wire, 5-gallon cans of drinking water, boards for flooring or revetting trenches, ammunition for the section machine-gun and much else besides. Carrying all this through the twisting, muddy and crowded communication trenches was exhausting. In Flanders, because there were no proper communication trenches, stores were carried up by men who had to keep their balance on the often narrow duckboards which crossed the mud for miles. If a man fell into the mud and was not noticed in the dark he could quickly sink to his death. Much of this material, for one reason or another, did not reach its destination and can now be uncovered as archaeological artefacts.

To supply the huge number of men the French and the British built mile after mile of military railways, mostly as spur lines to feed the huge dumps. By early 1917 the British army alone had

1600 km of track and more than 500 locomotives. In addition to the men, about 500 000 animals, mostly horses, were on the Western Front; their forage requirement was colossal—4.5 million kg a day. Large numbers of horses were killed by enemy shellfire and their bones can still be found today.

The quantity of arms and equipment was staggering. The statistics for supplies which the British sent to their French and Belgian allies, apart from what they themselves manufactured, makes interesting reading for the battlefield archaeologist.

To France.

17	guns
14 000	machine-guns
140 000 000	bullets
1430	trench mortars
998 000	mortar shells
4 811 000	grenades

To Belgium:

53	heavy guns
296	machine-guns
189 000	rifles
50 000 000	bullets
151 000	grenades

In addition to explosives, lorries and ambulances, cycles and motor cycles (25 000) and aeroplanes.

The American armies on the Western Front were also heavily dependent on British equipment. For instance:

164	heavy guns
15 000	rifles
11 000 000	bullets
1800	trench mortars
300 000	grenades

The British Army's medical facilities had rapidly expanded at the time of the South African (Boer) War (1899–1902) when the huge number of 21 000 hospital beds had been in service. Twice as many could have been filled by a single day's fighting at the height of the conflict on the Western Front. Not only for great numbers but also for the sheer frightfulness of the injuries, nothing in military medical history approached the casualties of the trench war. One tented hospital between Amiens and Albert was set up to receive an anticipated 1000 patients during an offensive. In fact, it received 10 000 in the first 48 hours, many of them Australians.

The Western Front ran from the English Channel near Nieuport in Belgium to the French-Swiss border near Belfort, a distance of 660 km. It covered every type of terrain—river valleys, rolling farmland, mining country with slagheaps, swamps, hills, rocky outcrops, great plains, gentle slopes and jagged mountains. For such a long and difficult front, fiercely contested for most of its length, vast numbers of men were needed. The Allies, including the Americans, raised in all 42 million men and the Central Powers (Germany and its allies) 23 million.

It was this favourable balance of manpower which gave Field Marshal Haig the comfortable conviction that the Allies must win a war of attrition: 'We have a larger population than they do, so if we continue to kill one another off at approximately the same rate, there will come a time when they will run out of men before we do.'

During four years of continuous warfare the cost in soldiers killed or wounded was prodigious. Great Britain and the Empire had mobilised 9 million men. For Britain itself the total enlistment was nearly 5 million, roughly 25 per cent of the total male population of the whole country. Nearly every household had a family member in the war zone if not actually in the front line. Nearly 1 million British and Empire soldiers were killed and 4 million wounded. France mobilised 11 million men of which at least 1.3 million were killed and 5 million wounded. Germany mobilised 11 million men and had 6 million killed or wounded. It was calculated that more than 53 per cent of Germany's mobilised forces were either killed, wounded or captured. At a conservative estimate, over the world as a whole, one sailor, soldier or airman was killed for every 10 seconds the war lasted; and it continued for 51 months.

From the fields and valleys I have unearthed thousands of historic items, all of which tell a story of some kind to the practised eye. Some pose more questions than they answer; and some reveal incidents so complete in all their details that they are almost emotionally overwhelming.

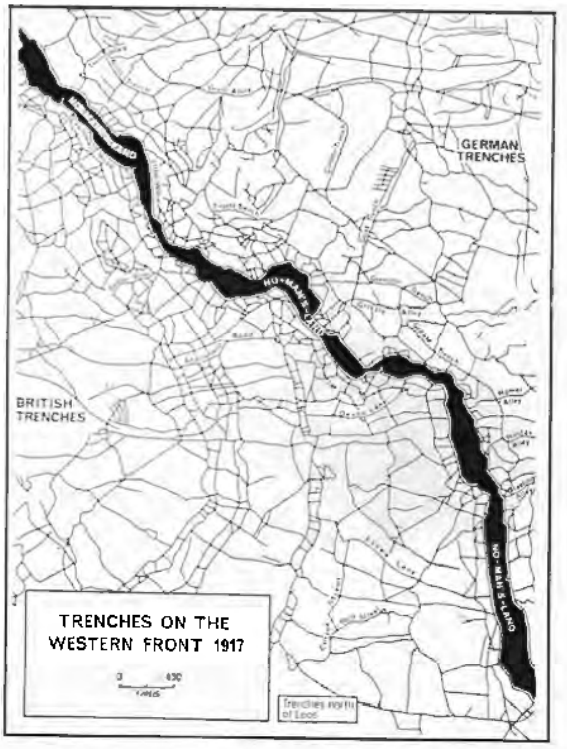
The purpose of this section of the book is to give Australians an idea of the huge scale of the war in terms of the numbers of men who took part—and the number who perished—as well as the huge quantities of material that were used. With this knowledge it is possible to appreciate the quantity of artefacts that still lie in and very often *on* the ground.

The Western Front

Above left: The Canadian frontline firing positions on Vimy Ridge, rebuilt with concrete 'sandbags' to simulate the battlefield. At the head of each sap—the short trench pointing towards the enemy—is a sniper's shield. Within two metres of the shields is an immense crater, one of fifteen on the ridge blown by the Canadians under the German lines. The Germans had almost identical positions on the other side of the crater.

Above right: The aperture of the steel shield through which the sniper observed and fired. The cover at right swings down to block the hole and keep out the enemy sniper's bullet. Shields measued 76.5 cm by 45 cm and were 2 cm thick.

Below: These much-eroded trenches at Vimy clearly show the zigzag way in which they were planned to minimise bomb blast. Regrettably, in the years immediately after World War I the Australian government did not acquire enough ground for a battlefield memorial park, as the Canadians, Newfoundlanders and South Africans did.



Above: The Austrian shell which penetrated through the chalk into the tunnel system on Vimy Ridge is now held in place to give later generations some idea of the dangers the soldiers faced, even many feet below the surface. Beyond the white post is a blocked-off tunnel that during the war extended for several miles.

Above left: The end of another sap, showing the fire-step just above the trench floor, then a crouching step and finally an elbow rest. Just forward of the sap is yet another crater; the people on the far side are standing in the old German positions.

Left: A long length of Grange Tunnel, which at a depth of six metres under Vimy Ridge ran roughly parallel to the front line. Apart from modern shoring to protect visitors from falling chalk, the tunnel is much the same as it was when soldiers dug it out in 1916–17.

Below: Much of the Vimy battlefield is pockmarked with shellholes. Even though they are grassed-over they give an impression of the ferocity of the gunfire. In 1917 this place, which was No-Man's-Land, was a quagmire without trees or grass.

Above: The trenches of Hill 62 as they were left by the troops in 1918. A British Lewis light machine-gun is arrowed left, and at right is a German Maxim machine-gun, the great destroyer of Allied infantry attacks. Only a few trees survived the war; one, still showing the effects of shellfire and bullets, remains at Hill 62.

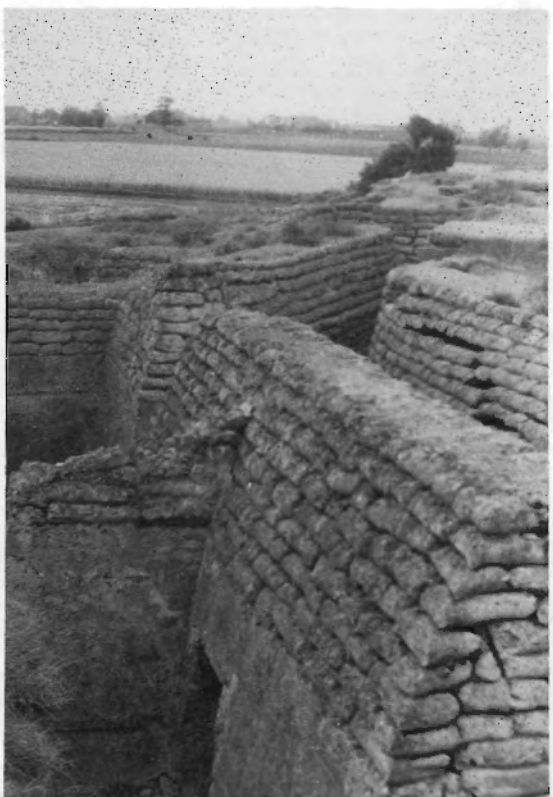
Right: At the end of Maple Avenue (or Canadalaan) near Zillebeke in the Ypres Salient is Hill 62 and a privately owned museum and trench area known as Museum Tranchées 1914–18. A small part of Sanctuary Wood, a famous area during the Great War, has been preserved more or less in the condition it was found in, in 1918, and is really the only authentic sector of trenches remaining in Belgian Flanders. They are part of the British front line system of 1916 known as Vince Street–Jam Row. For display, battlefield debris is strewn around the copse and trench lines, though not in the profusion of 1918. The adjoining museum contains artefacts found nearby, many from Sanctuary Wood. This wood is so named, according to unofficial history, because in October 1914 it was relatively quiet and men who became detached from their regiments—'stragglers' in army parlance—were brought together here. The officer locally in charge stated in orders that they were 'in sanctuary' and could not be militarily employed without his permission.

Right: British forward trenches at Beaumont Hamel, near Albert, and just beyond them what remains of the barbed wire defences, which were once much more extensive. The trenches, though much eroded and grassed over, retain their zigzag pattern. This technique minimised shell damage and casualties, but thousands of soldiers died on the field shown here. For the battlefield archaeologist, trenches stimulate study of what a soldier's life in them really meant in psychological terms.

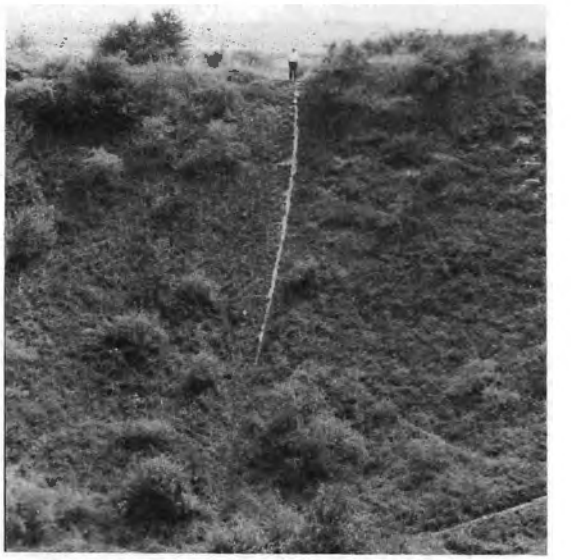
Above: This was the Flanders battlefield in 1917. The mud swallowed up men and horses, wagons and even tanks. Into this mire went military equipment and personal belongings of every kind, British, Australian, New Zealand, Canadian, French, Belgian and German. After the war the region was laboriously drained and reclaimed and finally the farmers were able to use it again. But it still contains more spoils of war than the two sides ever captured from each other. The land is now intensively farmed but farmers might be prevailed upon to permit archaeological work on a small scale, especially if asked in Flemish. Many do not speak English. In any case, ask them what *they* have has found.

Below: Hill 60, near Zillebeke in the Ypres Salient, still looks like earth in convulsions. It remains as it was left at the end of World War I, a form of memorial in itself. Grass-covered and with a few copses it looks superficially like parkland, but on closer inspection the shellholes, craters, spoil of mine eruptions and smashed concrete fortifications are evident. As only a few places such as this remain in Belgium, they provide valuable evidence of the heavy artillery pounding they received and of the mining activities underground. German and Australian miners fought each other in the tunnels and their remains still lie there.

Below: Part of the reconstructed 'Trench of Death' at Dixmuide, Belgian Flanders. It was so called because no Belgian soldier sent there expected to come out alive. The 'sandbags' are of cement and are more neatly arranged than they would have been in 1914–18, when German shells repeatedly wrecked the Belgian defences. The German trenches were just across the narrow Yser River while a German post actually joined the Belgian trenches on *their* side of the river.



Top: At 7.28 am on 1 July 1916 the great Lochnagar mine was exploded under the German front line at La Boiselle, near Albert. Two minutes later the Battle of the Somme commenced. After months of arduous and dangerous tunnelling British miners had put into place 27 tonnes of ammonal; the resulting explosion left a crater nearly 100 metres across, 30 metres deep and with a circumference of about 300 metres. Many German soldiers died in the tremendous explosion. The AIF Divisions were not on this part of the Western Front for the first three weeks of the Somme battle but the Diggers later passed by the crater, and many explored it, on their way up to Pozières and beyond.



Middle: The aerial photograph shows the great hole as it is today. It is owned by an Englishman, Richard Dunning, who bought it to prevent it from being ploughed back into farm land; he dedicated it as a memorial to the dead of the Somme battle. The white which shows on the photograph is chalk thrown up by the bombardments, mining operations and trenches. The round white marks indicate smaller filled and levelled craters. On the left of the photograph can be seen the winding line of a trench. All this ground is now under crops. The other photograph, taken from the west or British side, looking east, gives an impression of the depth, although eroded soil from the sides has reduced the depth by possibly three metres and has made the crater more symmetrical than it was in 1916.

Below: The Australian national war memorial at Villers Bretonneux, France. The 779 Australians buried here were collected from their original resting places on the battlefield. Fighting took place on ground now occupied by the cemetery and to the rear of the wall, at the base of the tower, which carries the names of 10 986 Diggers who have no known grave in France.

Top: Part of the Hill 60 battlefield, dominated by a pillbox built by British engineers. Parts of the hill are strewn with the rubble of fortifications wrecked by exploding mines and by postwar demolitions.

Middle: This photograph was taken from the top of one of the shafts at Hill 60 and shows something of the complexity of the tunnellers' work. The photo was taken in 1919 and the shafts no longer exist.

Below: Commonwealth War Graves Commission cemeteries provide the war researcher with interesting material for studies though of course not with artefacts. While nobody would contemplate digging in a cemetery, military history is nevertheless often evident. Within the grounds of Tyne Cot cemetery on the Broodseinde-Passchendaele ridge, Ypres Salient, are German blockhouses or strongpoints. The one shown here, just beyond the graves, is nearly 10 metres long by 3 metres broad and you are looking at its front. Since 1915 it has sunk into the soft Flanders earth by perhaps one metre. A blockhouse was basically a nest for heavy machine-guns, which the gunners operated from the side of the blockhouse or from the top. The slit at the front was used for observation. Blockhouses were so powerfully built that artillery could not destroy them; they had to be taken by infantry assault. Here, on the slopes of Passchendaele-Broodseinde, the infantry had to attack across muddy, shell-torn fields and thousands of men were cut down. Australians captured this and other blockhouses and around them was built Tyne Cot Cemetery, the largest CWGC cemetery in the world, in terms of the number buried there—11 956. The Germans sited their blockhouses in triangle formation, in threes or fives, so that enemy infantry attacking any one of them could be shot down from the others. The blockhouse nearer the camera was covered by the one now concealed by the Cross of Sacrifice, which is more clearly shown in the second photograph. The blockhouse on which the cross and its base were built was one of those captured by the Diggers at such great cost. A small portion of the blockhouse cement can be seen in the centre of the monument. A plaque commemorates its capture by the Australian 3rd Division.

3 Where to Search

Anybody visiting a battlefield may become an archaeologist, for a limited time, with nothing more complicated than a wartime map, a modern road map, a guidebook and a military history relevant to the place to be explored. As a professional historian following in the footsteps of the Diggers I need trench maps, battalion and other unit histories, the official histories of the campaigns and aerial maps taken during the war as well as current aerial maps. The memories of old soldiers, whether in note form or on tape, can be useful but their directions cannot be relied upon.

Perhaps the most significant tool is a military feel for the ground. As a result of training and experience, I can recognise where men must have sheltered from shellfire, where an artillery observer or a sniper must have stationed himself, where a machine-gun crew would be likely to set up their Vickers or Maxim gun. But I have met several people without experience of war who, after studying the ground, can point to a place where a commander might have set up his headquarters or where an 18-pounder crew could have established their gun position. It helps to understand the military thinking of the time—or lack of thought in the case of the generals of World War I. The British and French generals sent men in their thousands charging over exposed crests: find an exposed crest and you find a killing ground. The sheltered side of hills, that is the side facing away from the enemy artillery, can be a fruitful archaeological field. In sheltered places army hospitals, dumps and bases of various kinds were established.

Some Frenchmen once told me that at a certain place near Aix Noulettes near Arras I would find an entire field hospital long since covered over but complete with cots and corpses. A glance at the ground was enough to tell me that not even a small medical station, such as a regimental aid post, would be placed in such a position, let alone an entire hospital. In the same region I was taken to a hillside where local inhabitants pointed to a hole and told me it was a 'soldiers' tunnel'. It was only a natural drainage hole, twisting angularly but perpendicularly into the hill. It was much too narrow for even a slim soldier without equipment. In any case, a tunnel in that particular place would have made no sense.

The one indispensable record necessary for a serious search is the trench map. Army Field Survey companies composed of map specialists existed for no other purpose than to supply reliable maps which showed trenches, barbed wire defences and artillery positions. These maps included the usual features shown on ordnance survey maps—height contours, churches, buildings, dams and lakes, railways and many other aids to identification of position. They were kept up to date on a regular basis or amended immediately after an offensive when trenches, barbed wire entanglements and strongpoints had changed hands. It was literally a matter of life or death to possess a well-drawn trench map, and British Field Survey units were superbly efficient.

Trench maps rarely indicate what battalions, brigades and divisions might be holding a particular trench system, partly because units were so frequently changed but mainly so that vital information would not be revealed should a map fall into enemy hands. However, with a dated trench map in one hand and a unit history in the other it is possible to place a particular military formation in a certain position at a definite time.

One map in my possession was used by a staff officer of the 59th Infantry Brigade. The map itself was issued by the 96th Field Company in May 1918 and covers the area of Souchez, Givenchy and Vimy, extending as far east as the German

positions near Avion. By this time the region had largely passed into British hands so most of the trenches are shown in British blue rather than German red. Somebody at 59th Brigade headquarters has marked in with a red pen all the British dugouts and has printed DUG OUTS on the outside fold of the map.

Each dugout is shown as a square, some small but others larger, and next to each one accommodation capacity is shown. One dugout, about 1000 metres southeast of Givenchy, is shown as suitable for 13 officers and 120 other ranks. In a wood just off Coulotte Road in the village of La Coulotte, near Avion, was a very large dugout for 17 officers and 500 other ranks. Some dugouts were small and accommodated two officers by themselves, while others accommodated two officers and 26 other ranks. A trench well forward at Avion held two officers and 50 men but most of the forward dugouts held only a few soldiers each so that bombardment would not cause a lot of casualties with each shellburst.

A RAP (Regimental Aid Post) is shown just behind Red Support Trench while 800 yards to the rear is an ADS (Advanced Dressing Station). This map, if captured, would have been valuable to the Germans and their guns could have dropped shells accurately in each position. They knew about the larger dugouts in any case as German troops had built them. Neither the British nor French ever constructed dugouts large enough to hold 500 men, or more than half a battalion. Many of the dugouts shown on this map were originally German before being taken over by the British.

This map was administratively essential for 59th Brigade headquarters so that staff officers knew precisely where to find all their troops, who would have numbered between 3000 and 4000. It is also valuable to me as I have used it to locate several of the dugout positions, though the dugouts themselves have long since been filled in and farmed or built over. I tracked down the site of the RAP, which must have treated many sick and wounded soldiers, and found there a small medicine bottle. I had hoped that I might find more because RAPs buried a lot of empty tins and bottles and sometimes damaged medical equipment.

Another map I find useful is that for Hinges, in the Armentières-Lille region of northern France. It is labelled HOSTILE BATTERY POSITIONS July 27, 1918. Most of these gun positions are shown by a small black circle and each is numbered for quick reference. Every square on the map has a code designation, such as RD, MC and RC. The map was used by British and Australian artillery officers for counter-battery fire. At 500 yards to the inch (450 m to 2.5 cm) the map is detailed and I have found many gun positions. Local farmers say that they remember shells being found in these fields, as well as pieces of field guns wrecked by British gunfire. Nothing much can be easily found today though real excavations would certainly uncover many relics. Still, there is great satisfaction in locating the positions themselves. No great imagination is needed to reflect on the fear the German gunners created in the Allied lines.

A third map (Second Army Area, Sheet 3) which I use a good deal is of the Messines front in the Ypres Salient in May 1917. On 7 June the British blew 19 great mines on this front and followed up with an artillery and infantry attack, which in places advanced more than 3000 metres. The 2nd Field Survey Company called in the maps and quickly marked in the new British front line of 7 June as well as 154 enemy gun positions, each with a zone call number. A forward observation officer with the infantry could then call for British artillery fire on, say, position 94 in square OZ. Following a map such as this it is now possible to walk along sections of the old front line, with the permission of the farmers who own the ground. When one sees the depth of the German trench lines, as shown on this map, it is easy to understand why the massive shock by mines was necessary. Infantry assaults against such positions were doomed to failure.

Yet a fourth type of map which I use is the British Third Army Administration Map, on to which a staff officer has overscored the routes suitable for motor vehicles. Many of the roads, which were narrower and rougher than they are today, were restricted to one-way travel. The Third Army's area in June 1918 stretched from Montreuil-sur-Mer on the coast to Arras in the east. Using this map I can follow the routes taken by cars, ambulances, RAF tenders, lorries and buses. In open country the maximum speed was 32 kph but only 16 kph for lorries and buses. In villages and on bad roads the maximum speed was 16 kph with 10 kph the limit for buses and lorries. Following these routes in modern times does not yield anything in relics but it provides an abstract

form of battlefield archaeology—the view behind the lines as the soldiers saw it.

The evidence of trench maps is always more reliable than the memories of veterans who are often 'certain' about the position of a trench or field where they were in action when, in fact, they could not have been within half a mile of it. The fact that their memories are unreliable after so many decades is understandable. In their time vast stretches of battlefield had few, if any, distinguishing features. As far as the eye could see were churned-up acres of ground or mud crisscrossed and scarred with innumerable trenches. But generally the eye could see nothing except through a trench periscope. The man who poked his head high enough to take a good look at the countryside would almost certainly get a sniper's bullet through it. There was a terrible sameness about much of the country and when soldiers were in the open they had no time to look at it; they would have been making an attack and needed all their concentration for the job in hand.

Well behind the front line it was much easier for old soldiers to be certain that they recognised a particular place and this was especially so about billets if the buildings survived the war. In the late 1970s an old Canadian ex-soldier returned to a house in a village behind the lines near St Eloi on the Vimy front. He had come on a sentimental pilgrimage, he told the family now living in the house, and asked if he could go into the back garden. The French people were happy to welcome the old warrior and were amused when they saw him take some bearings. From the back door and at right angles to it he stepped out fourteen paces, then he turned at 45 degrees and marched four more paces, after which he asked for a spade. The French family smiled at one another and humoured the old man who prised up some bricks which formed a path and then dug cautiously into the earth. After 15 minutes' exertion he carefully lifted out a full gallon jar of rum. 'I hid this on the seventh of April 1917' he said, 'and I swore I'd come back for it.' When he buried the rum on 7 April he must have known that two days later he would be taking part in the great attack on Vimy Ridge and he wanted to preserve it.

I have dug up or found on the surface several rum jars and many jar fragments but never one with rum in it. Many a full jar must have been lost in the mud but salvage teams which scoured the fields soon after it became safe to do so would have given full rum jars their instant attention.

While each of the maps I have described has some special quality, ordinary trench maps are also informative and anybody wishing to make a start on battlefield archaeology can use them. The conventional signs on these maps indicate enemy supply dumps, ammunition dumps, dugouts, huts, observation posts, listening posts, barbed wire entanglements, mine craters, fortified mine craters, gun emplacements, machine-gun and trench mortar pits, and organised shell holes, that is, shell holes which have been set up as machine-gun posts. Sometimes enemy airfields are shown.

Map 36 SE for an area near Lille has all these places marked and as it is labelled *Trenches corrected to 30.7.1918*, only three months before the end of the war, may be regarded as definitive.

I treasure trench maps which show Australian positions. One that I have found particularly useful in my searches is *Hendecourt, Edition 5, Special Sheet, scale 1: 20,000 showing parts of 51B S.W., S.E. and 57C N.W., N.E.* This map was prepared in mid-1917 just after the Battles of Bullecourt, in April and May 1917, where the AIF was so heavily involved and suffered so many casualties.

On the bottom or SW section of the map is the Bullecourt battle area, stretching from the village of Noreuil and the valley beyond it, where the AIF brigades formed up for the assault, to Bullecourt and through the battlefield to Riencourt and Hendecourt. These two places were part of the Germans' Hindenburg Line. The maps shows British/Australian trenches in blue and German lines in red—and there is infinitely more red than blue on the map. Leading northeast from Noreuil are Melbourne Avenue, Sydney Avenue and Hobart Avenue, all running forward to the railway cutting and embankment from where began a large part of the AIF assault in the two battles. I have walked these trench lines—now farm fields—to the cutting and beyond onto the battlefield itself. Many relics still lie there.

Australians wanting to search battles of the Western Front should take with them photocopies of battle maps in those volumes of C.E.W. Bean's official history dealing with the AIF in France and Belgium. It is useful to have with you volumes III to VI but they are heavy and take up a large part of an airline luggage allowance. Other maps appear in General John Monash's *Australian Victories in*

1918 and in divisional histories, which can be found in the Australian War Memorial Research Centre and in some other libraries. Again, photocopies of the maps are invaluable in tracing AIF actions.

My book, *Guide to Australian Battlefields of the Western Front 1916–1918* (Kangaroo Press 1992), is perhaps the most useful tool apart from wartime trench maps, which are now collectors' items.

All the many locations have potential for battlefield archaeology, especially if they were held for a long time. Any group of men would have dug a hole as a rubbish dump, and rubbish dumps, as all archaeologists know, can be fruitful sources of historical information. Into them were thrown empty tins and bottles, broken personal gear and military equipment and much else. Each airfield had a large hole for rubbish disposal but these are always difficult to find. I have looked several times for the tip at the German airfield near Houplines, southwest of Lille. It is shown on map 36 SE.

Trench areas are the best places to find tips. A front line trench is less likely to yield results than a communication trench; pits were often dug a few paces off communication trenches, which can be located from any trench map. All the trenches running at right angles to the front line, support line and reserve line were communication trenches. When speaking with a farmer the archaeologist should ask if any military rubbish has been found, since this almost certainly indicates a tip.

By a mixture of instinct and reasoning I once found what was probably a platoon rubbish hole. It contained pieces of broken rum jars, many opened food tins, an issue water bottle with a hole through it, a badly damaged Lewis gun magazine with several rounds of .303 inch ammunition jammed in it, a broken trenching tool, a few glass bottle stoppers, the side of a boot and a snapped-off bayonet. Cloth and paper might well have been in the hole before it all rotted away. It was easy to imagine that a sergeant had said to a soldier, 'Gather all the rubbish you can find and bury it. It's bad enough living in the bloody trench without turning it into a tip as well.'

Traces of war can also be found in drainage ditches. This is because a ditch was a place to shelter from enemy bombardment and small arms fire; it was a natural trench and often no more wet and muddy than military trenches. A ditch might form an unofficial front line in the middle of no-man's-land where the raiding parties of both sides rested while the officers and NCOs planned their next move. Wiring parties busy erecting barbed wire defences under cover of darkness dived into the ditch at the first spluttering of a flare.

Ditches in Flanders are almost exactly where they were between 1914 and 1918, though with modern forms of drainage there are fewer of them. The mud in the bottom of a Flanders ditch is often 45 to 60 cm deep and unpleasantly squelchy and clingy. It is necessary to plunge one's arm in it up to the elbow, but I have never done so without finding relics of war. On one occasion, near Wytschaete (trench map 285 SW 2), I found a British Mills bomb (the HE 36 grenade), a mud-filled waterbottle and the barrel of a .303 inch rifle. The rifle had been stuck into the side of the ditch and might well have been there since 1917. These trophies, which could have belonged to Diggers, are the subject of a poem in this book.

Farmers rarely refuse a request to explore a ditch (or beek, as it is in Flemish) though they do not hide their opinion that groping about in the slimy mud is a lunatic activity.

For Australians interested in AIF history on the Western Front the most accessible battlefields, and those most likely to yield relics of the Diggers' service, are Fromelles, Pozières, Broodseinde (Passchendaele), Flers and Bullecourt. These battlefields are readily located and AIF movements on them can be mastered fairly quickly. In all cases it is necessary to ask the owner of a field for permission to search. In Belgium, farmers have their homes on their farms so they are easily found and approached. In France, farmers generally live in a village and go to their fields each day; because of this concentration of families in villages it is possible to see large areas of farmland without habitation. However, in the case of Pozières, Fromelles and Bullecourt, farmers *do* live on their fields or close by. See my *Guide to Australian Battlefields of the Western Front* for details.

AIF battlefields which are less likely to be fruitful include Messines, Dernancourt, Morlancourt, Villers Bretonneux, Hamel, Peronne and Mont St Quentin, as well as the battlefields of 1918 between Peronne and Montbrehain. The AIF was moving rapidly at this time; battles were concluded in a matter of hours and the Diggers were never in one place for long. For all these reasons they left few possessions or pieces of equipment behind them.

Personal Possessions

Soldiers' personal possessions (as distinct from personal equipment) dug from the battlefields or found in billets are moving archaeological artefacts because they are the most direct link, apart from letters, that we can have with the soldiers of an earlier generation. They are also the relics of war least likely to be found, partly because they are usually fragile. It has always been the practice in the Australian army (as in the British) to collect personal items of family interest from the bodies of soldiers killed in action and return them to the next-of-kin. Generally this task fell to the battalion chaplains but other officers also performed the duty. Sometimes it was impossible to retrieve either a body or any possessions; these objects are still turning up in the battlefield.

Personal items likely to be found on, in or near the battlefield include watches, shaving kits, toothbrushes, spectacles, pieces of boot, cigarette cases and pipes. Australian identity discs are rarely found, perhaps because they were made of a substance which dissolves in the mud.

One of the most evocative of my finds is a Strand Palace Hotel, London, room key. An Australian soldier's field service pocketbook and wallet are not only thought-provoking but instructive.

The soil needs to be finely sifted for little objects; a small lump of earth could hold a treasure. On a Somme field I noticed something that was apparently clay but which was too symmetrical in shape to be nothing but clay. I had found a relic of one of the favourite gambling games of the soldiers of 1914–18.

Top: This slim razor pack came out of the clay on Messines Ridge, Ypres Salient in 1970, 53 years after it went into it. Blue clay preserves while runny brown mud rusts and rots and the Gillette razor blade packet is in such good condition that much of the original printing can be read:

GILLETTE LICENSE [some words missing] is to be sold at the minimum price of 2/- [two shillings in the currency of the time] a packet without any allowance or rebate of any kind. Gillette Safety Razor Ltd. of U.S.A.

The razor itself holds a blade, so it has been used. The tough nature of the steel packet seems to indicate that it was made for travelling or military use. Dimensions: 10 × 5 cm when closed.

Middle and bottom: The container and contents of an Australian soldier's camp pocket candlestick, 'a soldier's friend'. I found this on the beam of a loft in a barn just behind the town of Merville, northern France. It has had a lot of use and the Digger who left it behind must have been angry with himself. Candles and lanterns provided the only light in barns and in many billets.

Above: In 1914 Princess Mary's Christmas Fund sent a Christmas box to every British soldier in France and Belgium. It consisted of a well-made brass tin measuring 12.7 × 8 cm, containing pipe tobacco and cigarettes, a photograph of the princess and a Christmas card from her. Few smokes survived the war but this packet of cigarettes, each one bearing the royal monogram, was still in good condition in the 1990s. The gift was not repeated in subsequent years because of the vast numbers of men involved after 1914. Many empty tins survive and can be found in the flea markets of towns in the old battle areas. This one was left in a billet at Bailleul, France.

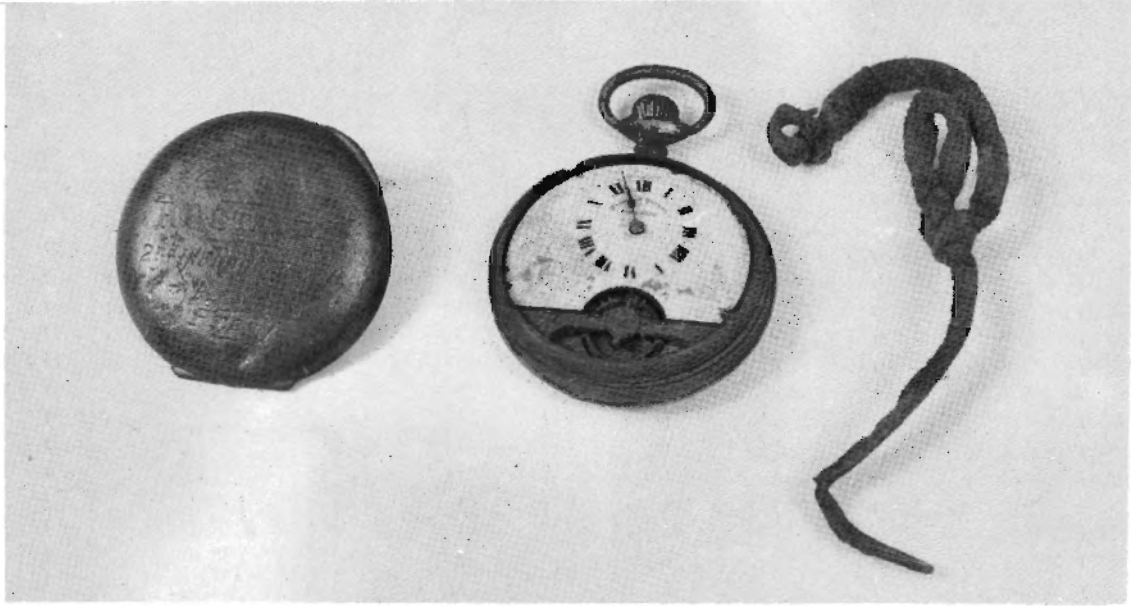
Below left: Personal possessions are particularly poignant relics of war because they so clearly indicate a life cut short. These pipe bowls and shaving brush came from trench lines at Poelcapelle, close to Passchendaele, Ypres Salient. I cannot account for the absence of the stems, which would have been harder material and therefore more durable. Many soldiers of all armies smoked pipes during World War I; these pipes could have belonged to British, Australian, Canadian or New Zealand soldiers.

Below: An AIF matchbox cover found in a billet at Bapaume, France, which was reached in March 1917, five months after the end of the first Somme campaign. The Germans fired the town before withdrawing and the Diggers slept where they could in ruins and in cellars. Several, asleep in the town hall, were killed by a delayed action mine. The matchbox cover was left behind in a house on the Cambrai road.

Top: I found this badge of the Church Lads Brigade near V Beach, Cape Helles, Gallipoli. The Church Lads Brigade was an Anglican organisation similar to the Non-Conformist Boys Brigade. The badge was worn both as a cap badge and as a pouch belt badge. Some young soldiers took this badge to Gallipoli, perhaps as a good luck token. Many soldiers were not lucky at V Beach, where a brave landing was fiercely opposed by the Turks. The British units suffered heavy casualties in getting ashore.

Middle: This pipe belonged to Gunner Henry Ernest Nerthun of the 6th Light Trench Mortar Battery, AIF. When behind the lines and in billets, and often enough in the trenches, pipe-smoking soldiers spent hours carving a pipe bowl. Gunner Nerthun's is specially intricate. His pipe is adorned with Western Front place names, some of them misspelt; Armentières, Fleurbaix, Vignacourt, Harlette, The Somme, Varinnes, Ribbemont, Vaux, Pozières, Lavieville, Albert, Ville-Sur-Ancre, Messines, Le Havre, Hennincourt. Also carved is 'No 1797 Gunner H.C.K. Nerthun, Australian Light Mortar'. Gunner Nerthun also found space for ornamentation, including two bursting bombs and the initials W.R. J.M., perhaps those of his sweetheart.

Below: The owner of this cigarette case obviously survived the war as he served in the Army of Occupation—notice 'Cologne 1918-19'. He was at Gallipoli in 1915 and reached the Western Front in 1916. The list of battle honours suggests a lot of active service with the field ambulance. The triangle indicates the shape of the unknown soldier's unit colour patch, which he would have worn on his shoulder.

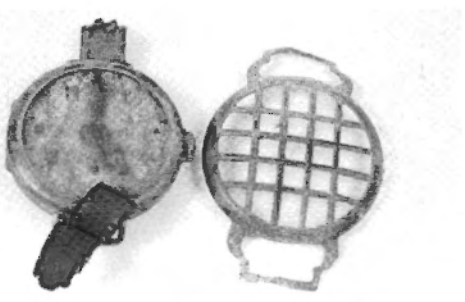


Above: This pocket watch belonged to 4928 R.P. Staley, 7th Battalion, 2nd Infantry Brigade AIF. I found it in spoil from roadworks near Ypres (Ieper) railway station in 1978 and I must assume that Staley lost it there. The 22-year-old Staley was killed near Sec Bois, Nieppe Forest, east of Hazebrouck, on 15 April 1918, more than 40 km from Ypres. The loss of such a prized possession must have hurt him greatly.

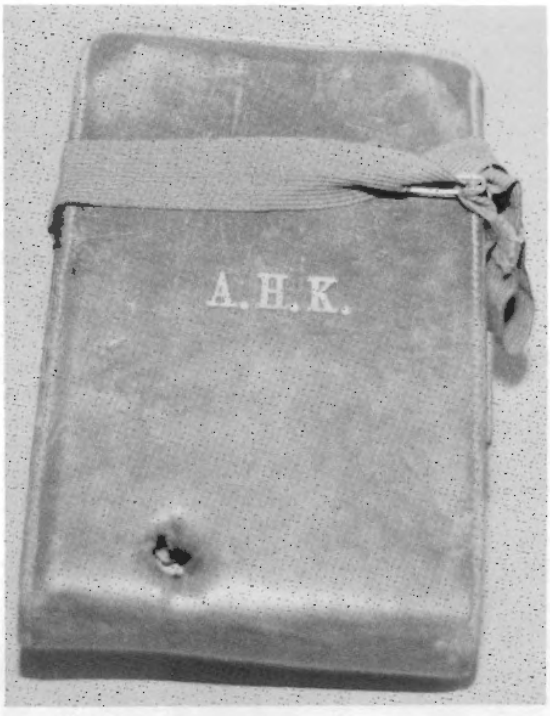
Robert was sniping on 15 April and had raised himself above the parapet when he was hit by a bullet under the left arm. 'They've got me,' he told his mates and died soon after. His mate, Pte J.H. Foster, in a letter home, said, 'Bob was very brave and had absolutely no fear of shells but hated the machine-guns and always thought that he would be killed by them.' According to a report, Staley's 'identity disc, paybook and belongings' were handed to Second Lieutenant G. Trotman, but this officer was killed the next morning. Robert Staley was first buried in the yard of an estaminet not far from where he was killed. I have been unable to trace his family. At the time of his enlistment his father lived in Sullivan St, Malmsbury, Victoria.

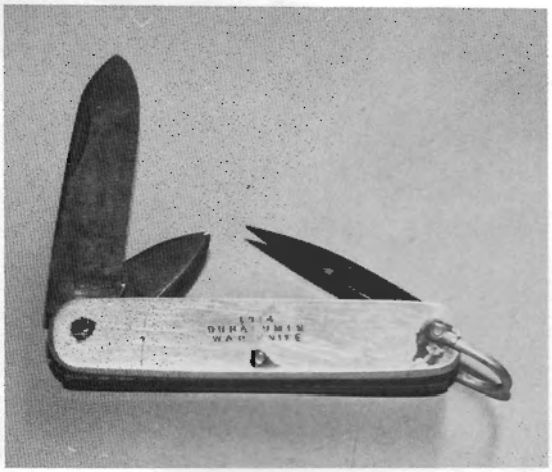
Below left: Another example of the ingenuity of soldiers. The top part of this wooden case swings aside to reveal a shaving mirror. Perhaps the owner, known to us only as T.E.B., had broken several mirrors—it was a common problem—and finally found a way of keeping the glass safe. The carved names are Gallipoli 1915, Egypt 1916 and Palestine 1917–18. I found the mirror in the sand of the Sinai desert, out from Beersheba, in 1973. My deduction—coloured a little by my imagination—is that it belonged to a trooper of the Australian Light Horse. The service areas recorded on the case conform to the service of some Light Horse regiments. Few British units which were at Gallipoli then went to Palestine; some were posted to Salonika, many to the Western Front. Light Horse troopers who survived Gallipoli went first to Egypt and then to Palestine. The mirror and case survived so well because no rain falls at Beersheba. Even so, it was an incredibly lucky find.

Below: This wristwatch, with its glass intact and its metal protective grill in place, was found in No-Man's-Land in the old Lys River sector of Flanders. It had stopped at 5 o'clock and I speculate that this was 5 am. It is much more likely that the owner was in No-Man's-Land at 5 am—rather than 5 pm—because this was the hour of the dawn raid. The watch may have stopped when the soldier wearing it fell, dead or wounded, into the mud. Of course, the watch could have been lost at some other time and simply ran down at 5 o'clock. The Lys river valley was one of the AIF's great raiding areas, especially in the earlier part of 1918.



Right and below: Private Alan Howard Kilminster of the 17th Battalion and his field service notebook. The notebook, given to Alan by his parents, from Manly, NSW, is an intriguing and tragic relic of battle. This Digger was killed on 3 October 1918, aged 20, at Joncourt, east of Peronne. Many soldiers carried such a notebook, which had a double steel-lined cover, in their breast pocket in the hope that it might stop a bullet or shell splinter. It rarely did. Alan Kilminster was shot as he went into an attack—one of the last of the war for the AIF. The bullet went through the steel of the notebook and through his heart, killing him instantly. He was buried close to where he fell and I have the map reference as noted by the men of the 104th Artillery Battery who interred him. His grave was destroyed by a later bombardment and his body was lost. I believe that his remains were found and that he is one of the three members of the 17th Battalion buried as 'unknowns' in Prospect Hill war cemetery, a few miles from his place of death. The notebook, which measures 15.3 × 10.3 cm, contains various pencilled comments and includes the names of members of a battalion cricket team which played a game on 'the main parade ground' on 7 May 1918. The photograph of Alan Kilminster was taken at Manly before he left for the war; he was carrying the notebook in his left breast pocket. In World War II many men, during their early months of soldiering, carried a steel mirror in their breast pocket in the same hope that it would stop a bullet. The mirror—and the hope—was soon discarded.

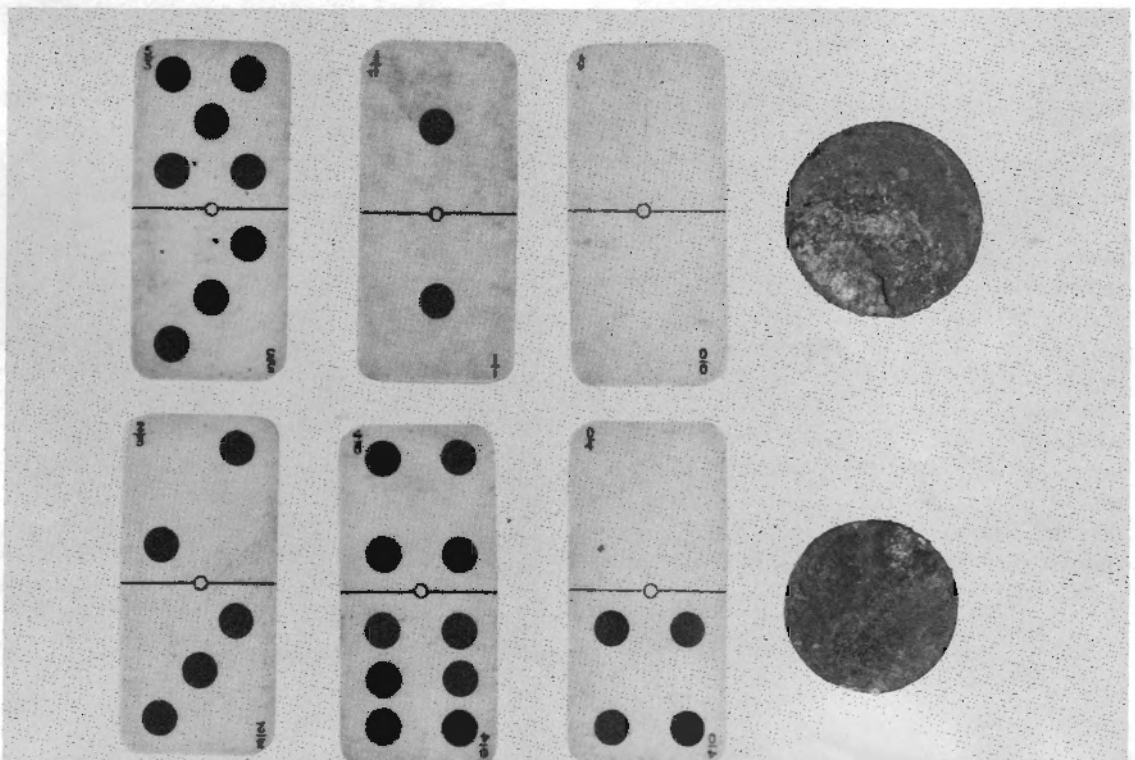




Above: The 'Duralumin War Knife', dated 1914, was found at Voormezeele, Ypres Salient, where AIF heavy artillery was positioned in 1917. The other side has been engraved with the initials 'j.v.', then separately 'Ar.H.' as well as with 'Cambridge 1914'. This knife was never standard issue and to find it labelled as a war knife and dated with the first year of the war is a little surprising. Perhaps the maker anticipated a large market for the knife, although this is the only one I have seen.

Below: Trench dominoes found in a German position facing the AIF 3rd Division at Messines, Flanders. Made of bone or ivory they are wafer thin and were wrapped in a piece of oilcloth, which crumbled to pieces when unearthed from blue clay. The coins, dated 1905 and 1912, were wrapped with the dominoes.

Above: The bone handle of a knife which belonged to Private George Francis Blake of the 59th Battalion. Blake was killed at Fromelles on 19 July 1916 and is buried in Ration Farm Cemetery near Armentières. The blade has rusted away but the handle must be in much the same state as when Pte Blake carved his name on it. It turned up on the surface of a farm field at Fromelles in July 1992, 76 years after dropping into it. Its owner is one of 260 Australians in Ration Farm Cemetery, most of them killed at Fromelles. George Blake is in good company.



4 Today's Evidence of Yesterday's Battle

In Europe, the most telling evidence of war is provided by the thousands of cemeteries the length and breadth of the Western Front and for many miles in the rear of where the trench lines were situated. In France and Belgium, Diggers are buried in 758 of these cemeteries.

The greater the number of cemeteries and the greater the number of burials, the more intense and protracted the fighting. Cemeteries proliferate in two areas in particular—the Somme of northern France and the Ypres (now Ieper) Salient of Belgian Flanders.

Many cemeteries were established by fighting units and these, probably without exception, are to be found in places where much fighting actually took place. For instance, AIF Burial Ground, near Flers, was at one time in the middle of the combat area.

Bodies of slain soldiers were not taken further than necessary because of the great effort involved and the potential for danger to the men carrying them. During the war there were many more small cemeteries than there are now. After the war the Imperial War Graves Commission (since 1960, the Commonwealth War Graves Commission) disinterred the bodies buried in some small cemeteries and concentrated them in larger ones, so a grave in a particular battlefield cemetery does not necessarily mean that the soldier was killed nearby, though he probably was.

Other cemeteries such as Vaulx Australian Field Ambulance Cemetery, a few miles from Bullecourt, were started by Field Ambulances. Many wounded soldiers were evacuated from the battlefield but on the often long journey to the rear they sometimes survived only as far as the Field Ambulance position or a casualty clearing station.

Some of the really big cemeteries were started by field hospitals, stationary hospitals, general hospitals and base hospitals. These were all well behind the lines and in nearly all cases out of enemy artillery range. The vast majority of dead in these cemeteries died of wounds as they reached the rear area or the hospitals. With few exceptions, these men were identifiable and thus are buried under named headstones. By contrast, the battlefield cemeteries contain large numbers of dead marked only as 'Known unto God'. It might be recorded that a soldier is Australian, English, Scottish, Welsh, South African, Canadian, Indian or from New Zealand, but nothing more. This meant that he had been identified by his national or regimental badge. AIF men had the rising sun emblem on their hat badge, collar badges and some buttons.

Many battlefield cemeteries are set in farm fields, with crops of wheat, maize, potatoes or sugarbeet growing right up to the walls of the cemetery. It may be assumed that fighting took place in these fields. Farmers who find shells in their fields during ploughing or harvesting—a frequent occurrence—usually place them at the corner of the cemetery and the access road, ready for collection by the authorities. For safety's sake do not touch them. You might be lucky enough to find a bayonet or remnants of a steel helmet at the same spot. I make a practice of walking right around the outside of every war cemetery I visit in the hope of finding a relic of some kind. I am rarely disappointed.

Battlefield cemeteries, then, are pointers to the battles which raged around them while rear area burial grounds indicate the location of hospitals. A hospital area can be a fruitful source for war explorers. I have found badges, coins, bottles of

various kinds and even occasional pieces of hospital equipment. I uncovered a bayonet close to where a tented hospital had once been based. This was an unexpected find. In a barn near the same hospital I found, battered but complete, a folding field stretcher. The canvas bore stains which a pathology test later proved to be blood. This is not surprising; many a soldier bled to death on a stretcher as ambulance men struggled to get him into professional hands.

Woods, some big enough to be called forests and others no larger than a copse or grove, were a feature of the French and Flemish countryside during World War I. Indeed, they still are, especially in the Somme region. Many are as large now as they were before the war ravaged them. Few, if any, woods were untouched by shellfire. The bombardment was so devastating that most limbs and foliage was torn from the trunks, which themselves were smashed into stumps or left splintered. In the 75 years since the war they have recovered completely and are well worth exploring, though most are on private land and permission is needed. Even so, some woods can be entered, especially if a war cemetery is located in their depths.

Sometimes a war relic is found embedded in the trunk of an older tree. A friend of mine found the remains of a French rifle sticking completely through a trunk, several feet from the ground. The tree had grown to maturity with the rifle, in effect, impaling it. I frequently find shrapnel shell cases as well as large shards from high explosive shells in woods. In a small copse near Combles, where I know that Diggers spent an anxious few days, I scratched several hundred shrapnel balls from the ground. Obviously, the Germans knew the Australians were there and pounded the wood with shrapnel, the most effective kind of projectile against infantry.

Battlefield memorials erected by divisions and smaller units were nearly always placed at positions where intense fighting had taken place. Four of five AIF divisions sited their memorials in the middle of an area where they had suffered many casualties and achieved great triumphs. The 1st Division's memorial is on the heights of Pozières; the 2nd Division has two memorials, one 'unofficial' at the Windmill site at Pozières, and the other on the slopes of Mont St Quentin; the 3rd Division's memorial stands on the Somme battlefield of April 1918, while the 5th Division chose to be identified with Polygon Wood, near Passchendaele. The 4th Division's memorial crowns the high ground behind the village of Bellenglise in the *département* of the Aisne, above the division's fighting area of September–October 1918. Little fighting took place in the vicinity of this memorial but the division wanted to indicate that it had fought through all the campaigns in France and Belgium to the very end of the AIF's service on the Western Front.

I have found relics of the war close to all these memorials, except that of the 4th Division. In a wood behind 2nd Division's memorial at Mont St Quentin I located old German trenches and found in them large shards from Australian shells, Australian bullets—the actual projectiles—and German cartridge cases. I sent a selection of them to an NCO of the 18th Battalion, Sergeant W.F. Anderson, who was awarded the Military Medal for his bravery in the Mont St Quentin battle. Fighting took place in the fields behind the Australian national memorial at Villers Bretonneux and here I have found cartridges and a belt buckle. The nearby battlefield of Hamel has also proved fruitful.

Of course, divisions of other armies also erected memorials in the middle of battlefields where relics may be found, but in this book I concentrate on Australian operations and artefacts related to the Diggers.

The presence of trenches, shellholes and mine craters are the clearest direct evidence of battle. Most are on private land but there are certain places where battlefields can be studied. Digging is not permitted in the places which I describe in the following pages but they repay study by anybody interested in the battlefields. Sadly, Australia did not establish battlefield memorial parks, as the Canadians, Newfoundlanders and South Africans did. The AIF is well enough represented with divisional and other memorials but a large memorial park would have given a central focus to the AIF's service in France and Belgium.

Dixmuide: The Trench of Death

For the Belgians, no spot on the Western Front is more symbolic of fierce resistance and tenacious heroism than the Trench of Death at Dixmuide, north of Ypres. For four years this sinister trench, the most advanced post of the Belgian defence, was the scene of incessant and murderous combat. Only the narrow Yser River separated it from the German front line. For 50 months the trench system was swept by bullets and blasted with grenades, mortar bombs and high explosive shells. Many Belgian soldiers were killed as they dug the main trench.

To get closer to the river bank, saps or short lengths of trench were dug at right angles to the main trench. At one point the Germans crossed the river, built a strongpoint 60 yards from the Belgians and garrisoned it for the duration of the war. Each night they pulled a raftload of supplies across the river.

On the Belgian side, at the extreme limits of the Trench of Death, two barricades were built to keep out the Germans and in 1917 the Belgian troops set up a big shelter which they called the Mouse-trap. The Germans frequently fought their way into the Belgian saps and fierce hand-to-hand fighting ensued until reinforcements, rushed from the Mouse-trap, threw out the enemy.

Many thousands of tourists visit the Trench of Death, which for the sake of preservation and economy, has been rebuilt with concrete 'sandbags'. Spent bullets and even cartridges can occasionally be found in the area.

Beaumont Hamel Newfoundland Memorial Park

The Newfoundland Regiment, as part of the British 29th Division, entered the firing line in France on 22 April 1916. For the great Somme attack of 1 July 1916 the division's front line covered a 3000-metre sector opposite the village of Beaumont Hamel, which had been pulverised by a week-long bombardment.

The division's task was to break through the Germans' front line trenches and capture the second line. Each of these powerful entrenchments was protected by thick belts of barbed wire and contained the usual deep dugouts in which up to a platoon of infantry (roughly 30 men) sheltered from British artillery fire. To reach their final goal the 29th Division's battalions had to cover 4500 metres of dangerous ground.

After a mine was blown under the German positions, the 87th Brigade began the infantry attack but ran into massed rifle and machine-gun fire and shelling. The brigade's advance collapsed and the 88th Brigade, of which the Newfoundlanders were part, was ordered in. From their starting position in the British support trench, known as St John's Road, the Newfies had to cross 250 metres of bullet-swept ground before they even reached their own front line. As they made their way through lanes previously cut in the British wire their casualties mounted. Men of the leading companies who emerged into No-Man's-Land looked down an incline at the barrier of German wire, 600 metres away. Gunfire swept the slopes but the Newfies kept to the parade-ground formations prescribed by the general staff for this type of assault and plodded on.

Halfway down the slope an isolated tree marked an area where German shrapnel shells were particularly deadly. Called The Danger Tree, its twisted skeleton has been preserved and stands at the spot where many a Newfie died on that July day. The attack crumbled in half an hour. The battalion had gone into action 801 strong; only 68 men answered the roll call after battle. Every officer was either killed or wounded. The divisional commander said of the Newfoundland Regiment's attack: 'It was a magnificent display of trained and disciplined valour and its assault failed because dead men can advance no further.'

The reconstruction of a representative part of the battlefield, put in hand in 1960, preserves in its original state the shell-pitted ground between St John's Road and Y Ravine across which the heroic but ill-judged advance was made. The fields are grass-covered but the visitor can easily get a feeling of the reality of the old battlefield by walking through the preserved trenches rather than over the

top. Down the slope near the Scottish memorial is a small crater into which has been dumped a large quantity of excavated battlefield debris. Here and there pieces of heavy equipment, such as parts of heavy guns, protrude from the turf. The park provides an elementary lesson in battlefield exploration. Australian troops fought in similar situations on similar fields.

Delville Wood

Delville Wood, near Longueval on the Somme, is South African territory. The South African Brigade, which had been sent from North Africa to fight on the Western Front, was attached to the 9th Scottish Division. As part of the 1916 British Somme offensive, the Scottish troops captured Longueval but could not hold it unless the Germans were thrown out of neighbouring Delville Wood.

The wood was shaped like an equilateral triangle with its apex pointing north and covered an area of about 2.5 square km. To serve as points of reference, the names of well-known streets in London, Edinburgh and Glasgow were given to the grassy lanes—Bond Street, Regent Street, Princes Street, Buchanan Street and so on.

The South Africans were ordered to take the wood 'at all costs', a much-used order of the time. Infantry moved in before dawn on 15 July while their gunners shelled the wood. As the South Africans were digging trenches the German artillery barrage began, followed by a counterattack of elite Bavarian troops. Fighting raged throughout the wood for 48 hours until the men were strained and exhausted. Colonel Dawson, commanding the 1st Regiment, explained the difficulties to General Tim Lukin, the South African commander-in-chief. Lukin could only repeat the orders given to him, 'Take the wood at all costs'. The Germans drove the South Africans from their trenches, their shells totally destroying that part of the wood occupied by them. In the nightmarish battle the wounded, many crying out in agony, could not be evacuated; the men had neither blankets nor greatcoats and rain fell heavily.

The German defences were too powerful to be taken by just one division, but the South Africans held on for six days until relieved. On 15 July 3150 men had gone into action; on 20 July Colonel Thackeray brought 143 out of the wood.

The battlefield is now a park, but the signposts are still there; a plaque marks the location of the South African headquarters and another the site where the South Africans first entered the wood. Old shell holes, overgrown with brambles, can still be seen but all that survives of the original dense wood is a single hornbeam tree. The nearby South African museum has some interesting examples of battlefield artefacts.

Butte de Vauquois

This famous place is part of the Verdun battlefield but, unlike the rest of that great place of conflict, Vauquois has been turned into a form of walkaround battle park in the Canadian style. The village of Vauquois was once situated at the top of the 300-metre butte or hill. During World War I it was a desirable military position for which French and Germans mined and counter-mined each other. The huge craters overlap one another all over the approaches and summit. After a steep walk up from the car park the visitor sees a noticeboard display map which shows a route for a comprehensive visit. There are two good orientation tables by which the whole Verdun-Argonne battlefield can be studied and each important position on Vauquois is identified. The entire hill is a trap for the unwary who wander off the grassy paths, as thousands of steel pickets, which supported the forest of barbed wire, poke up in the grass and scrub. The longer ones, which still form *frise de cheval* entanglements, are easily visible and are as impenetrable now as they were in 1915. But many spikes were buried by explosions so that now only 8 to 12 cm lengths are exposed; some have been painted red to draw visitors' attention to the danger but many are almost invisible and can cause nasty leg wounds. The hill is well worth exploring, but with time and caution.

Vimy Ridge

Vimy Ridge, though only 60 metres above the Douai Plain, was a massive barrier protecting an area of occupied France in which important mines and factories were in full production for Germany. The ridge covered the main junction of the Hindenburg Line and the defence systems running north to the Channel coast. Tens of thousands of Allied soldiers had lost their lives in 1915–16 in futile assaults to capture the strong German lines. The Canadian Corps was moved in, late in 1916, as the striking force of yet another assault.

The Germans had three main defensive lines, consisting of a maze of trenches, concrete strong-points protected by barbed wire and deep dugouts, all linked by communication trenches and tunnels. Some vast chambers could shelter an entire battalion (800 men) from shellfire.

No allied operation on the Western Front received a more thorough preparation than this attack against 'impregnable' positions. Between January 1917 and the beginning of the Vimy offensive tremendous engineering activity was in progress. The statistics alone give some idea why battlefield archaeology is fruitful. Trenches had to be improved for the assault and 41 km of forward roads were repaired and maintained; 5 km of 'plank' road were laid in the shelled area—logs and split half-logs were used to bridge shell holes and muddy ground. In addition, 32 km of light railway were maintained and extended into the forward zone to handle daily 830 tonnes of freight—rations, small arms ammunition, bombs, grenades, artillery ammunition and engineer stores. Signal communications required the installation of 40 km of new buried cable in which 2400 km of circuit were laid; 106 km of new overhead cable were laid, making a total of 4160 km of telegraph and telephone wire. In some places telephone wire can still be found and sometimes a farmer, ploughing a new field, comes across a piece of old railway line.

Canadian troops dug 11 tunnels, mostly through chalk, at right angles to the front line on the Vimy Front, over a distance of about 10 km from Thelus to Souchez. The length of the tunnels was about 8 km, including the longest of all, Grange Tunnel, which was 1.6 km long. Its average depth was 10 metres.

The assaulting troops could now move up to their start line protected from enemy shelling. Cut into the walls of the tunnels were large chambers housing brigade and battalion headquarters, ammunition stores, communication centres, ration dumps and dressing stations; most were provided with piped water and electricity.

The Allied artillery bombardment began on 20 March 1917; German trenches were demolished and wire entanglements torn to pieces. The ground is still strewn with the shell holes from that bombardment which went on until 9 April, the day of the assault. Ten battalions in line abreast led the attack in snow and sleet driven by a northwest wind. In the ferocious fighting the greatest resistance came from the strongly emplaced machine-guns in the German intermediate line. The Canadians lost 3000 men and total Allied casualties were 10 000. At the time this was not considered a high price for such an important victory.

The tunnels were the most interesting part of the battlefield and are entered today down steps and through a steel door which did not exist in 1917. The first room on the left was an office for the officer of the day, who was responsible for troop movements through the tunnels. This room contains original wooden supports and some weapons and shells of the time. To the right a tunnel travels in the direction of the Valley of Souchez (or Valley of the Zouaves), nearly parallel to the old front line. Soldiers used this to get from one place to another with much greater safety than on the surface.

At the top of the steps on the left is a room used as a food distribution room. Most food was lowered from the surface through a shaft and collected from this chamber by ration parties. The passage which passes the kitchen leads to a small room used as a chapel and a deep stepped shaft leading down to a freshwater well.

Along the main corridor two tunnels meet. Both lead to different points of the rear lines and to stores of food, arms and munitions. Saps or secondary tunnels were also dug from the main corridor. They reached forward right under the German lines and at their ends large mines were exploded, creating huge craters the size of which is a source of astonishment to tourists.

A little further along Grange Tunnel is a small room which, according to men who saw the tunnel during the war, was used either as a munitions

store or as a first-aid post, depending on whether soldiers were going to or coming back from the front lines. To the left at this point a tunnel climbs at a steep angle and at one time joined the front line trenches on the surface. In the same opening, but to the right, is a passage to a field headquarters. Another small room nearby, used as an aid post, has a maple leaf carved into the chalk.

Headquarters consisted of five rooms: the first was the officers' mess, the second a conference chamber where troop movements were planned, the third was the bedroom for the tunnels' commander, the fourth was an ante-room or waiting room for the commanding officer's office, which itself was the fifth room. These rooms contain rusted weapons from the war, including the remains of a British Lewis gun and a German Maxim and a collection of British, French and German waterbottles.

The main corridor divides into two just after the headquarters complex. According to legend, those soldiers going to the front used one side and those coming back took the other. Two reasons are given for this; the first was the practical one of avoiding overcrowding; soldiers with weapons and equipment take up a lot of space. The second reason was psychological—to save those going to the front from being distressed by seeing wounded men coming back. While it is possible that the bifurcating tunnels were used as a means of traffic control, the theory of concealing the wounded is unlikely. For men who spent their lives among mangled bodies, walking wounded soldiers with bloody bandages would have occasioned no alarm, only envy at their release from the fighting.

One tunnel, now blocked off, was about 10 km long. The soldiers had dug only a few hundred metres before breaking into other tunnels dating from the Middle Ages, used at that time to link castles. One continued all the way to the abbey at Mont St Eloi, which was used as a major observation point.

Near the top of a stairway an Austrian 155 mm shell—a heavy projectile—still lies where it came to rest after punching through nearly 4.5 m of ground in 1917. It failed to explode because, as was found out much later, part of the firing mechanism was missing. The Canadians replaced it in its original position as a token of the havoc it would have wrought had it detonated.

The last corridor on the right proceeds in the direction of the village of Neuville St Vaast where, in 1917, Canadian guns were posted as well as major munitions stores.

Study of the tunnel walls shows that the tunnels were dug and trimmed largely by knives and bayonets; trenching tools may have been used to scrape away the chalk but there is nothing to indicate the use of picks or shovels. The sound of heavy tools might have been heard by the Germans. However, if they did not know of the existence of the tunnels, it was the only part of the Canadian–British preparations which remained secret from them.

In many mine craters and shell holes not accessible to the public I have found much more chalk than would normally be present from an explosion at that point. The chalk from the tunnels would have to be dumped somewhere close by and it seems likely that it was put into craters and holes. With the standards of aerial photography of the day the white would have shown up as water and would not have indicated extensive tunnelling.

Between World War I and World War II some of the tunnels were repaired and strengthened so that the public could visit them. The tunnel complex is one of the best preserved battlefield sites of World War I.

A detailed archaeological investigation of the Canadian tunnels has yet to be attempted, but even a casual walk through them gives insight into a good deal of military action and human activity. The tunnels are open to the public during the tourist season.

The American 'Lost Battalion'

American soldiers were not involved in fighting on the Western Front until 1918 and were never long enough in any one position to develop an accumulation of debris and discarded equipment which might now be studied. However, one position is worth research—that area of the Argonne Forest where the 'Lost Battalion' made its contribution to American military history.

On 2 October 1918 the 77th Division, attacking northward in the Argonne, met enemy resistance

and made little progress except in the zone of the 308th Infantry. Six companies of that regiment and parts of two companies of the 306th Machine-Gun Battalion, penetrated a small valley and established themselves just before dark on the northern slope of the ravine to the east of Charlevaux Mill. Late that evening a company of the 307th Infantry joined the advanced force in the ravine, bringing its strength to 700.

During the night the Germans surrounded these companies. The little force, holding a position about 800 metres ahead of the American front line, was ceaselessly attacked by infantry assault, machine-gun fire and artillery bombardment. On the second day food ran out and the only water lay in a muddy creek, exposed to enemy fire. Water was obtained, but at the cost of one casualty to each canteen.

Ammunition became scarce and the Americans salvaged rifles and ammunition from the German dead. Under Major Charles W. Whittlesey, the Americans kept up the unequal fight day and night and the number of their wounded mounted; the unit had three medical orderlies but no medical officer. All dressings and first-aid bandages were used up by the night of the 3rd.

Daylight of 4 October found the men tired, hungry and suffering from the cold during the night, especially the wounded. Even more enemy mortars opened up with steady fire. During the afternoon an American artillery barrage swept forward and settled down on Whittlesey's positions, causing more American casualties. The last carrier pigeon was released with a plea for Americans to stop shelling Americans.

At about 5.00 pm and again at 9.00 pm new German attacks were beaten off. During the afternoon of 5 October American aircraft tried to drop supplies, but all packages fell in the German lines. The Germans threw in attack after attack. Wounded Americans dragged themselves to the firing line and those who could not move loaded rifles for others.

The Germans, who had believed they could wipe out the isolated enemy unit penned into such a small area, sent a message with an American soldier they had captured. Whittlesey sent no reply and retrieved the white panels which had been put out as drop markers for friendly aircraft; he wanted no misunderstanding about a surrender.

The Germans now tried to swamp the American defences. They put down a heavy and sustained mortar bombardment and sprayed the Americans with flame-throwers. At this desperately critical point Whittlesey ordered a counter-attack. The survivors climbed out of their shelters, killed the Germans who were using the flame-throwers and beat off the attack.

At dusk on the 7th only two machine-guns of the original nine remained, with no trained gunners to man them. The next attack, Whittlesey told his men, would have to be made with bayonets. That night the Germans withdrew. Out of the 700 men who went into battle on the morning of 2 October only 194 were able to walk out of the position, and many of these were wounded.

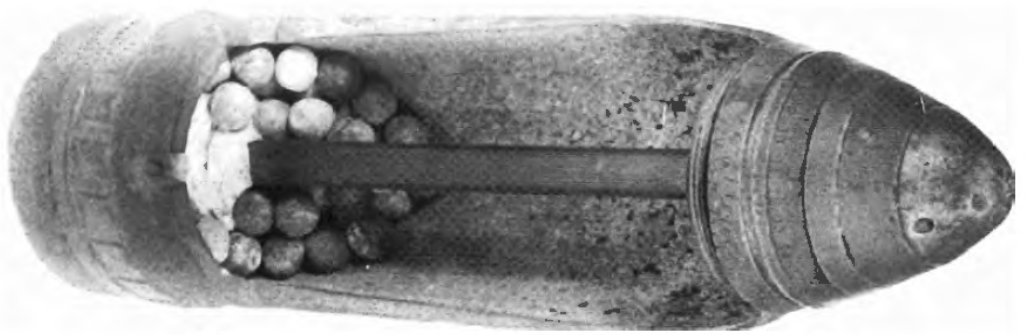
The site of the Lost Battalion's epic battle is fairly easily found, if we begin by assuming that the visitor is travelling by car from southeast of Ardeuil to the northeast of Binarville. Passing through Condy-les-Autry you come to a main road junction marked by a monument to the French 9th Cuirassier Regiment. Turn sharply left and descend a steep hill with a pond at the bottom. Cross the bridge over this pond and to the right is the ravine of the Lost Battalion.

Just beyond the first left bend in the road, at the small stone marked LOST BATTALION near the right edge of the road, stop and face to the right (that is, approximately south). The Lost Battalion's heroic defence was made on the steep bank just below where the visitor is standing. The position organised by Whittlesey was in the form of an elongated oval with an average width of 70 metres. The machine-gun battalions were, naturally, placed on the flanks and here spent rounds can be found.

Individual rifle pits used by men of the Lost Battalion can be located, though with patience and difficulty. With even more patience the battalion's perimeter can be traced from the position of cartridge cases and the signs of digging. The intensity of the enemy mortar- and shell-fire can be gauged by the thousands of pieces of shell shards and fuses found in the vicinity. By studying the ground it is possible to place Whittlesey's headquarters, the position of the aid post and the relatively sheltered spots into which the badly wounded were dragged. Forays into the woods around the site show where the German guns were situated. The course of the creek is evident and the places where the Americans filled their canteens, and were hit doing so, almost label themselves.

Nowhere else on the Western Front is a small-unit action so readily studied and understood as the place where the Lost Battalion made its undefeated stand. Despite supposition to the contrary, Major Whittlesey's unit became known as the Lost Battalion during the course of the battle, not afterwards. High Command had written off the 308th Infantry as wiped out and therefore 'lost'.

The AIF had no equivalent action on the Western Front, but there are four battlefields which can be studied in almost the same depth. These are the sites of the 5th Division's battle at Fromelles, 19–20 July 1916, the battle of Polygon Wood, Passchendaele, the two battles of Bullecourt and the battle of Hamel, 4 July 1918. Many more troops were involved in all three operations than the number of Americans under Whittlesey but the actions took place over relatively small pieces of territory, small enough to walk around within a few hours.

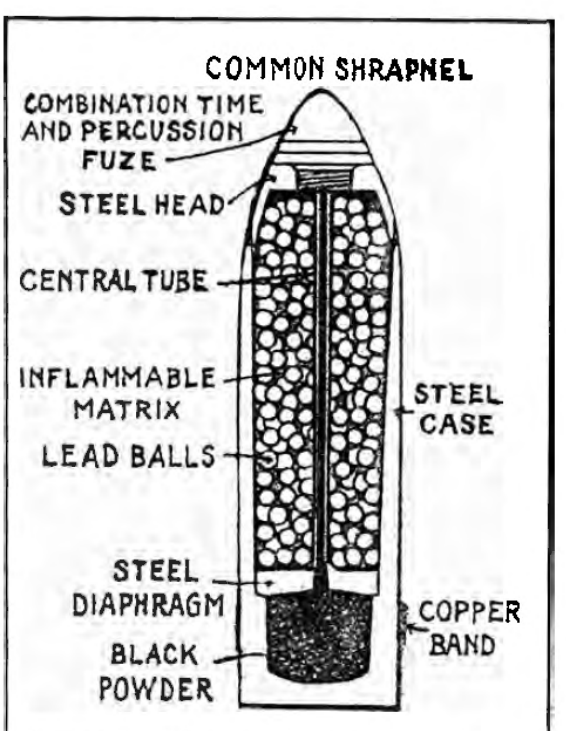


Ammunition

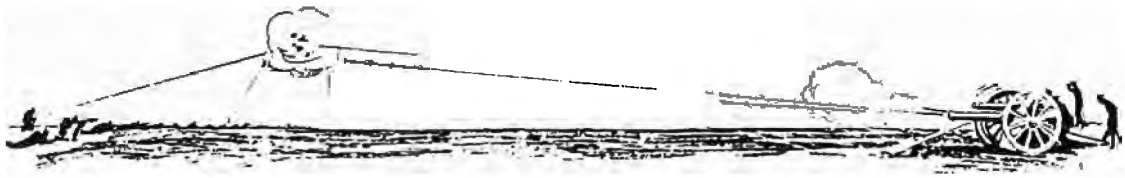
In common with some other military writers I become exasperated by the loose and inaccurate description of any piece of bursting bomb as shrapnel. Shrapnel consists of lead or steel balls—and nothing else. This is a British 18-pounder shrapnel shell of World War I, cut away to show some of the balls with which the shell was filled. The time fuse in the nose cap was generally set, by Australian gunners, to detonate the shell's charge 15 feet (roughly 5 metres) above the ground. At this point the shell was pointing towards the ground and the shrapnel rained down lethally on the enemy infantry. The mechanism worked like this:

- The detonator blew off the nose cone in one piece.
- Simultaneously, a spark was transmitted down the hollow central tube to ignite an explosive charge under a circular plate attached to the tube, in the base of the projectile.
- This explosive charge ejected the shrapnel with great force but did not break up the shell casing. Casualties were mostly caused by the spraying shrapnel balls, but occasionally by the heavy nose cone and by the falling shell case.

Above: I found this unexploded shell in the old German lines at Courcelette, just east of Pozières Ridge.

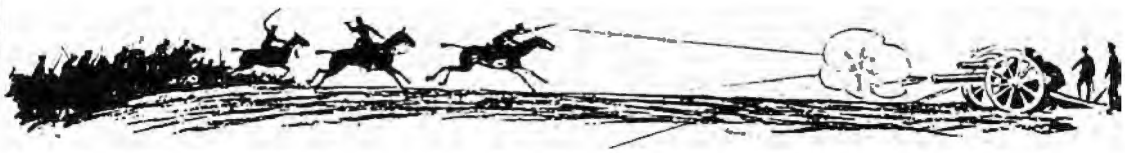


THE ACTION OF SHRAPNEL EXPLAINED IN DIAGRAM.



TIME FUSE SHRAPNEL.—The shell, fired from gun at right against entrenched infantry, bursts about 80 yards in front of the latter and about 15 feet above the ground. The short lines indicate the zone covered by the bullets.

PERCUSSION SHRAPNEL.—The shell, fired from gun at right against advancing infantry, bursts upon hitting the ground, throwing a shower of bullets at approaching men. It is also used against buildings, but is ineffective on soft ground.



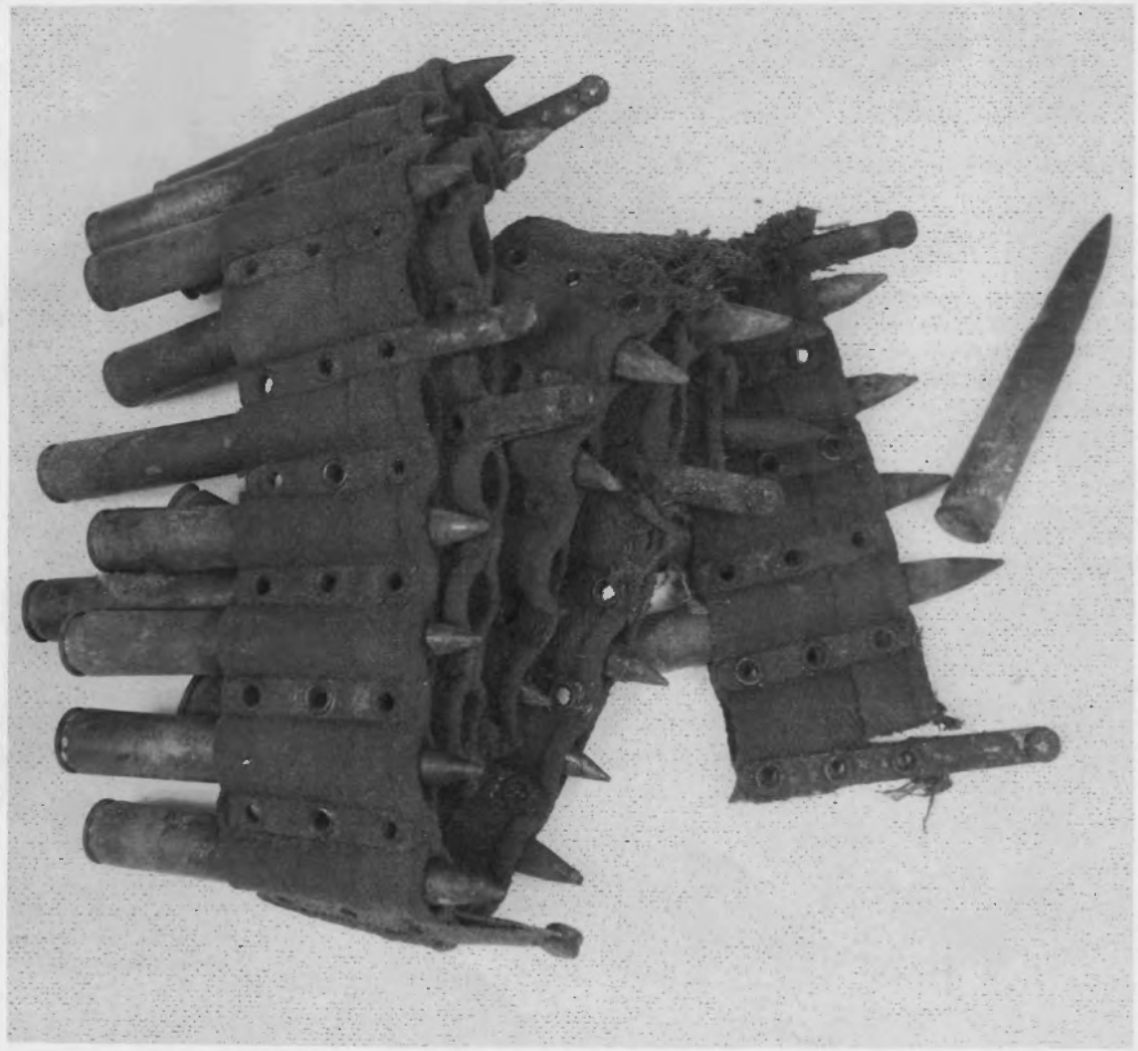
CASE (SHRAPNEL) SHOT.—Used at short range against cavalry. The shell bursts immediately after leaving the gun. At 200 yards range the lateral spread is 25 yards.

Below: Lee-Enfield .303 cartridges were packed in clips of five and two fitted into each of the pockets of a flexible lined bandolier. The soldier carried this around his neck or shoulder. This photograph shows two clips stuck together by mud and rust; traces of the bandolier's cloth still adheres to them. I found them in a trench at Flers, Somme, which was occupied by Australians in February–March 1917. Hundreds of thousands of rounds were lost in the mud right along the Western Front. Our small arms ammunition was so well made that, when thoroughly cleaned, rounds can still be fired today. I have several times done this in Flanders and elsewhere.

Below: The rusted remains of a Lewis gun magazine with 21 of the original 47 .303 bullets which it contained. The white substance is chalk into which the magazine had been forcibly driven, perhaps by an explosion. I dug this up at Hébuterne, which Australian infantry defended against the Germans in April 1918. Invented by an American in 1911, the Lewis was one of the most popular light machine-guns and much admired by the AIF. It was still in use with the second AIF in the early years of World War II.

Right: All that remains of a Lewis gun magazine, lying where it was found under a thin cover of soil on Hill 60, in the Ypres Salient of Flanders.

Below: Part of a belt of 7.92 mm ammunition for a German Maxim machine-gun. This belt was found in the wreckage of a house in the Poelcapelle–Passchendaele area of the Ypres Salient, where the Germans had set up a machine-gun post. Maxim belts held 58, 100 or 250 rounds and the gun had a rate of fire of 600 rounds a minute. It was not surprising that Maxims caused such heavy Allied casualties. This type of belt was used on all the German models of Maxim guns but few have survived the passage of years. The projection separating each five rounds is a 'guiding nose' to keep the belt in alignment. I have found boxes of these belts, with rounds, in the mud of Passchendaele where the Diggers operated.



Right: This is the base of a high explosive shell, a German 10 cm projectile. Unusually, some of the lyddite charge has not exploded, which is why this 5 kg chunk remains in a piece. It came out of the mud at Polygon Wood and was probably fired at Australians.

Below right: A type of British trench mortar bomb known to the Diggers and Tommies as the toffee apple, for obvious reasons. The bomb's stalk fitted down the barrel of the mortar and the bomb was fired out by an explosive charge in the base of the mortar barrel. It had a lobbing trajectory and was intended to drop almost vertically into the enemy trenches. It wobbled in flight, it was inaccurate and quite often when it exploded it merely split in two. All of those I have found did not burst into fragments. The toffee apple was filled with explosive through one of the holes, the other held the screw-in fuse. Dimensions: shaft 60 cm; ball head, 66 cm diameter; weight when full 22 kg.

Below: This interesting artefact, found in a British or Australian trench, is of some significance for military historians because the shell has two driving bands, a rarity. Two or more bands were used to give the projectile high initial velocity; that is, the shell would arrive at a target faster than one with one driving band. In this case it arrived *above* the target, the projectile being a German 13 cm shrapnel shell.

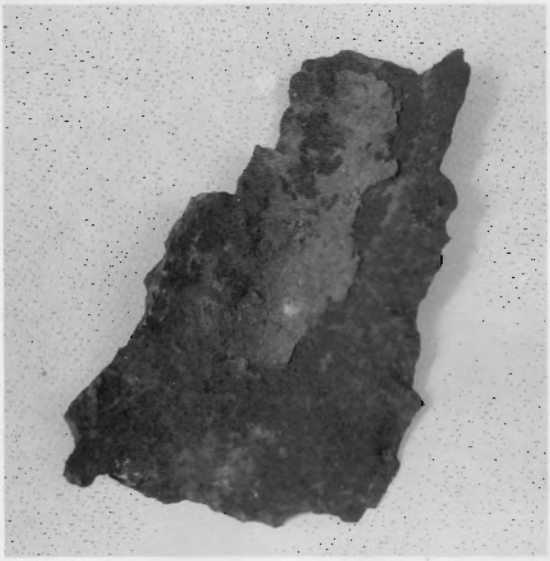
Above: A mixture of unexploded shells and empty shrapnel shell cases, most of them German, just after they had been taken out of a farm field at Courcelette, near Pozières. Hundreds of thousands of shells still lie under the surface of the ground for the entire length of the Western Front.

Below: A French trench mortar bomb photographed in 1984 lying exactly where it landed in 1916. It is the *Torpille à ailettes 58 No 1*, which had a hollow shaft and three fins. It was fired from an older type of mortar known as the *Appareil Duchêne*. Weighing 16 kg, it had a range of 350 m. On a now obscure part of the Western Front—but one known to the Diggers—this 'flying pig' is likely to lie undisturbed for another half-century or longer.

Above: Peasants gathering unfired French 75 mm shells after the Battle of the Marne in 1914. Their descendants are likely to be recovering World War I ammunition in 2014.

Below: Most unusually, this shrapnel shell did not eject all its shrapnel balls. It is also unusual for the casing to have broken. With the 800 or so balls ejected, most shrapnel shell cases fell to the ground intact. Note the thickness of the casing.

Below: A collection of shells and other battlefield relics in the home of an Ypres resident and collector.



Left: A piece of high explosive shell weighing 7 kg and measuring 32 cm × 18 cm across the broadest part. Tens of millions of chunks of metal such as this, almost redhot from the passage of the shell up the gun barrel and then from the explosion, hurtled around the battlefield. A slab such as this could decapitate, disembowel, take off a limb or simply smash a man to pulp. This piece, from a German gun, was found at Verdun.

Below: The French farmer on the right found these live shells on his property in 1988 on the Lille sector of the Western Front and duly reported them to the police. The largest ones are German 15 cm shrapnel shells. Such a find is too commonplace to cause the hysterical alarm raised in Britain or Australia when only a single grenade is found. The French Army's bomb disposal squad is rarely in a hurry to deal with such shells but in due course they will be blown up or dumped at sea. These shells were never fired from a gun; they could have been buried by great gouts of earth flung up by shellbursts or simply 'lost' in the ebb and flow of battle.

5 The Practice of War Archaeology

Australians who wish to look for war relics are no doubt handicapped by their distance from battlefields but this should not deter them. A young army officer, one of a group of officers who accompanied me on a study tour of the Australian battlefields, carried back to Australia, by plane, a weight of metal, including two rusty rifles, that I could not lift from the ground. Many other Australians whom I have guided around AIF battlefields have taken home smaller artefacts, such as shrapnel balls, defused and emptied grenades, pieces of equipment and cartridge cases.

The weight that can be carried as aircraft luggage is limited but souvenirs can be packaged and posted surface mail. On display at the Royal Military College, Duntroon, is a battered rifle which I found in the field at Pozières and sent back to Canberra. A good many Australians have found relics at Gallipoli and carried them home in backpacks. There is no reason to assume that distance and weight are insurmountable obstacles.

In 1956 I made my base in Britain, from where I can easily drive to the Western Front and, with rather more time and effort, to Gallipoli. On the return trip my VW campervan is often heavily laden with relics. After an expedition to Gallipoli I returned with a third of a ton of metal in the form of twisted rifles, shells (empty of explosives of course), steel trench supports and other artefacts, together with a heavy pack of pebbles and stones from Anzac Cove.

On other trips I have found war artefacts in Libya, Egypt, the Sinai Desert, the Jordan Valley, New Guinea and New Britain. Many of them, for one reason or another, I have had to leave behind. I had no option but to abandon the Matilda tank which I found in drifting sand south of Benghazi, Libya, and the wheel-less truck used by the Long Range Desert Group and left at Kufra Oasis. Customs officials at Tripoli airport, Libya, would not permit me to take out of the country a German Afrika Korps steel helmet. Libya demands that all the nations which sent armies to Libya during World War II must pay vast reparations and until that happens, no souvenirs. Officials in other countries have been more obliging.

Practical matters relating to war archaeology are discussed in this chapter.

The archaeologist's tools

A conventional garden spade, a small trowel and a single-hand garden fork are all handy. The most useful tool is a probe; mine is a stair rod 76 cm long and fitted with a wooden handle. A metal detector is helpful but many *départements* (local government areas) in France have made them illegal. In any case they should not be used on public land in France and Belgium. Many farmers will permit their use after harvest and their permission should be sought. A sophisticated metal detector which gives an idea of the size of a find is preferable. One which finds objects at great depths is pointless because digging a large hole in clay or stone-impregnated earth takes a long time. Most things worth finding and keeping will be within 45 cm of the surface; many objects are covered by nothing more than heavy leaf mould. Every archaeologist needs a stout bag (an old army kit-bag is ideal) for carrying his finds. Each find should at once be labelled with the position of the

find, the date and a tentative identification. I put each item into a separate plastic bag together with a luggage label on which I write my notes.

Finding human remains

Pieces of human bone are commonplace finds. This is not surprising as hundreds of thousands of soldiers 'disappeared' on the battlefields; they were either blown to pieces, drowned in the mud or buried alive by shellbursts. I have never kept bones, other than two teeth and a finger bone which are the subject of a poem in this book. However, finding a skeleton does place an obligation on the finder, whether he is making a road, preparing the foundations for a house, ploughing a field or digging as an archaeologist. The find should be reported to the police. In battlefield areas the overwhelming probability is that the remains are those of a soldier. However, the police and other authorities need to be certain that the body is not that of a civil murder victim. If the remains are conclusively those of a soldier they will be buried in a military cemetery corresponding to the nationality. Soldiers' remains can now rarely be identified by name so they are interred as those of an 'unknown soldier'. Many bones can be quickly identified as those of an animal, usually a horse; tens of thousands of horses were killed by shell-fire or bullets during World War I.

Preserving archaeological relics

Most wartime relics dug from the battlefields are affected by rust and need to be cleaned by washing and careful brushing. After drying they can be thinly coated with oil or with a rustproof solution. Apart from cleaning off the worst of the clay I do not treat my finds; I prefer to display them as they came out of the ground. I find them more evocative and suggestive of the battlefield in this condition. This is a subjective attitude and most continental archaeologists of my acquaintance do apply preservative to their finds. The curators of local museums are the best people to give advice.

Cautions

Always get permission to search and dig; if possible ask for written permission.

When you come across a shell with its fuse (the nose cone) intact leave it alone. It is dangerous to handle and very dangerous to try to detach the fuse. Even experts have fatal accidents. In the spring of 1986 four highly trained members of the Belgian Army's bomb disposal group were killed when a World War I gas shell they were handling exploded. In northern France during the same season a French farmer and his son were killed when their plough unearthed and exploded a gas shell. Several French and Belgians known to me personally have been killed; some of them considered themselves experts in handling explosives.

Do not apply heat to a shell. This warning is not as unnecessary as it might appear. In Ieper, Belgium, a few years ago two young garage mechanics found a shell which they decided to make safe by detaching the nose cone and emptying the explosive powder from the case. The nose was stuck and would not unscrew, but the two young men had been taught that metal expands when it is hot and they reasoned, apparently, that if they heated the nose it would come away from the casing of the shell. They used a blowtorch. What was left of their bodies was washed from the roof and walls of their workshop.

Wear strong boots and stout trousers; barbed wire and broken metal stakes which were used to support the wire abound and can cause injury. Walk cautiously in long grass and scrub.

Before working on battlefields have a tetanus injection. Wear gloves when groping in the soil. Never touch bones without wearing gloves as they can cause infection through scratches and cuts.

Do not crawl into tunnels. All are narrow, they could collapse and it is easy to become stuck in them; some run for miles.

Do not pick up British Mills bombs, otherwise known as HE (high explosive) No. 36 grenades. They have a long life and while they can be defused

it is a job for an expert. The German stick grenade, the *Stielgranate 24*, rusts fairly quickly and the explosive charge, generally of black powder, is likely to have been washed out. If so, it is safe to handle. However, the egg-shaped grenade, the *Eiergranate 39*, should be left alone. French grenades are mostly egg-shaped, but some are small and bottle-shaped and one at least, the *Grenade Lafitte* of World War II, is cylindrical. They should all be regarded as unstable and therefore not to be touched.

This also applies to detonators, though they turn up only rarely. If from a grenade, they are small cylindrical objects no more than about 2 cm in length. Certain types of detonators from shells are rectangular in shape, about 5 cm long with a V-shaped end and a short cylindrical projection on one side.

There are a great many perfectly safe artefacts to be found without running risks with explosive objects.

When to Explore

The best time for the archaeologist is in spring or September. I prefer September because the winter ploughing takes place then and interesting war artefacts are more likely to come to the surface. During both these periods the outlines of trenches can often be spotted. High summer is a difficult time for digging because farmers do not want searchers in their crops, the woods are thick with bracken, fern, nettles and vines, and the ground is often very hard.

French and Flemish flea markets

During spring, summer and autumn junk markets are held in most French and Belgian towns, even quite small ones. Some are enormous occasions. The largest flea market in Europe takes place in Lille, France, during the last weekend of August, and stretches for an amazing 60 kilometres. At Arras I have counted six hundred stalls; at Aire-sur-Lys, northern France, the stalls line four streets for a total distance of more than two kilometres. In Ghent a huge square is taken over by hundreds of stalls. Many stallholders sell souvenirs and relics from both world wars as well as military surplus from more recent times. Dates are uncertain and cannot be given here but it is always worth enquiring at the local tourist office about flea markets in the district. Most take place on a Saturday or Sunday but many are on weekdays. Items likely to be found are medals, badges, shell cases, bayonets, rifles and 'trench art'—souvenirs such as ashtrays, money boxes and ornamental shell cases fashioned by soldiers at the front. Pieces of uniform and equipment are commonplace and occasionally military statuettes and models. Sometimes the objects for sale are in 'relic' condition but they are all the more interesting for that.

Identifying artefacts

The many photographs in this book will help novice archaeologists to identify objects they might discover on the battlefields or in flea markets. Two other books are recommended. They are:
Bayonets of the World (4 volumes) by Paul Kiesling, Military Collectors' Service, Lindedijk 29, Kedichem, post Arkel, Holland. A bayonet specialist, Kiesling illustrates about 700 bayonets. The books are available through specialist military booksellers. Bayonets are probably the most frequently found objects from all wars.
The Military .303 Cartridge: Its History and Variations, by Lynn H. Harris. The book is available from the author, PO Box 2276, Wellington, New Zealand. Cartridges fascinate some collectors because the head-stamp, on the base of the cartridge, gives details of year of manufacture, the name of the maker and other details.

When you are unable to identify an object from a reference book, send a photograph or drawing to the Australian War Memorial, Canberra, or to the Imperial War Museum, Lambeth Road, London SE1. If the object is flat and carries any kind of inscription, engraving or impressing send a rubbing as well. Curators of small museums are

generally obliging and may be able to help. I too am willing to help any reader to identify war souvenirs.

Other Areas of Australian Military Service

I have concentrated in the field—and in this book—on the Western Front and Gallipoli because other places where Australian served do not so readily lend themselves to archaeological search. In one war or another Australians saw active service in the Sinai Desert, Palestine (before it became Israel), South Africa (during the war of 1899–1902), Syria, Lebanon, Greece, Crete, Timor, Papua–New Guinea and the Pacific islands, Malaya and Singapore, Korea, Vietnam. Also, Australian prisoners of war were in Thailand and Borneo and other places in Southeast Asia. In addition, AIF men were stationed in many countries, though not on active service; for instance, large numbers of Australians trained in Britain during World War I and some 7th Division troops were there in 1940–41. RAAF men trained in Canada in large numbers.

Over a long period I have visited most of the places mentioned, following in the steps of Australian servicemen and women, but so long after the various wars the effort and expense to find objects of historical interest have not been repaid. While it is always intensely interesting to study particular areas of service and actual combat, it is disappointing not to take away some small momento.

My trip to Papua–New Guinea in 1953, ten years after my own service there, yielded some interesting photographs but little in the way of artefacts. My journeys into the Sinai Desert and along the Jordan Valley in the steps of the Australian Light Horse have been immensely satisfying but artefacts are scarce. This is not surprising. In the years since 1918 several other wars have raged over these arid lands, wiping away virtually all traces of the Australian presence. This applies to the parts of Syria and Lebanon where the second AIF fought a campaign in the summer of 1941. In any case, in this part of the world everything has a use or a value and nothing remains unscavenged. Even the few memorials that the Australian soldiers left there have been destroyed or defaced, though a railway bridge built over Dog River, Lebanon, by AIF engineers in 1941 remains in use.

The only AIF formation in Greece was the 6th Division and after a gallant stand in the mountains it, together with the rest of the British and New Zealand defenders, was forced to retreat to the coast and to continue the war from Crete. This too was a hopeless campaign, and evacuation followed, with many Australians being left behind. Large amounts of equipment and stores could not be saved and the all-conquering Germans collected most of it for shipment back to Germany. Anything they missed was grabbed and secreted by Greek and Cretan partisans. In Crete particularly, Lithgow-made .303 Lee Enfield rifles are still treasured by some hill families. They haven't the slightest intention of returning them to the rightful owners.

Throughout their service since 1900, Australian troops were never in one place for long, other than on the Western Front between April 1916 and November 1918, and at Gallipoli, April 1915 to January 1916. These were also the only campaigning areas where they were in fixed trenches for any length of time. Elsewhere they left little behind for the war archaeologist.

The most important reminders of Australian service are Australian bodies in the war cemeteries.

Archaeology in Practice

Right: In the summer of 1984 human bones were uncovered in the grounds of Camping Ypra, Kemmel, Flanders. The area had been in British and French hands for much of the 1914–18 period and thus was heavily shelled by the Germans. In April 1918 the Germans broke through and much close-quarter fighting took place.

The Belgian police asked me to study the remains and the few items of clothing with them to see if they could be identified as those of a soldier. Under French and Belgian law the authorities must establish that human remains on battle areas are not the result of a more recent civil crime. The rotting boots with the bones were British army issue of World War I, as were a small part of the braces which remained, but any Flemish peasant could have been wearing such boots and braces.

The victim did not appear to have been hit by a shell; if so his bones would have been smashed and some would be missing. Our man's bones were virtually complete. On examination I found a hole through the hip joint; see top right of photograph. While bullets often smash bone untidily they sometimes penetrate it cleanly. My judgment was that the remains were those of a British soldier who had been hit by at least one bullet. He was found where he could not possibly have been hit by a German bullet before April 1918—the distance was far too great—so it is likely that he was a casualty of the German 1918 push. The heel plates and the method of manufacture show these boots to have been made for the British Army.

Below: Various items of equipment turned up from a single exploratory hole at Longueval, Somme. In the photograph are a steel helmet, two British waterbottles less their felt covering, a shovel, three shell nose cones (fuses), an 18-pounder shrapnel shell case, a French gas mask container, portion of a boot, various pieces of metal and an unidentifiable black object.

Left: Motorways and other roads being built through old battlefields are fruitful places for the war explorer. The driver in this photograph was tearing down trees and scrub and levelling earth for a motorway near St Quentin, France. He uncovered several large-calibre shells in a dangerous condition. Working in his wake, I found shell fragments, the finned tail of a large German mortar shell, a twisted French rifle, a British waterbottle, numerous grenades, and 30 smaller objects. Unfortunately the over enthusiastic driver destroyed a dugout that would have been interesting to study.

Below left: Turkish historians say that Australians dug this tunnel, which is at a spot known as Johnson's Jolly in the hills above Anzac Cove. Their purpose was to explode a mine under the Turks and then to attack them while they were demoralised. I do not know if this is true, however when I crawled through the tunnel I found a number of small artefacts, including a few .303 rounds. The tunnel might have shrunk since 1915 but pick and shovel marks can be seen. As I came out of the tunnel with a metal detector I found the remains of some Australian waterbottles.

Below: I am winkling a twisted rifle from Polygon Wood in the Ypres Salient, in September 1917 one of the most dangerous places for Australian soldiers.

Above: Examining British and German shells at the request of French bomb disposal specialists. The shells were uncovered close to the AIF 1st Division memorial on Pozières Ridge.

Below left: Uncovering a German pineapple grenade and a piece of uniform equipment on the battlefield of Broodseinde, near Passchendaele. The grenade was found with a home-made probe and I washed it to make it stand out in the photograph.

Below: A Stokes mortar bomb on the Villers Bretonneux battlefield. This type of bomb was effective but large numbers of them failed to explode. The AIF battalions had Stokes mortar detachments.

Left: In October 1983 the remains of three Cameron Highlanders of the British Army were found by workmen digging foundations for electricity pylons at Deerlijk, east of Ypres. As is always the case, experts were called in to identify the remains, as far as possible. First on the scene was a Belgian expert who saw at once that the men's equipment was British or British Empire. He also found spent British .303 inch bullets among the bones and pieces of equipment. He suspected that the men, who lay side by side, might have been the victims of a military execution; the absence of their rifles appeared to support this view.

I found much evidence against it. British troops were nowhere near Deerlijk until October 1918, when the Allied breakthrough commenced. With the war going well for the first time in four years it was unlikely that the men would desert or show cowardice in the face of the enemy and therefore be executed. In any case, excutions were carried out in rear areas. At no time were three men executed at the same time and place. In 1918 the British Army executed 44 of its men in France and Belgium—34 for desertion, one for quitting his post and nine for murder. The Cameron Highlanders had certainly not had three men executed for a capital crime.

In the Commonwealth War Graves Cemetery at Vichte, near Deerlijk, I found the graves of other Cameron Highlanders. I also learnt that parts of the battalion had fought in action here. I am certain that the three unidentified Scots were accidentally killed by their own unit or by other British troops when they somehow strayed too far forward. They may have been on a scouting mission or were pushed forward to attack an enemy post. During the war thousands of soldiers were accidentally killed by their own side and these three are among the victims. Nothing was found to identify them and I think it very likely that whoever killed them removed their identity discs to cover up what may have been gross military negligence. The men's remains are buried in Cement House Cemetery, Ypres Salient, as 'unknowns'.

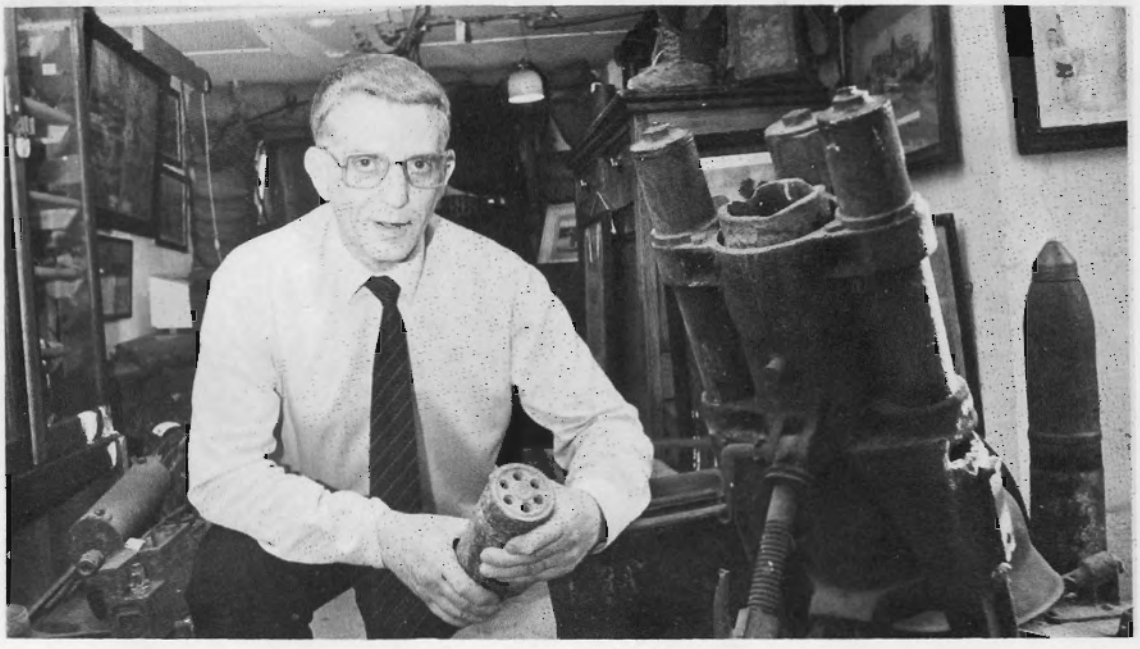
The photographs were taken by a Belgian who was on the spot when the men's remains were uncovered. (a) A large part of the scene. (b) Steel helmet, skull, leather belt, bones and other remains. (c) A lower jaw and teeth with other remains too difficult to identify. (d) A British waterbottle with its distinctive blue enamelling and traces of felt covering, and British army boots. (e) A second waterbottle with its felt covering largely intact and near it a leather belt.

Right: In a deep shellhole near Le Mort Homme, Verdun, I found a British bayonet, complete with the wooden part of its hilt. Its presence here is a mystery as no British troops fought at this place; I have never found British cartridges anywhere near Verdun. Just in front of me is a screw-in picket, one of scores of thousands used as part of the barbed wire defences at Verdun.

Above: A German shell—identified by the type of driving band (the copper ring just above the base)—is extracted from the side of an old trench on the left (northern) front of the Verdun sector. My probing fingers had already told me that the fuse nose-cap was absent and therefore the shell was safe to move. I also recognised the piece as the casing of a shrapnel shell, not a high explosive shell. Without its fuse it was, therefore, almost certainly empty of its shrapnel balls and full of mud. This one contained a few shrapnel balls.

Above: Feeling under a demolished German blockhouse I found a British grenade, a Mills bomb. It had no striker lever so I assumed that it had been thrown during action. Having thrown many hundreds of these bombs myself I judged that it was safe to handle and so it proved. In fact, the soldier who threw it had forgotten to insert the fused detonator. A confession: I had already found the bomb, washed it and then returned it to its hiding place for the sake of a clear photograph. Grenades are better left alone.

Below and right: André Coilliot of Arras with part of his massive collection of battlefield artefacts; it is probably the finest private war museum in France. Mr Coilliot, who grew up in Arras on the 1914–18 and 1940 battlefield, profoundly admires the soldiers of the old British Empire. On his own initiative and largely at his own expense, he erects plaques to commemorate wartime actions in his district. In 1990 he erected a roadside memorial to an Australian bomber crew shot down in his district.

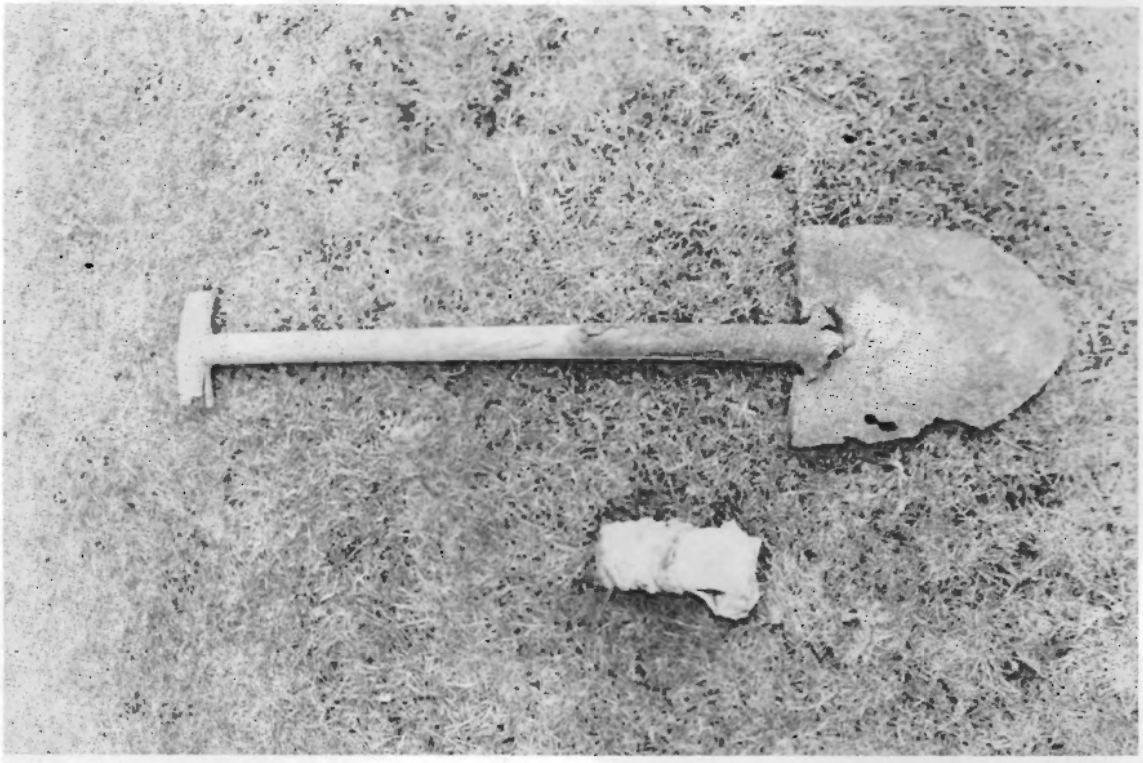


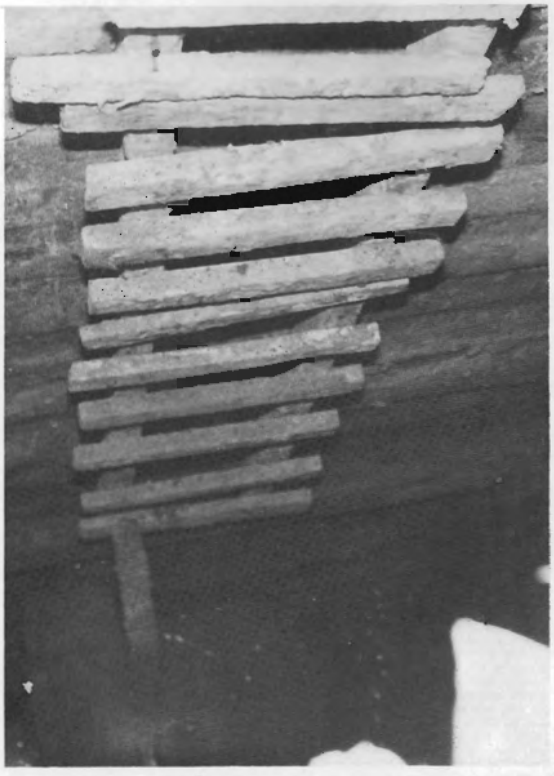

AUSTRALIAN
AIR FORCE
PER ARDUA AD
ASTRA
LE 22 JUIN 1944
UN BOMBARDIER HALIFAX
DU 466TH SQUADRON
DE LA R. A. A. F.
S'ECRASANT EN CE LIEU
A LA MEMOIRE DES 6 AVIATEURS
F/O N.E. BOWMAN AGE 27
W/O T. HARRISON AGE 27
W/O C.A. JONES AGE 29
S/L J.F.MC MULLAN AGE 22
P/O M.B. PARKER AGE 27
W/O H.W. SEDGWICK AGE 22
TUES DANS L'EXPLOSION
DE LEUR APPAREIL
PASSANT SOUVIENS-TOI !
LE SOUVENIR FRANCAIS
COMITE D'ARRAS ET ENVIRONS
MAI 1989

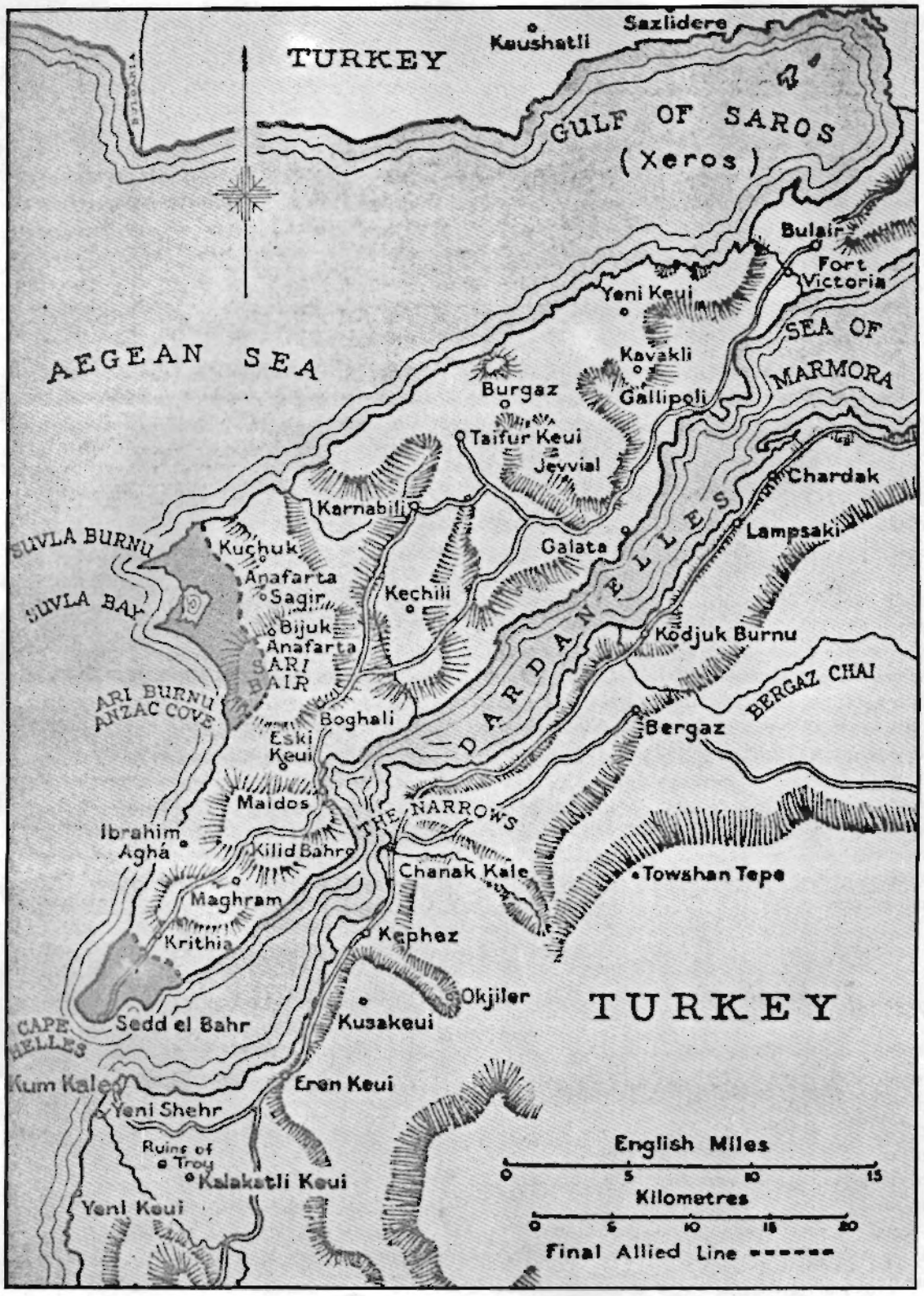
Above: A sidelight on battlefield archaeology: This is the only grave marker in the world adorned with two representations of the Victoria Cross. It is the burial place of Captain Noel Chevasse of the Royal Army Medical Corps in Brandhoek Cemetery, near Poperinge in the Ypres Salient. Only three men have twice won the VC. The other two are Lieutenant A. Martin Leake, also of the RAMC, who was awarded a VC during the South African War of 1899–1902 and another in World War I; and Captain Charles Upham, a New Zealand infantry officer, who won both his awards during World War II. Captain Chevasse's first VC was awarded for gallantry on the Somme, the second during the Flanders battle of 1917, when he was killed in action.

Above right: All dead soldiers were first buried with a wooden cross of some kind, depending on what timber was available. World War I wooden crosses are now extremely rare. This marker—for a soldier of 10th Company, Canadian Machine Gun Corps—is the only one I have seen embellished with the Masonic square and compasses. I found it in a barn well behind the old Vimy Ridge front line. Corporal Norval Douglas Stapley now has the standard marble headstone in Villers Station Cemetery, Villers Au Bois, 11 km northwest of Arras. The son of Thomas W. Stapley and husband of Eve Stapley of Waterdown, Ontario, he enlisted in August 1915. The finely made cross indicates that his mates held him in high esteem.

Right: In January 1983 workmen employed by a large brickworks at Zonnebeke, Ypres, were scooping up clay with a bulldozer when they hit heavy posts sunk upright in the ground. Investigation led to the discovery of part of a trench system. Some experts consider that it is part of the Germans' Bremen Redoubt system but others think that it could have been dug and developed by British or Empire troops. The area was in German hands before it passed to the British and Australians in the latter half of 1917. The portion of the works that remains is about 6 metres deep and the right-angled arms of the system are each about 10 metres in length. The galleries are 2 metres high and about as broad, lined with massive pieces of timber. The redoubt is a major war archaeology find and its construction and fittings have been carefully studied. I found a spade intact in one of the galleries and a short piece of ventilation tubing. The Belgian battlefield archaeologist Tony de Bruyne is seen near an exposed entrance to the position. During the war the soldiers entered down a laddered shaft.






TURKEY
Kaushatli
Sazlidere
GULF OF SAROS
(Xeros)
Bulair
Fort Victoria
Yeni Keui
SEA OF MARMORA
AEGEAN SEA
Kavakli
Gallipoli
Burgaz
Taifur Keui
Jevvial
Chardak
Karnabili
Lampsaki
SUVLA BURNU
Kuchuk Anafarta
Galata
SUVLA BAY
Sagir
Kechili
DARDANELLES
Bijuk Anafarta
Kodjuk Burnu
SARI BAIR
BERGAZ CHAI
ARI BURNU
ANZAC COVE
Boghali
Eski Keui
Bergaz
Maidos
THE NARROWS
Ibrahim Aghá
Kilid Bahr
Chanak Kale
Towshan Tepe
Maghram
Krithia
Kephez
Okjiler
TURKEY
CAPE HELLES
Sedd el Bahr
Kusakeui
Kum Kale
Eren Keui
Yeni Shehr
Ruins of Troy
Kalakatli Keui
Yeni Keui
English Miles
0 5 10 15
Kilometres
0 5 10 15 20
Final Allied Line

6 Battlefields in their 'Natural' State

In the whole of Europe only two great battlefields of World War I remain virtually in their end-of-conflict condition, without attempts having been made to turn them into parkland. Small places of battle exist in their 'original' state as at Hill 60, Flanders, but they can be walked over in a few minutes and modern homes are just across the road.

Gallipoli and Verdun-Argonne are different because they still contain the echoes of war. They have their scattered memorials, museums and cemeteries and the ground has not been put to pastoral or agricultural use. Indeed, this would be impossible in the harsh terrain of Gallipoli and difficult in most of the Verdun arena. Nine French villages were obliterated by shellfire at Verdun; not one was rebuilt. A village name sign was erected for each one after the war and on it appears the inscription *Mort pour la France* (Died for France); the same epitaph adorns the grave of every French soldier killed in war. These two battlefields are important search areas.

Verdun

Verdun was the greatest battle of attrition in history and is famous for the French soldier's pledge of *Ils ne passeront pas!* (They shall not pass!). The vast fortress area had a front of 13 kilometres and crowned the heights above the city of Verdun on the Meuse.

More than 400 000 Frenchmen and nearly as many Germans died on these battlefields; many hundreds of thousands were wounded. Four routes starting from Verdun lead to the most famous battle areas: right bank of the Meuse and the forts of Tavannes, Vaux, Souville and Douaument; left bank of the Meuse, Cumières, Mort Homme, Hill 304 and 'the Sacred Way'—the road along which the French soldiers marched to the inferno; Montfaucon, Romagne, Vauquois, Varennes, Argonne Forest, Haute Chevauchée and the Biesme valley; Tranchée de Calonne, Eparges Ridge and the Woevre Plain.

In addition to the main routes there are some 'strategic roads' which may only be used by car when the visitor has a permit issued by the local engineers' department; inquiries should be made at the *Hôtel de ville* (or town hall). These roads are shown on the Michelin Map (3.15 miles to the inch) Sheets 56 and 57.

When the Germans began the main battle for Verdun on 21 February 1916 their object was to concentrate masses of artillery and cut by shellfire the only broad-gauge railway into Verdun, crush the French defences and rush into the town with overwhelming masses of troops. The battle was one of mutual annihilation. The tactic was to concentrate the fire of all the guns, not over a front line but over a zone; not only on the position to be captured but also on everything that could support the position as far as possible to the rear. While shells continued to fall like a gigantic hammer, no party carrying food or munitions could survive for as far as 300 metres; they were wiped out to a man. In the deep medical posts men went mad from lack of air caused by the continuous blasts above. The only water was often rainwater.

The shelled zone was usually bounded by a narrow piece of ground which the gunners of both sides left alone because here their infantry fought

hand-to-hand with bombs, bayonets and flame-throwers. The French say that on one day a battalion commander, with his survivors cut off, sent twenty runners one after another to his brigade headquarters, asking for relief. The runners were bound to follow a certain track outwards and another on the return. Nobody returned and the next day the officer found the bodies of all twenty men, ten on the outward path, ten on the way back.

After five months of incessant conflict on a twisted front of 40 km the Verdun battlefield was a ghastly confusion of millions of shell holes, many great craters, torn down and tangled forests, wrecked villages and rubble. After the pulverising shellfire only the outlines of the massive and powerfully-built forts were visible from the air.

Even though Verdun had withstood the siege, bitter fighting raged on until the middle of August, chiefly around the Thiaumont redoubt, which changed hands sixteen times. Fleury village, recaptured on 18 August after many attempts, was another place of continual fighting, as were the woods south of Vaux where the Germans tried to outflank Souville. These woods are a fertile field for the modern archaeologist.

The first French counter-offensive began on 24 October 1916. In thick fog the French took Haudromont quarries, Thiaumont redoubt and farm, Douaumont fort and village, the northern edge of Cailette Wood right up to Vaux pond, the edge of Fumin Wood and Damloup battery. All these areas are worth exploring.

A new French attack was made on 15 December. Several objectives were taken, including Vacherauville and the enemy positions before Louvemont. The woods and ravines in front of Douaumont took longer to capture and Vauche Wood was carried with bayonet attacks. In July the Germans had been within a few hundred metres of Fort Souville; now they were nearly five kilometres from it. Every metre of the five kilometres was a fighting area and repays exploring today.

The Germans still held Hill 304 and Mort Homme, where the troops were housed in deep tunnels and well-connected positions. On 20 August 1917 the French launched an offensive to recapture these strategic positions. At the end of that attack the Germans held only the advance line of the original French position where, during the first two days of the battle in February 1916, the garrison divisions had died to a man.

From 21 February 1916 to 1 February 1917 the Germans used 56½ divisions (567 battalions) at Verdun. Of these 56½ divisions, six appeared successively on both banks of the Meuse, eight others were engaged twice and six three times. By their own reckoning the Germans used nearly 1 800 000 men in the attacks on Verdun.

During September–October 1918 the French and Americans, often in joint actions, went on the offensive and much fighting took place in the Saint-Mihiel Salient, south of Verdun, and in the Argonne Forest to the north.

During the 'battle of the execution place' (February–July 1916) 70 of the 96 French divisions which then existed fought at Verdun. The Germans fired more than 22 million shells into the salient and the French responded with more than 15 million. Some estimates put the total at more than 40 million.

This wilderness of war contains more relics of combat than any other battlefield in the world. Many of them are live shells and should be left alone. However, countless other objects are to be found and the French have made the search easier by running long public paths through the woods which have grown up out of the shell holes, craters and trenches. Some of these walks take up to three hours of non-stop walking but it is easy enough to get off them to search the woods. Many relics such as waterbottles, helmets, fuses and shell shards lie under leaf mould or a few inches of soil.

It is easy to become lost in the woods, hence the need for a map of the locality. In 1978, near Hill 304, I came across three Americans who had been lost overnight. They were less than a quarter of a mile from a track but had not recognised it as such. They had stumbled into one shell hole after another during the night and they confessed to having been frightened in the darkness. 'If we feel like this after 24 hours of total silence,' one of them said soberly, 'what was it like during the hell of 1916?'

Forts Douaumont and Vaux can be studied in detail as most of the battlefield has been left churned and tormented as it was in 1916. Visitors are free to wander almost anywhere, though some areas are still marked as dangerous. Apprentice archaeologists should spend some hours tramping through the desolate wilderness. Crouching in a shell hole it is easy to imagine the fear of men under

the incessant, murderous barrage. There is a smell of death about parts of the Verdun battlefield that has long since left other World War I fighting areas.

Battlefield memorials abound. Students of war should not miss the famous—or infamous—Tranchée des Baionettes at Douaumont where, under a concrete canopy, bent and rusty bayonets emerge from a trench where 47 soldiers of the 137th Infantry were buried by earth showered on them by shellbursts. They were not discovered until 1919. The forty who were identified were buried in a cemetery, the others are forever entombed in their trench.

The French do not see the Verdun battlefield as a place for fun and games, and while they have established picnic places along the little-used roads, they expect visitors to be respectful and quiet. Overnight camping is forbidden and at dusk a police patrol visits all the places which might appeal to foreigners as a camping or caravanning spot. However, police and rangers do not appear to be bothered by serious archaeologists exploring shell holes well away from the paths. It is certainly not necessary here to report the discovery of bones; they are commonplace, despite the fact that a great mass of human bones was cleared from the battlefield years ago and deposited in the ossuary at Douaumont.

Gallipoli

The Gallipoli peninsula of Turkey, about 67 km long and 20 km across at its widest point, has a spiny backbone rising to a peak of about 300 metres. Largely barren or scrub-clad, it is fiercely hot and stifling in summer and bitterly cold in winter, with a tortuous terrain of razorbacked ridges and deep ravines, especially on its Aegean Sea side.

Most of the fighting, which began on 25 April 1915 and ended in January 1916, took place in three small areas: the Cape Helles sector at the southern tip, the Anzac sector between Gapa Tepe and Ari Burnu about 16 km up the coast, and the Suvla Bay sector a few kilometres further on. The Suvla Bay actions did not commence until August 1915.*

Tactically, it needs to be understood that the Turkish defenders held the high ground throughout the campaign and could therefore readily resist all attempts by the British Empire troops to break out of their small and dearly-won landing areas.

At Anzac in particular the Australians and New Zealanders were under incessant strain. Any movement by day was difficult because many Turkish snipers dominated the lower Anzac lines. Overall, the respective front lines were so interlocked that each side held the other tightly in check. The loss of one position put the whole defence system of either side in danger, hence the ferocious fighting to hold ground. At Anzac there was no such thing as a tactical withdrawal to hold ground, as there was on the Western Front. To withdraw here was to fall over the brink of a precipice. By digging short trenches forward and then joining their heads, the Australians created a new front line even closer to the Turks.

Along the narrow ridge which formed the front line, at places which became famous in Australian military history as Quinn's Post, Courtney's Post and Steele's Post, the Turks and Australians were in places only 5 metres apart. At this intimate distance the tension was unbearable for a rush could swamp an opposing trench. Any man foolhardy enough to stand up for a quick look was instantly shot dead. The Turks could easily lob grenades but the Australians could not move out of range because no other defensible position existed.

So great was the strain at Quinn's Post that the garrison was relieved every 48 hours. The word 'post' on the Western Front might indicate a place held by a section of ten men or a platoon of thirty. Courtney's, Quinn's and Steele's were mostly held by two companies each, perhaps two hundred men, so great was the Turkish threat. They found space and protection by digging into the cliff face or piling up sandbags to give themselves a kind of platform. Timber and even lengths of iron were with difficulty carried up the ridges to provide some kind of head cover that would keep out the enemy grenades. The Anzacs in positions close to the Turks were constantly under attack by enemy grenades of the 'cricket ball' variety. In the early months, having no grenades of their own, the

*The strategic and political implications of the campaign have been much discussed and have no place in this book. See my *Damn the Dardanelles! The Agony of Gallipoli.*

Anzacs could only catch and throw back these grenades or smother them with a sandbag or greatcoat before they burst in the crowded trenches. Either way, death was only a second or two away. When they were throwing from a range of 5 metres or so, the Turks learned to hold their grenades for a few seconds after igniting them so that they blew up in the hands of the Australians who caught them. As few cricket ball grenades survived the war, the one I discovered close to Anzac Cove is of special interest.

Only a soldier who has lived in wild country amid the putrefying stench of excrement and urine, body odour, cordite and old food tins, can know what it was like on the Anzac front. As a battlefield archaeologist I have a fairly good idea. I have clambered and clawed my way around these ridges and torn my flesh on the spiky bushes of the ravines. Near Lone Pine, a place of much fighting, I found a well concealed tunnel and crawled through it, as the Australians did on one occasion to attack the Turks.

It was at Lone Pine that I unearthed an unexploded British 5 in naval high explosive shell, in spite of the fact that some naval officers used to say belligerently 'Our shells *always* go off.' This one had lost its fuse and as it was nose down under the clay its explosive had long since emptied itself. It is not possible to say why it failed to explode in 1915; perhaps it was fired to help the hard-pressed Australians in their astonishing battle of Lone Pine, from 6–10 August 1915. The Turks at least could be grateful that it did not go off.

On the torn and twisted ground which had once been Courtney's, Steele's and Quinn's Posts, I found many clues to the way in which soldiers lived and died. They include the battered remains of waterbottles, drinking mugs and mess tins, many with bullet holes in them. Lying not 15 paces from the Australian relics was a Turkish army spoon. All these objects have laid where they had been lost or abandoned in 1915.

Not long before the big Anzac offensive in August, New Zealand engineers dug some deep mines near Quinn's Post, under the Turkish tunnels. A crack developed in the roof and the Australians and New Zealanders could hear the Turks talking and laughing. When the talking ceased abruptly the Anzacs realised that their candlelight had been seen. They pretended to withdraw from the tunnel, working in darkness and silence to pack it with high explosive, before exploding their big mine and killing many Turks. This action can be studied today on the ground.

The New Zealanders, in a superb feat of arms, fought their way high on to the ridges in August 1915. Early on the 8th the Wellington Battalion captured Chunuk Bair summit in one of the most determined feats of the campaign. Heavily shelled by the Turks, they were driven off but they clung to the upper slopes. Late in the afternoon the New Zealand officers saw a British warship open fire in their defence and were delighted—until the shrapnel shells exploded in the air above them. They suffered many casualties. A battalion of 760 men had started out in the attack; by dusk only 70 were unhit. Few men had full equipment and the shallow trenches and ground around them was strewn with debris and bodies. Chunuk Bair was a scene of carnage which can still be read. Shrapnel balls are embedded in the clay, as are pieces of equipment and small bits of bone. I have the hilt and a piece of blade from a broken New Zealand bayonet.

Many soldiers were lost in the ravines and their remains can be found today. A local Turkish battlefield archaeologist has unearthed sobering evidence of the ferocity of the fighting, including a skull with a large shell fragment embedded, another with a bullet hole and a knee joint with shell splinters protruding.

The principal task of the battlefield archaeologist at Gallipoli is not really a matter of collecting relics but of studying the ground in order to understand how the men lived under such appalling conditions. Photographs taken in 1915 help a great deal but not even the most dedicated war correspondent of the time, C.E.W. Bean, could study the ground during the campaign. Any movement was dangerous. The modern archaeologist can do what it was impossible to do in 1915; look at the battlefield from the Turkish positions. It then becomes apparent that the landings at Gallipoli, especially at Anzac and at Helles, were astounding feats of arms. The sheer tenacity needed to cling to the precarious trenches and dugouts becomes clear when seen from the old Turkish lines.

The great physical effort needed to carry heavy supplies, ammunition, and material for trench supports is obvious from some of the objects left there. The Turks salvaged much of what remained useful but they left behind, for instance, a large

piece of iron which the Australians used as a trench support on Walker's Ridge. I found it awkward enough to carry downhill; in 1915 some soldier must have carried it up almost sheer cliff faces.

Casualties were heavy at Gallipoli: by the end of the campaign 410 000 English, Welsh, Scottish, Irish, Australian, New Zealand, Sikh and Gurkha soldiers, and Russian and Syrian Jews of the Zion Mule Corps had served there, as well as 70 000 French Senegalese and other French colonial troops. The total British casualties were 205 000, including 43 000 killed or dead of wounds and disease and 90 000 evacuated as sick. Within these overall figures are 26 094 Australian casualties, including 7594 killed, and 7571 New Zealand casualties, including 2431 killed. These were particularly grievous losses for these nations with small populations.

Turkish records were only loosely kept but something like 250 000 men became casualties, including 66 000 dead. It would be logical to assume that fewer Turks were killed in action than Allied soldiers, for three good reasons: for most of the campaign the Turks had fewer soldiers on the peninsula; they always held the higher ground so they were less vulnerable to machine-gun and rifle fire; they did less attacking than the British. The attacker nearly always loses more men than the defender.

Elementary battlefield archaeology shows that the Turks did not bury their dead. They simply threw the corpses into ravines and the mounded bones are still there. Most of the areas where fighting took place in 1915 will probably look like battlefields for centuries. Cape Helles, being flatter and of better soil, has some settlements and farms but the old Anzac and Suvla sectors are fit for practically nothing, unless some entrepreneur were to build a holiday village near what the 1915 British army called 'Brighton Beach'. The Turks are periodically worried about an invasion by their old enemies the Greeks and see the Gallipoli peninsula as a defensive bastion. The Turkish army would not want to see it developed for tourism. Neither would I.

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One simple fact I discovered as a traveller in the steps of forgotten armies is that the British and the people of the old British Empire, the Americans and the French sentimentalise and reverse the memory of their war dead much more than other nationalities. At Gallipoli many visiting Turks have said to me, in effect, 'You Australians and British and New Zealanders lost the war here, but you have monuments and cemeteries all over our land as if you had won it. How do you explain this?' With difficulty, always.

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Other Campaigns, Other Wars

Military artefacts are scarce in theatres of war other than the Western Front and Gallipoli because conflict was neither as intense in terms of time nor as concentrated in the area being fought over. Australian relics are rarely found in other regions where World War I, World War II and other wars were fought.

I should mention here that in fleamarkets of France and Belgium the AIF's 'Rising Sun' hat badge is not uncommon but there is little else distinctively Australian on the stalls. Wartime postcards are on sale at nearly all fleamarkets and it is worth looking through those on display for links with Australia. I have found many cards of Australian interest. This may be in the pictorial content of the card; perhaps it shows Diggers in action or in camp. A postcard may be nothing more than an expression of patriotic sentiment with a stand of fluttering flags, including that of Australia.

While artefacts may be few in some regions of the world those that I have found are interesting. The search for them in places as far away as Syria and Lebanon is always rewarding in the folk memories of Australians that I hear from local people.

Right: I dug this British 5 inch (12.8 cm) naval shell from rock-hard ground at Lone Pine. The screw-in fuse—probably a percussion fuse No 101—had become detached and so the shell did not explode but went into the ground nose first. The circular indentation near the base held the brass driving band, which in turn held the projectile firmly in the breech. When the shell was fired the driving band was forced into the grooves of the rifled barrel, thus giving the shell its spinning motion; this motion imparted great velocity to the projectile and kept it on course. The shell had a weight of 20 kg including an Amatol filling of 2.5 kg. In the summer heat of Gallipoli I needed several hours to dig and lever this shell from its 1915 resting place.

Right: The Turkish 'cricket ball' grenade found within 20 metres of the beach at Anzac Cove, Gallipoli. The small protruberance at the top was a fuse which was ignited by a match or a matchbox scraped across it. The grenade is made of iron with an explosive core of blasting powder and in confined spaces it caused casualties. Australians and New Zealanders often caught the grenades and threw them back to explode in the Turkish trenches. The Turks, soon wise to this practice, then held their grenades a few seconds before throwing them; several Anzacs lost fingers as a result. This grenade weighs 0.6 kg and is 25.5 cm in circumference, slightly bigger than a cricket ball.

Above: Jungles are generally not fruitful for the war archaeologist because material left there rots quickly or is covered by luxuriant jungle growth. However, in coastal regions there are unusual finds. Near Lae, New Guinea, in 1953, I came across a former Japanese wartime transport, the *Myoko Maru*, which was bombed in 1943 and then beached. Within ten years it was completely landlocked by silt and sediment which had become so stabilised that it bore heavy foliage, even in the ship's holds. By chance, the Royal Australian Air Force bomb aimer, Ian Perry, who had hit the *Myoko Maru*, was visiting the wreck and he posed for me by his trophy. The ship shows design features which during the ensuing decades were to make Japan pre-eminent in shipbuilding.

Above: Australian troops in front of a German blockhouse which they had captured. The quagmire over which they attacked has long since been drained and is now firm and fertile farmland in the Ypres Salient, Belgian Flanders. Nevertheless, much war material—and many soldiers—lie under the surface.

Right: Wherever Australian soldiers served abroad they left memorials to their work, as though defying posterity to forget them. This one in Lebanon provides an aspect of history which does not appear in official histories. 'Near this spot,' reads the inscription, 'on 20.12.1942 the last spike was driven in the Beyrouth [Beirut] Tripoli railway by the C in C, MEF [Middle East Force] General Hon Sir Harold Alexander GCB, CSI, DSO, MC, thereby completing the link between London and Cairo. This section of the line was built by the Australian Railway Construction Group during the year 1942.' The Group's badge surmounts the inscription. The line was in use from Tripoli to Cairo, since this territory was in Allied hands, but it could not be used north of Tripoli, into Europe. It has not been used since 1948, when the State of Israel came into existence, because the Arab nations have refused to allow trains to enter Israel. Much of the line in Lebanon is in disrepair because of the wars which have raged there. Since I photographed this splendid memorial near Dog River in 1956 it has been defaced by Muslim terrorist gangs. When peace returns to the area perhaps it can be restored.

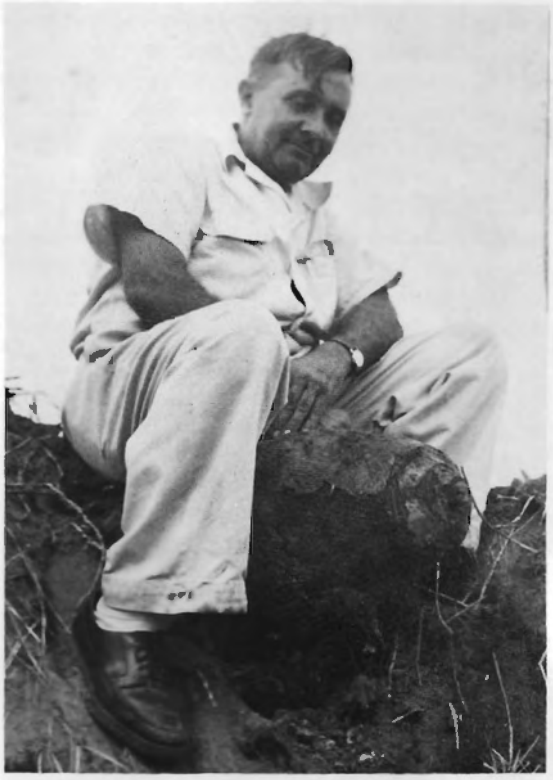
Above: This photograph shows walking wounded and stretcher cases moving along a communication trench at Cape Helles, Gallipoli. Wherever troops passed in large numbers they left a great deal of equipment and supplies. Some can be seen in this photograph. Also, when the British and Empire troops evacuated Gallipoli they were forced to abandon much material. Some of it was buried in order to deny it to the Turks while other things gradually became covered over by soil and vegetation. Much remains to be found at Gallipoli but large scale excavation would be impossible without official Turkish cooperation.

Below left: This type of country in the central sector of the Gallipoli peninsula—inland from Anzac Cove—makes battlefield archaeology exciting and arduous. Few people have explored these ravines and cliffs and much material remains to be found. The southern sector, Cape Helles, and the northern sector, around Suvla Bay, are much flatter but less rewarding archaeologically.

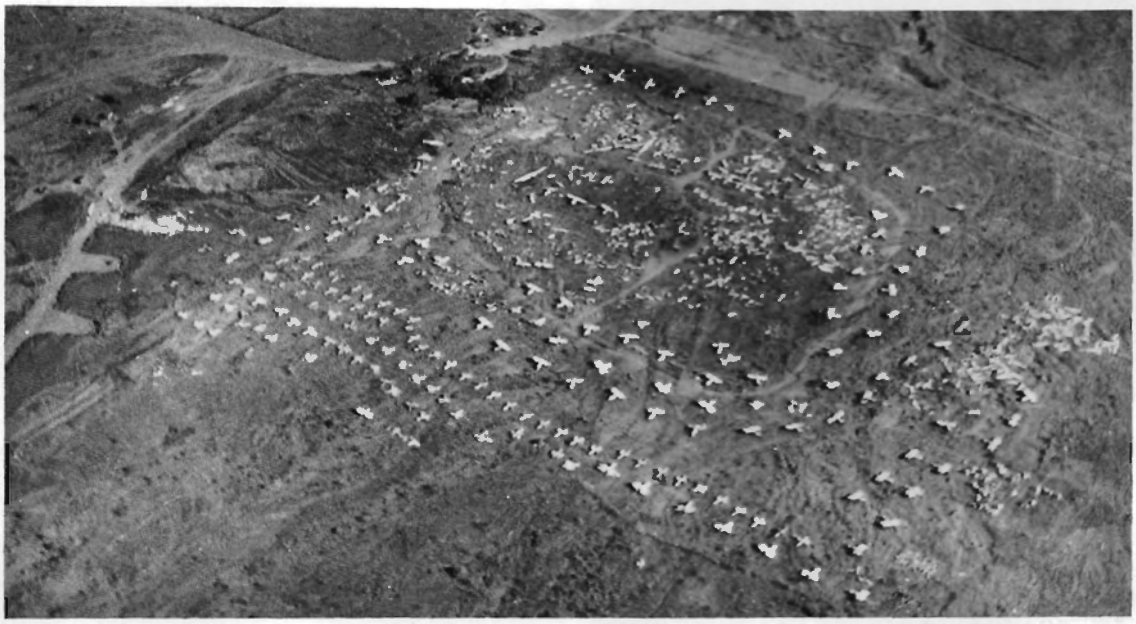
Below: The top of a rum jar found close to Y Beach, Cape Helles, Gallipoli. The letters SRD are shown in Army records as having stood for Service Rum Dilute and Special Ration Distribution, a euphemistic label. The Diggers said sourly that the letters more accurately meant Seldom Reaches Destination. Most of the rum, the front line soldiers claimed, was drunk by men in the base area. A jar of this size held six litres.

Above: The 8th Division of the second AIF was captured in the disaster of Singapore and Malaya in 1941–42. Most of the artefacts that remained from that calamity and from the dreadful period which the division's men spent as captives of the Japanese has finished up in the Australian War Memorial—the right place for it. Shown here is one small relic of the Singapore experience which the AWM does not have. It is an eyepiece fashioned by a soldier dentist for examining his patients' teeth. It is made from aluminium with a piece of glass that gives some magnification.

Below: A battlefield archaeologist must be alert for photographs of subjects which might never come his way again. This one taken over Nadzab, New Guinea, in 1953, shows the remains of about 300 Australian and American aircraft used in the war against Japan, 1941–45. It is a classic illustration of the waste of war. These aircraft had cost an immense amount to build but, with the war over, they were useless and left to rust away in a tropical climate. Some salvage was attempted but at this place many aircraft parts sank into the soil.



Above: Aerial bombs were commonplace in parts of the Pacific in the 1950s. This one was dropped on Japanese positions at Rabaul. Most of these bombs have since been dumped at sea.



7 Clues from Letters and Records

Letters and diary entries written by soldiers at the front, unit histories—especially those of infantry battalions—and official reports of operations are helpful in war exploration. I try to find localities mentioned in original sources and then either search for relics or indulge in a form of vicarious 'archaeology'—speculating on the movements of the Diggers at those places.

While I often discover relics, few of them can be definitely linked to the AIF because all the armies of the British and Empire forces used much the same weapons, equipment and ammunition. Soldiers from various countries used the same trenches and fought across the same ground, so armies relieved one another in the front line. Certain sectors were manned successively by French, English, Scottish, Australian and New Zealand divisions. I may speculate that, say, a bayonet that I find in the soil belonged to an Australian soldier but in most cases I cannot prove it. Nevertheless, in some cases the odds are heavily on Digger ownership, as at certain places on Pozières Ridge, notably Mouquet Farm and the Windmill.

Whether I find anything significant or not, the search for a particular spot mentioned in official or private records or in a unit history provides a link, across the decades, with the Diggers which is simultaneously emotional and intellectual. At times the link is also almost physically real, so great is the sense of historic atmosphere, so acute my reaction to it.

For instance, Private J. Cleary of the 17th Battalion wrote on 31 October 1916:

> Arrived at Bernafay Wood after a long march in pouring rain. What made things worse was that we had to march through muddy fields because the road was required for vehicular traffic. We were halted on the hill facing Bernafay in pouring rain with no shelter, no tucker and told to do the best we could and I put in easily the worst night I ever did or expect to put in. I absolutely threw my marble in and if it wasn't for the thought that I was on active service I think I would have wasted a cartridge on myself.

Bernafay Wood is on the Somme battlefield. Many British troops were killed there during the fighting in July when the Battle of the Somme was raging. I know the hill on which Cleary and his mates spent their dreadful night and I visited it one wet November night. The conditions were not nearly as bad for me as for them, but having endured heavy rain and deep mud during my own active service I can understand what Cleary and the rest of the 17th Battalion experienced. I think that, with a little imagination, any Australian could do the same.

One of the most notorious battlefields for the Diggers was the Flers-Gueudecourt area of the Somme, a few miles further east from Bernafay. Many soldiers mentioned the horrors of the region in the winter of 1916–17, when 20 000 Australians were evacuated suffering from exhaustion, trench feet and other diseases. Sergeant A.A. Barwick of the 1st Battalion wrote on 5 November about taking part in attacks on Bayonet and Lard trenches:

> The flares lit up everything like day and showed us men falling everywhere and the boys struggling through mud nearly to the knees. I was forcing my way through as fast as I could ... the fighting by this time was very fierce, shells, bombs, mortars and worse than all liquid fire bombs were falling among us like hail ...

Bayonet and Lard no longer exist as trenches but I have traced them out on farm ground and

where Lard trench had once been I found an Australian bayonet with the tip broken off, suggesting, perhaps, a fight in a trench. Several Diggers, including Sgt Barwick, record such hand-to-hand combat.

Villers Bretonneux, situated on uplands south of the Somme River, is a famous name in Australian military history and I had long wanted to find some souvenir of the two battles which the Diggers fought there, on 4–5 April and on 24–25 April 1918. I traced the course of several gallant actions, including the charge of the 36th Battalion—an audacious counter-attack on 5 April that drove the Germans back and restored the broken British front line—but discovered nothing. I searched several nearby woods, including Hangard and Abbey woods, but similarly drew a blank. Finally I wondered if the village itself might yield a fragment of history, because history was certainly made there.

When the Australians withdrew from the Villers Bretonneux defences in mid-April to regroup, leaving the defence of the town and district to the British divisions, the enemy commanders saw their opportunity. German divisions attacked on 24 April, captured Villers Bretonneux and repulsed British counter-attacks.

That night the AIF 13th and 15th Brigades made a brilliantly planned and spirited assault. Street and house fighting followed and by the evening of Anzac Day the Diggers had cleared the town and driven the Germans back behind their start line.

It occurred to me that the Diggers may have left something significant in the houses which they captured and in which they slept. I knocked on many doors but only one householder—fittingly, in Melbourne Street—could produce any evidence of Australian occupation, a hat badge. In the village of Montbrehain, where the AIF fought its last battle of the war on 5 October 1918, a resident also produced a hat badge, found in a field by his father within a day of Montbrehain's liberation. Since the Diggers were wearing steel helmets during the fighting, leaving their slouch hats with the battalion's wagons, the hat badges in Villers Bretonneux and Montbrehain came as a mild surprise.

Many actions of bravery took place on the battlefield of Fromelles—or Fleurbaix as it was known then. Here 5533 Australians of the 5th Division became casualties in 29 hours of fighting during a battle that should never have taken place. The 5th Division, together with the British 61st Division, was expected to attack and capture heavily defended positions where the enemy held all the advantages. The Germans were on high ground, Aubers Ridge, which provided them with good observation for command and gunfire; their trenches and positions in the village of Fromelles were powerful, having been developed over the previous 18 months. The Germans had already twice defeated British attempts to take Aubers Ridge and they knew the exact range of every spot on the flat plain across which the Australians had to advance. The 5th Division could achieve no surprise since all their movements were visible and the attack was made in broad daylight. In addition to all these advantages for the Germans, the British division failed to attack, as arranged, at the most tactically important part of the battlefield. Because of this the Germans could fire on some Australian battalions from both the flank and the rear.

It is possible at Fromelles to trace the positions at which certain Diggers performed feats of valour before they were killed. The names of some of them are well known—Captain Norman Gibbins, Captain C. Arbiaster, Lieutenant C.T. Agassiz, Captain F.L. Krinks and Chaplain S.E. Maxted, for instance. One outstanding soldier whose courage has seldom been mentioned was Sergeant A.G. Ross of the 57th Battalion, 15th Brigade. After the failed attack a rescue party found a man hanging on the German wire. When his mates picked him off the wire he was so badly wounded that they feared they might pull him apart. Blood was gushing from his mouth because he had bitten through his lips and tongue to prevent any groaning that might jeopardise the chances of rescue of some other man who was less badly wounded than he. He begged his rescuers to shoot him and put him out of his misery, but they were determined to bring him in, even though they expected him to die.

They were without a stretcher so Sergeant Ross threw himself face down on the ground and instructed the others to use him as a human sledge. They tied the wounded man on his back and with puttees attached to the sergeant's webbing gear dragged the two men 200 yards across No-Man's-Land. This meant Sergeant Ross was hauled across broken barbed wire and shell torn ground, in and

out of shell-holes and over jagged pieces of shell. The rescuers were so anxious to get to safety from the still dangerous battleground that they did not notice the condition of the man underneath until they reached the Australian trenches. Then it seemed that Ross was more badly wounded than the rescued man; his hands, face and body were badly torn and bleeding, yet he had not once asked the others to slow down or 'wait a bit'. Ross went out on other rescue missions, regardless of his own injuries.

C.E.W. Bean pays only passing credit to Ross' work during the rescue operations at Fromelles and does not describe his human sledge exploit. I have known about it since the 1930s but I was unable to locate its approximate position until 1989. I brought away some shell shards and shrapnel balls which serve to remind me of a brave and selfless Australian NCO.

The farm fields of the Fromelles slaughter-ground are laced with debris of the battle and entire bones and pieces of bone are frequently turned up during ploughing and hoeing. Martial Delebarre of Fromelles, a young gardener employed by the Commonwealth War Graves Commission, spends all his spare time on the battlefield in search and study. He collects pieces of bone and carefully reburies them close to the wall of VC Corner Australian Cemetery where they will be forever safe. A dedicated battlefield archaeologist, Delebarre has created an 'Australian museum' of artefacts in rooms above the mayor's office in Fromelles village.

The battlefield of Messines Ridge is another area where the presence of Australians during 1917, and especially during June of that year, is marked by numerous war cemeteries. On 7 June 1917, 19 great mines exploded under the German positions on the ridge, creating such havoc and temporary disorganisation that the Germans fell back in the face of the New Zealand, Australian and British attack. During the infantry onslaught many small actions took place as companies and platoons attacked enemy trenches and strongpoints, some of which were in farmhouses and outbuildings.

Two such places were farms half a mile apart known as Bethleem Farm East and Bethleem Farm West. Units of the AIF 3rd Division, which was commanded by Major-General John Monash, captured these farms against strong enemy opposition and suffered heavily in doing so. The Division opened cemeteries here on the first day of the Messines offensive and before long 42 Diggers were buried in Bethleem Farm East, together with one British soldier, while in Bethleem Farm West are 144 Australians, 27 New Zealanders and 24 British soldiers.

Knowing that in 1917 fighting took place around and in the farm buildings, I searched the area with a metal detector but found nothing more than the ubiquitous shell shards and shrapnel balls. The owners of both farms told me that many years ago their fathers had dug up 'more interesting' relics but that nothing now remained.

Ploegsteert Wood, between Messines and Armentieres and on the far right of the Ypres Salient, is a happy hunting ground for war relics because many Australian infantry battalions and other units spent time in the wood from mid-1916 to May 1918. In 1921 Captain C. Longmore of the 44th Battalion wrote a war history of his unit and included a three-paragraph item about Plugstreet, as the Diggers called it, headed 'Aussies as Archaeologists'.

> Digging in the Plugstreet sector was the main recreation of the Diggers. Looking back, it was probably the same right through the war. If the Australian Corps had had as much practice with the rifle as they had with a pick and shovel, what a wonderful team of sharpshooters would there be in Australia today! While digging one new trench in the wood, B Company unearthed about fifty silver and copper coins, the date being that of the eleventh century. [This occurred in April 1917.] The wire in and around Plugstreet Wood is also worth mentioning. It was pretty well wired before the 44th went there but when they left it was almost impossible to move anywhere off a duckboard track. Every tree was connected with its neighbour and what with the miles of loose wire scattered in between it became a toss up as to whether it was there to keep the enemy out or the defenders in.
>
> There were rough wooden crosses dotted all over Plugstreet Wood and they were inscribed with the names and units of almost every regiment in the British Army. The dead were probably buried in the early days where they fell, and by the number of graves representing battalions already famous in the British history, and the fact that there were also many crosses

erected to German dead, the fighting there must have been at close quarters.

I have not been as fortunate as the 44th Battalion 'archaeologists' in finding eleventh century coins but I have found two one-penny coins dated 1916. They were in the positions occupied by the 44th Battalion but of course other units were there before and after the 44th's occupation.

It was Captain Longmore's unit history that inspired me to make a particular mission in Plugstreet Wood—on a search for where 'the steel tree' had stood. The steel tree was an AIF observation post and how it came to be there makes an interesting story. A real large tree stood on the edge of Plugstreet Wood and had been cut off by a shell about 15 feet from the ground. Engineers took measurements and a 'tree' of hollow steel was constructed behind the lines. A concrete foundation was laid a few feet from the original tree which one night was cut down, to be replaced by the steel imitation. It was a wonderful replica. The outside appearance and the splintered top would have deceived anybody, even a man standing a few yards away. An observer climbed the steel ladder inside and viewed the enemy trenches through a wire mesh loophole with sliding steel shutters. All artillery shoots were observed from the fake tree, whose users complained that it had a draught which made every bone in their body ache. Also, a smell came from the mire and stagnant water which collected at the foot of the tree.

After the war this tree, or one similar to it, was shipped back to Australia and for some years was on display in the Australian War Memorial. I have located a slab of concrete on the side of the wood where the tree must have stood but there is no way of verifying that the steel observation post was used there.

The 44th and 42nd Battalions appear to have had a busier time in the wood than some other units. The Germans raided the 42nd there and entered their lines but were driven out before they could take prisoners—as they had recently done in a raid on the same battalion closer to Armentières. The 44th Battalion scouts on one occasion brought back several entrenching tools and stick bombs from a shallow trench in No-Man's-Land, which the Germans had dug for an assembly position before an attack. The next night the scouts found a white tape, laid by a daring patrol, from the German trenches to a gap in the 44th's wire defences. They brought in the tape, thus causing the Germans to abort their raid. Instead, they raided the 42nd's lines, where they were roughly handled by mortars, and medium and light machine-guns.

For many years before the war Plugstreet Wood had been a popular hunting preserve and after the hostilities the Guinness brewing family, which owned it, spent much money on its restoration. New trees were planted to replace those destroyed, the trenches were levelled and much of the barbed wire was removed. Even so, I have seen many wire support pickets and the old wire itself is only a few inches below the leaf mould. Relics from the wood include an army-issue jack-knife and buttons.

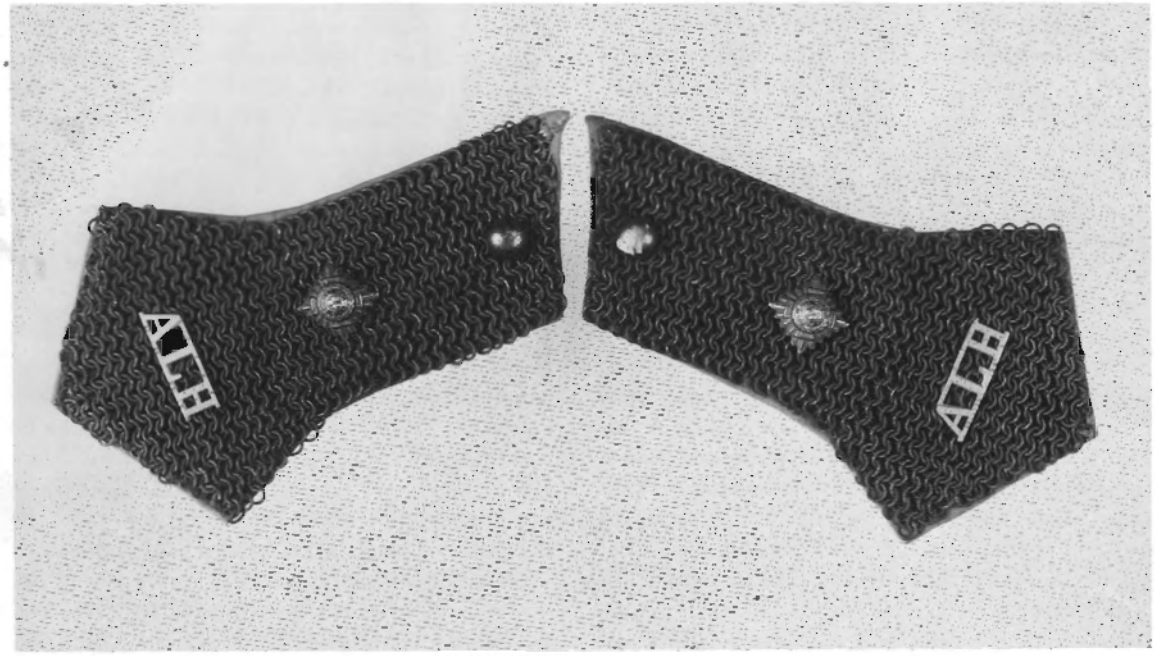
Prospective archaeologists might like to know that the 44th Battalion, the 42nd and the other two units of the 11th Brigade, the 41st and 43rd, were billeted in the French villages of Senighem and Columby, some miles to the rear of Plugstreet Wood, for two years off and on. I have visited both places and have been permitted to search the older houses and farms of the area, but there must be other relics of the Diggers awaiting a finder. In the 1960s there were people living in Columby and Senighem who remembered taking part, as children, in sports meetings and picnics arranged by Australians. They could not have know it, but the organiser of such occasions was Captain 'Willie' Bryan of A Company 44th Battalion. A fine and popular officer Bryan was killed on the night of 6 June 1917, the first day of the Battle of Messines.

Searching areas where famous exploits occurred, such as an act of gallantry for which a Victoria Cross was awarded, always produces a sense of anticipation. Many VCs conferred on Australians were posthumous awards and I have located the place or the approximate place of death of most of the VC deaths in action. That of Captain Percy Cherry VC MC, in Lagnicourt, a few miles from Bullecourt, I know precisely, but I have found nothing more than some shrapnel shell cases in this village.

The exploits of VC winners who survived were a little more productive, partly because some of them were active over a fairly wide area. Lieutenant Rupert Moon at Bullecourt, Captain Harry Murray at Flers, Lieutenant Lawrence McCarthy at Vermandovillers, Lieutenant Percy Storkey at Villers Bretonneux and Sergeant Percy Statton

near Proyart, demonstrated courage and leadership at several places during a single day and it is possible to trace their movements. Even so, to find some object which could be positively linked to any of them would be amazing. I have, however, found artefacts at all these sites.

As with archaeology at ancient sites, battlefield archaeology does not always produce treasures. The satisfaction is as much in the seeking as in the finding. In this, there is a similarity between traditional archaeology and that relating to 20th century war. There is also a great difference. The artefacts from ancient civilisations are often worth large sums of money while the 'treasures' from the battlefield are intrinsically worthless. Their value for Australians lies in what they reveal of great endeavour in the name of a new nation.



Above: The chain-mail epaulettes of a second lieutenant of Australian Light Horse. Diggers of the 11th Light Horse Regiment, made up of horsemen from Queensland and South Australia, charged and captured Semakh from the Turks and their auxiliaries on 25 September 1918. This item, which was symbolic of the full armour worn by mounted warriors in earlier centuries, was not generally worn by ALH officers while campaigning but some apparently carried them in their gear. I acquired this pair of epaulettes in Semakh, Jordan, just south of the Sea of Galilee. They were given to me by an Arab who said that his father had been a scout for the Australians. It is equally possible that the grandfather stole the epaulettes. Among the ALH men, the Arabs had a bad reputation.

Right: A German leather pickelhaube of 1914 manufacture minus the crown spike and with a piece cut from the front peak at left. I found it in a barn loft east of Bullecourt, where the Germans had support and reserve lines.

Badges, Insignia and Helmets

Finding a badge is an exciting event because it tells the archaeologist that he is following in the tracks of a particular unit or army. By consulting a battalion history it is then possible to learn that the unit concerned was at that particular place on only one occasion, perhaps during a famous action. Such a find is also sobering because it is virtually certain that the owner of the badge was killed. The collection of insignia found in a single trench, and illustrated in this section, is evidence of the carnage of the Battle of the Somme in 1916. The French helmet is useful to an historian because the holes in the crown show the frightful effectiveness of shrapnel shellfire. I have found several battered helmets, some of them in positions where the Diggers were in action.

Small objects, such as badges and buttons, do not just 'turn up'. Mostly they are the colour of earth and need to be looked for patiently. Helmets are more easily found, especially in the scrubland around Verdun and the woods of the Somme, where casualties were so very heavy.

The last minutes of a German soldier's life—on 9 April 1917—came to light following my finding of his helmet, crucifix, coffee pot and the chunk of Stokes mortar shell which killed him.

Above: This epaulette insignia is all that remains of a soldier of the 5th Territorial Battalion of the West Riding Regiment, killed during the Battle of the Somme in July 1916. In the ground at the same spot was the badge of a soldier of the Machine Gun Corps. The small piece of metal, apparently copper, defies identification.

Right: This is the identity disc of 6703 Private Joseph Alldis—not Aldis as shown on the disc. A storeman from North Sydney, Alldis was 40 years of age when he enlisted on 2 August 1916. He returned to Australia on 11 January 1918, possibly because of ill health. I found his identity disc in a house in Merris, northern France, where presumably he had been billeted. The 1st Battalion was in reserve in this area late in 1917, after the Passchendaele fighting. It is unusual for a soldier and his identity disc to be parted. Perhaps Pte Alldis took his off while he had a bath and forgot to pick it up again. An identity disc is a rare find and I am sorry that by the time I found this one, in 1987, Pte Alldis had been dead for years. I wish I could have said to him, 'Do you remember losing this disc a lifetime ago in Merris, France?'

Right: A collar badge from rough pasture at Mouquet Farm, Pozières, in 1980, 64 years after a Digger lost it there. From the position at which I located it, I think it would have belonged to a soldier of the 51st Battalion, which was probably the only AIF battalion to have reached this particular position north of the farmhouse ruins. A company of the 51st was wiped out here and nobody knew exactly what had happened to them until their remains were found after the war.

Above: A German identity disc found at Broodseinde, near Passchendaele, the Australians' main front during the Third Battle of Ypres, October 1917. The disc is the 1915 pattern, introduced in September of that year, to replace a smaller oval disc. The details given on Musketeer Wilhelm Schuls' disc are:

JR23 — Infantry Regiment No. 23
VW — von Winterfeldt
20S — 2 Oberschlesisches
Nr 656 — the soldier's regimental number
5K — 5th Company

The full regimental title of Schuls' unit was Infanterie Regiment von Winterfeldt (2 Oberschlesisches) No. 23. The regiment came from Niesse (now Nysa) in Upper Silesia. In November 1916 the German army introduced a third type of disc with a perforated centre line and with the identification information duplicated on both halves. One half stayed with the body and the other half was sent to army records. Musketeer Schuls was reported missing in action. His remains probably lie in the soil of Passchendaele Ridge.

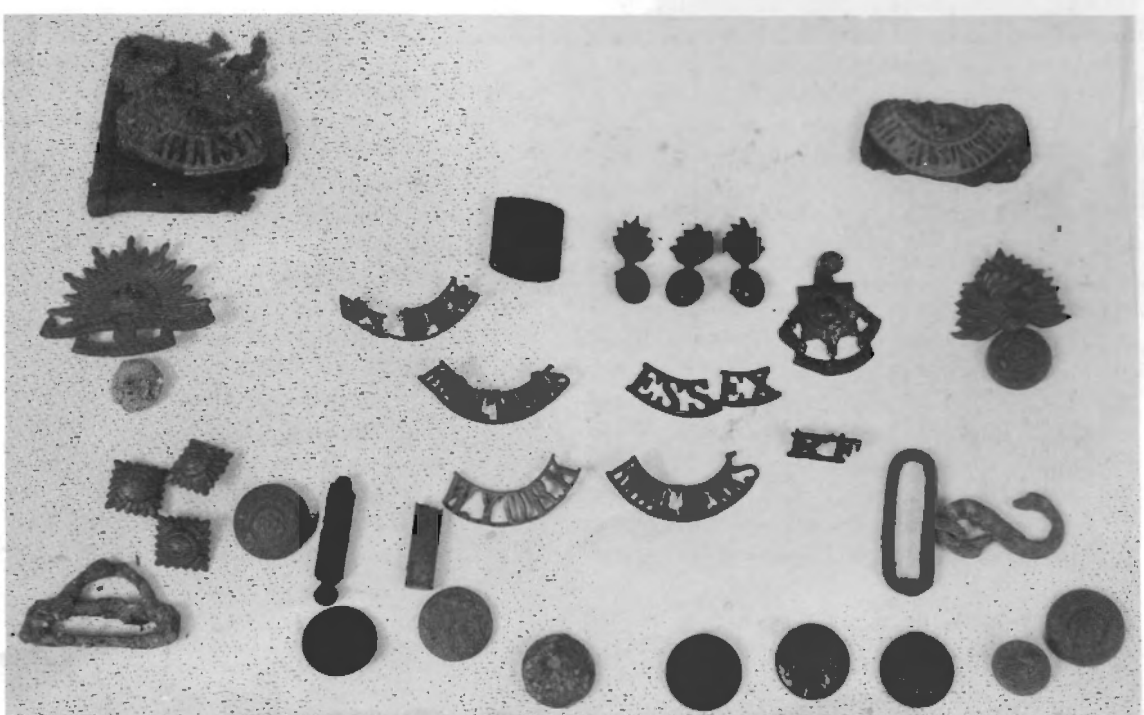
Below left: The remains of a French poilu's helmet, which I found near Fort Vaux, Verdun. The four holes in the crown, three of which are visible here, show the effect of shrapnel balls expelled from a shell bursting overhead. The wearer was undoubtedly killed by four of the lead balls, the size of marbles, which hit him in the skull. French helmets were weaker than the steel helmets worn by British and Empire soldiers, though even they could be penetrated by shrapnel balls. At Verdun, on a front of only 13 kilometres, the French suffered 350 000 casualties and the Germans an equal number, between 21 February and 11 July 1916.

Below: A regimental badge from a German pickelhaube dug from the enemy lines on the battlefield of Fromelles. At this time of the war—19–20 July 1916—German soldiers were wearing the more familiar steel helmet rather than the leather pickelhaube with its decorative spike but it is possible that some soldiers were wearing the older headgear. The trench from which this badge was taken was one of the few captured by the Diggers, on the left where the 15th Brigade was operating. But fired on from flank and rear the Diggers could not hold their gains. The 5th Division suffered 5533 casualties in the 29-hour battle.

Above: A farmer living on the old Somme front displays a German steel helmet which he uses to measure out pig feed. 'It is a very suitable use for a Boche helmet,' he says. Many residents of these former battlefields do not forgive and forget.

Above right: The bugle of a German soldier, found on Messines Ridge, Ypres Salient. It was very much the colour of the earth and, camouflaged; it had apparently lain there for many years. It is unlikely that the bugler threw his instrument away so we must assume that he became a casualty. I found it on the front where intense fighting took place on 7 June 1917 following the explosion of 19 British mines under the enemy trenches.

Below: All these buttons, shoulder titles, badges and officers' stars or pips, as well as other items including an S-shaped belt fastener and a broken cartridge, were found at Ovillers, near Pozières, Somme, in 1983. They belonged to some of the 55 soldiers buried together in an old trench as the battle rolled on; 51 of the men were British and one an Australian victim of the ill-judged offensive in the summer of 1916. The other two were Germans. It was not possible for burial parties to cope with the tens of thousands of corpses—20 000 on the first day alone and probably 200 000 between 1 July and 18 November. In order to clear the battlefield and prevent disease, many bodies were buried in trenches which were no longer in use. The job was sometimes so hurriedly done that rules about identifying the dead men were ignored. I happened to be researching in the area when an Ovillers farmer found the 55 sets of bones and reported his discovery. I was able to retrieve these relics. The AIF hat badge was the only indication that an Australian soldier was among the dead; no further identification was possible.



Bones and Poems of War

Human bones are often found in battlefields, especially those of the Western Front, where many men were blown to pieces, and Gallipoli, where wounded and helpless men died in the difficult ravines and were never found. In both places it was often impossible to bring in the dead who littered the battlefields and they stayed there until time took them into the earth. It is rare for a complete set of human bones to be uncovered but when enough remains survive to be considered an individual they are buried under a headstone with the inscription 'A Soldier of the Great War'. If there is adequate evidence of nationality the burial headstone will carry 'An Australian (or British or whatever) of the Great War'.

Mostly, bones appear in the ploughing season as the earth is turned, but some remains lie virtually intact for long periods, such as those found at Fromelles by Martial Delebarre, a young gardener employed by the Commonwealth War Graves Commission. An enthusiastic war archaeologist and an admirer of the AIF 5th Division's courage during the Battle of Fromelles, Delebarre discovered a soldier's bones under a grassy strip forming a narrow barrier between the edge of a farm field and a drainage ditch at the edge of a road running through Fromelles battlefield. The man's body had apparently been laid at that spot in July 1916 and earth had been hurriedly thrown over it. By the time war graves workers reached the area in 1919, with the war over, the casualty was well and truly concealed, and there he stayed until Delebarre's discovery in 1990. No traces of uniform survived but the remains could only have been those of an Australian, since Germans were not on that part of the field during the battle.

As I walk over battlefields I too come across bones or pieces of bones and I re-inter them at some point where ploughs will not again disturb them. I never keep bones and I know few war explorers who do. Mr Mutlu, a Turk who owns a museum at Gallipoli, has a skull with a bullet stuck in it at the rear. Mutlu claims that the skull is that of an Australian and that the bullet is Turkish, though I think it is a .303 bullet, from which I infer that the skull is that of a Turk.

On one occasion, while doing some serious digging, I came across two teeth and a fingerbone. They inspired and angered me enough to write a poem then and there. It is one of several poems I have composed on battlefields and I have included three of them in this book because they had a direct bearing on war archaeology.

Flanders' Harvest

(Loker, Flanders, April 1918)

In a last mad fling
of men and steel
that desperate spring
the Germans broke
the British line
and Messines and Neuve-Eglise
and Bailleul and Loker
and a score of other places
fell to field grey.
Shocked British infantry
pulled back while
gunners galloped
on to the hills and
through open sights
flung frantic fire on the
spreading German stain.

'Quick!' a sergeant ordered
'Into action! We'll have
that lot with shrapnel!
Aim two degrees right of the farm.'
And he pointed to a field.
'Fire!'
The British watched,
counted the seconds—and then...
'Damn! Bloody shell's
a dud, gone into that
bloody mud.
Let's move, boys, before
Jerry gets our range
and strafes us.
The war's not over yet.'
'Bloody mud,' a gunner grumbled.

The long winter over,
the soft and fertile Flemish fields,
stirring in the springtime warmth,
waited bride-eager for the plough
to let in light and air.
On soil enriched by concentrated war—
the bodies of men and horses,
the earth churned and turned—
two generations of farmers
had prospered on this land.
Jacques Covemaeker worked it
as a boy, learned the value
of each field,
Loved the green and yellow flax,
the honest-toil potato crop,
the rich-harvest sugar beet
in the field behind the cemetery
of British soldiers—
Lancashire lads who'd died
defending it.

The weather was benign at last,
the light was long
and there was much to do.
Jacques, proud with new tractor,
was drilling the beet field and
after a quick meal at the farm
climbed back into his seat.
'I'll work till dark,'
he told his wife and kids,
and smiled. 'The harvest will
be rich this year.'

From the farm they saw
man and tractor silhouetted
as daylight slipped into dusk
and dusk to transparent twilight,
and they heard the drills
driving into the thick earth.
At nine o'clock
precisely
a drill found
the British shell...
As it exploded
the shrapnel balls
ripped through man and tractor.
Jacques lived a little—
long enough for his
wife to reach him.

'Bloody mud,' the sergeant
growled, 'the war's not over yet.'

And the mud was bloody now,
And the war was still not over.
And the harvest is the same—
For these are Flanders fields.

John Laffin
20 July 1983

If You Have Tears

Digging in the mud of a French battlefield
Of my father's trench-slaughter war
We found two teeth on a sliver of jaw.
And a finger joint,
Oh, other things as well,
A bayonet with point still sheathed in piece
of scabbard,
A spade, a pick, a smashed cartridge,
But the lonely teeth
And the pathetic bone
Spoke to us most eloquently
Across the years.
But whose voice?
That of soldier English, French, German,
Canadian, Australian. . .?
Who was this man smashed to fragments
By the steam and steel of shattering shell?
Whole, and wearing uniform, this soldier
Had identity, nationality,
And he believed he had purpose.

(He was mistaken, he was
a pawn in a game
he did not understand.)

These two teeth in my hand—
Young, unmarked teeth—
Once ate life, margined words, hit back fear,
And now we,
astonishingly,
Considering the size of the battlefield,
Have rescued them from the mud.
I shall display them from time to time
And say,
'This is all you left of some young man.
Where is your pity?
Your remorse?
Your shame?
Is it not obscene that you have taken all
But two teeth?

And I shall be speaking to those men
Who play,
With blood as currency,
Great games they too
Do not understand.

I am glad we cannot recover blood
From the mud.
The teeth urge tears,
Blood would break us.

John Laffin
July 1980

Yesterday's Tears Today

I crawled through the thorn hedge
into the slimy Flemish ditch where
two generations earlier Diggers had crouched
seeking shelter from German bullets.

I squatted, as they did,
and I heard them say,
'We suffered here.'

I found an Australian rifle poking phallic-like
from the side of the ditch-trench
but it was rusted to impotency,
next to a waterbottle choked with mud.

I staggered, as they did,
and I heard them moan,
'We bled here.'

A grenade lay in the ooze,
an empty bullet clip, a bottle,
a wildness of wire and trench supports,
and all the while the water wept.

I dug, as they did,
and I heard them whisper,
'We died here.'

From outside the thorn hedge
somebody said, 'Give me your hand',
and dragged me from gloom to light
and ended my unharmed half-hour with war.

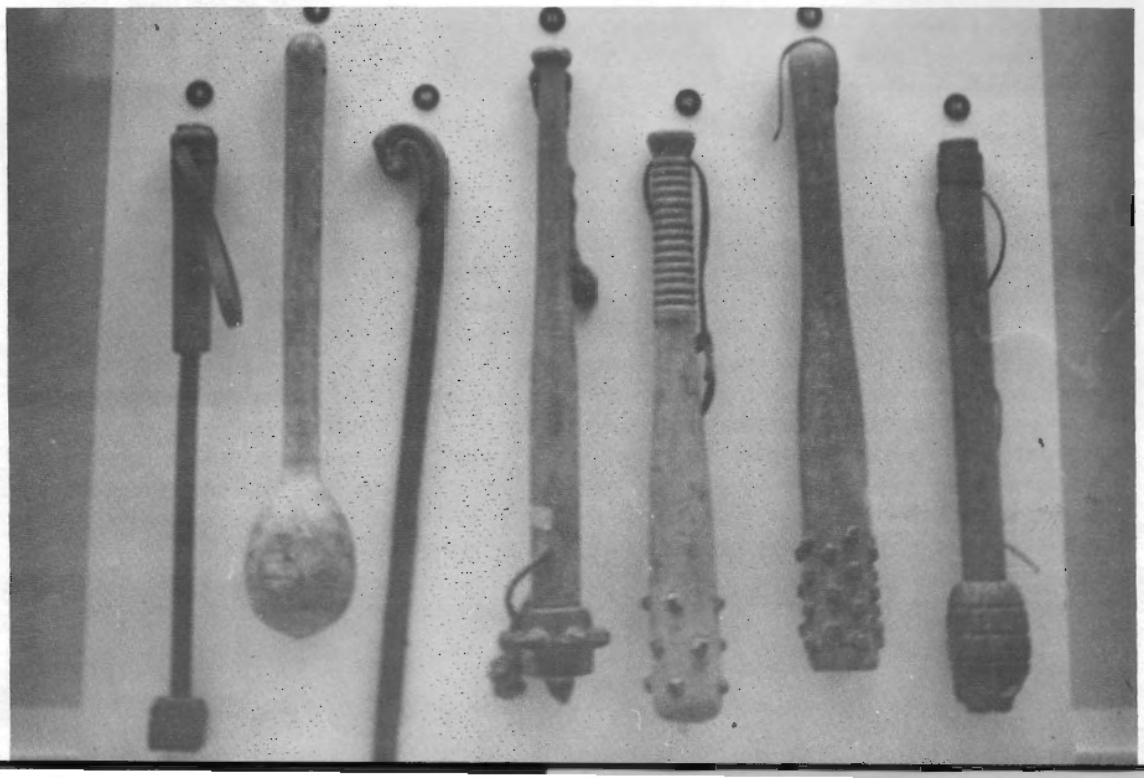
I smelt the black muck,
as they did,
and they were softly saying,
'God lost us here.'

John Laffin

Weapons

Above: A German heavy trench mortar on its turntable. It was fired from a specially dug weapon pit and once it had settled into the mud it could be removed only with difficulty. I sometimes come across a base plate deeply embedded in the clay, the mortar itself having been removed. Technically, this model is the 25 cm Schwerer Minenwerfer and when in use the barrel would have been elevated to at least 45 degrees. This mortar was retrieved from the Ypres Salient battlefield and is displayed at the Hill 60 Museum.

Below: Clubs used by Australians in trench raids. The Diggers of infantry battalions had a healthy professional rivalry in devising original and lethal clubs. All had provision for a wrist strap so that the club would not be lost in a melee. The most easily constructed of this selection was that at right; it is merely a stout stick rammed into the casing of a Mills bomb. The Germans were terrified of Australian trench raids.



Above: An early 1914–15 French grenade, only 8 cm high and less than 5 cm base diameter. Extraordinarily if crudely ingenious, it fitted into a cup-shaped discharger which was fastened to the rifle muzzle. The central hole through the grenade matched that through the rifle barrel. When the soldier fired his rifle the bullet did two things simultaneously; firstly, it carried the grenade out of the discharger in an arc towards the enemy; secondly, it hit a small spring steel clip whose point set off a cap, which in turn fired the 7-second fuse. This then set off the detonator and the grenade, having finished its flight, exploded in the enemy lines. The screw-in plug at left seems to have no function other than to balance the weight of the fuse-holder at right. The grenade was filled with explosive through a screw-plug in its base. Such a clumsy mechanism must have resulted in many misfires yet the grenade rarely turns up on the battlefields.

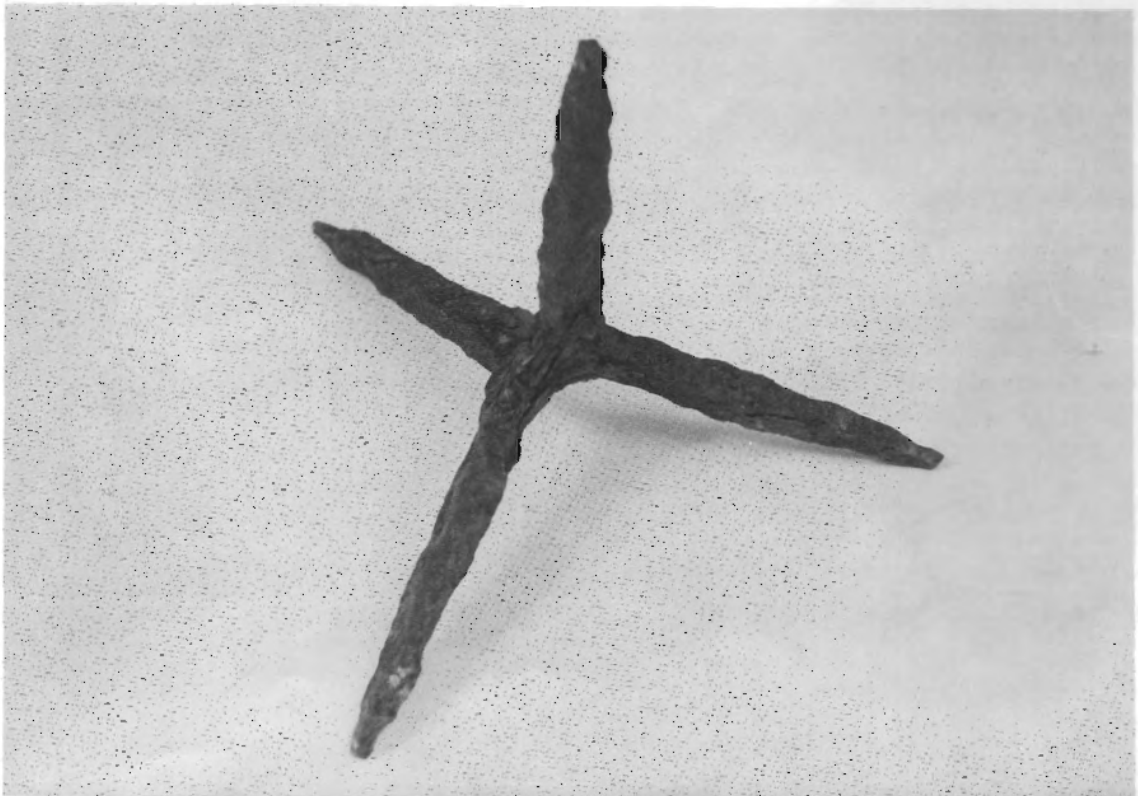
Above left: The remains of a German gas canister on Hill 60, Ypres Salient. Catapulted into enemy lines, these great balls released chlorine gas through a tiny valve and often through fractures caused by the impact.

Right: This British 9.45 inch Trench Mortar Mk 1 is at the correct angle for lobbing its bomb into enemy trenches perhaps only 100 metres distant. It was fired from a deep pit, from behind a hill or wrecked buildings. The bomb has been inserted nose first in order to show its fins, which gave the projectile stability in flight. Hill 60 Museum.

Top: Soldiers made clubs from whatever was handy; this one has lead worked around a handle of wood, most of which has rotted away. It came from the front line German trenches near Merville, northern France. The Diggers frequently raided the enemy trenches on this sector in 1918.

Middle: A German disc or 'oyster' grenade, used against Australians at Hargicourt during the final days of the AIF's campaigns in France in September 1918. It failed to explode. I have extracted the explosive charge and given the grenade a safety pin for the sake of having a complete specimen. This type of grenade was supposed to go off on impact when any one of the protruding nipples was struck. It could not be thrown as far as the more common stick grenade.

Below: This ancient weapon, the caltrop, was extensively used during World War I. No matter which way it is knocked a spike will always be uppermost, to pierce the foot of man or horse. Caltrops were spread on paths known to be used by the enemy, in openings in barbed wire defences or in places where a line of attacking soldiers might be expected to throw themselves down for shelter against enemy fire. Sometimes 40 or 60 caltrops of this size were stapled to a board which was then placed as a booby trap in, say, an opening conveniently left in the fire. Vehicle tyres of the time were solid rubber so caltrops caused them little damage, but they were used to cause punctures in World War II and thus trap enemy vehicles in an ambush. Caltrops were made in various sizes. This one's spikes are 5 cm long, but I have found German 25 cm caltrops.



Above: A Somme farmer displays two German Mauser rifles recently dug from his property.

Right: The German trench mortar, the *Leichter Minenwerfer nA FL*, was produced in thousands for use on the Western Front. Firing a 7.6 cm bomb, it killed many Allied soldiers in their trenches. This rare specimen is to be found at the Hill 60 Museum, Ypres Salient.

Below: The massive base of a British 15 inch shell. This tremendous high-explosive shell could wreck an entire length of trench. This piece, weighing more than 15 kg, would have smashed to pulp any soldier it hit. It was fired during the Battle of Messines, June 1917, on the AIF 3rd Division's front.

Digging Up Diggers

More than 17 000 Diggers who died on the Western Front have no known grave. However, a large proportion of these—perhaps 8000—lie under headstones inscribed with 'An Unknown Australian Soldier' or some similar designation. This leaves approximately 9000 without a grave of any kind. The remains of these men lie in the fields and woods of the fighting areas of the Western Front. Some were blown to pieces; others sank into the mud. Yet others who were killed in action were quickly buried by their mates, who placed a crude cross or other marker over the grave in the expectation that burial parties who followed on after the action would re-inter them in an organised 'collection' cemetery. However, as the fighting raged back and forth the grave markers were often destroyed and the fallen warriors were thus 'lost'.

Occasionally, though all too infrequently, a Digger is found on the former battlefields. On Friday, 30 April 1993 a farmer at Bullecourt was ploughing a field when he noticed an object protruding from the soil. It turned out to be a military legging which laced up at the front. This led to deeper digging and the discovery of a Digger's remains. I happened to be researching at Bullecourt at the time so I was quickly on the scene and able to photograph what came out of the ground. Less than a week before the dramatic discovery, many Australians had been in Bullecourt on the day before Anzac Day for the unveiling of 'The Bullecourt Digger', a splendid bronze of an Australian soldier by Peter Corlett. In casual pose but fully accoutred, he stands atop his plinth less than a kilometre from where the remains of the real Digger were found.

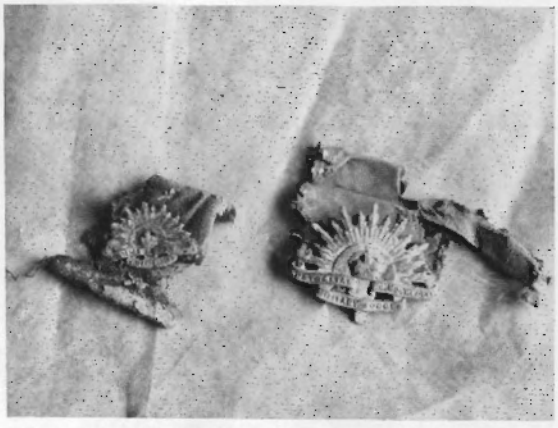
The soldier's bones were virtually complete, apart from some ribs and vertebrae. They were close together and showed no obvious sign of wounding from a shellburst or bullet. The Digger possibly bled to death without his bones having been struck. He had size 10 boots and he possessed a full lower denture of the old fashioned flat-base type that filled up the wearer's entire lower jaw. A large rising sun hat badge and a smaller collar badge came out of the excavation, both of them on fragments of cloth or fur-felt. His water bottle was undamaged, although the insulating felt had long since vanished, leaving only the blue enamel. Other items included the casing of a compass, fragments of bayonet scabbard, pieces of brass equipment from a webbing belt and harness and scraps of the webbing itself.

Missing were the soldier's steel helmet and weapons. Most importantly of all, no identity disc could be found. The leggings indicate that the soldier could have been an officer, since the great majority of the men wore puttees. The compass too suggested that the man was an officer, since private soldiers did not carry compasses (though senior NCOs sometimes did). The pieces of bayonet scabbard would normally indicate ownership of other ranks but some officers carried a bayonet on their belt as a weapon for close-quarter fighting in trenches. No officer's badges of rank were found in the excavation hole. The Bullecourt Digger still had with him his issue jack-knife, which other ranks and many junior officers carried. A pencil was also found but no notebook or other paper.

The absence of a personal weapon, steel helmet and grenades points to a battlefield burial by mates, who would not have buried such valuable equipment; indeed, they were under orders not to do so. The men took any grenades for their own use while Salvage Corps men picked up discarded equipment, which was repaired and reissued.

It seems unlikely that the Bullecourt Digger was buried by shellbursts covering him in dirt and debris. Most soldiers who had been overwhelmed

The place in the farm field where the Digger was found. In the background is the village of Riencourt, towards which the Digger would have been advancing when he met his death.



The hat badge of the Bullecourt Digger and the smaller collar badge still clinging to vestiges of cloth.

The size 10 boots of the Bullecourt Digger.

All that remains of the Bullecourt Digger, 76 years after his death in action.

in this manner usually had a weapon with them, notably the bayonet on their belt, or grenades in their pockets, when their remains were recovered from the battlefield in the years after the war.

In terms of the fighting, I place the Bullecourt Digger on that part of the front where the 15th Battalion attacked on 11 April 1917, during First Bullecourt, though I need to do further research on this point. The 15th had 20 officers and 380 men hit during First Bullecourt.

When news of the discovery reached 'the authorities' it was at first suggested that the remains could be interred at the War Memorial in Canberra as Australia's Unknown Soldier. Certain officials had already arranged for the remains of some 'unknown' Australian soldier to be disinterred from France or Belgium for formal and ceremonial reburial in Canberra on 11 November 1993. However, the idea of using the Bullecourt Digger in this way was rejected on the grounds that the soldier concerned might not remain sufficiently anonymous.

Dragging a dead Digger away from his mates seems to me to be unfeeling and insensitive. Had an 'unknown' soldier been taken home in 1918 or 1919, when the nation's grief was at its peak, an Unknown Australian Soldier would have been as acceptable as the celebrated Unknown Soldier in Westminster Abbey. At that time the fallen warrior would have been a symbol of the nation's youth. Today the remains of a Digger to be enshrined in Canberra would be nearly one hundred years old. This is no splendid gesture, as was the Unknown Soldier of 1920, but a political indulgence and an administrative extravagance.

Fittingly, the Diggers lie where they fell and rest in peace among mates. The spirit of the soldier whose remains were selected to be dug up and encased in concrete in Canberra will cry out forever against the enforced separation from his mates. The gesture is one of cold pragmatic deliberation, not the warm sincere spontaneity that would have existed in 1918–19. Academics might applaud such a scheme but those who know and understand the spirit of the battlefields will, I believe, forever question its propriety.

Despite my reservations about an unknown soldier being brought from the Western Front battlefields, many Australians find the idea appealing and all will honour his tomb. Perhaps it will bring a sharper focus to the Hall of Memory at the War Memorial and poignantly remind us of the massive sacrifice represented by the names of all Australia's military dead engraved on the walls of the cloisters in the Assembly.

It is not uncommon for the remains of soldiers of one nationality or another to be uncovered on the Western Front and I expect that other Australians will be found. In certain areas I would like to see professionally organised archaeological excavation carried out, not merely to find soldiers' remains but to establish the truth about some military mysteries concerning AIF service on the Western Front.

Most importantly, I would like to see the establishment of an Australian battlefield memorial park of a quality and size to match those of the Canadians, Newfoundlanders and South Africans. The place for this should be Hamel (Le Hamel to the French) near Villers Bretonneux. Among Hamel's many advantages is the fact that it was the scene of an AIF action that was significant for several reasons; it has land which is not only available for purchase but which still bears the scars of war; and it is accessible and close to the trail followed by many Australians visiting the Western Front. As with the major Canadian, South African and Newfoundland sites, there should be a resident guardian who would represent Australia and advise travellers. Even tiny Ulster, which had only one division at the war, supports a resident custodian during the summer months at its memorial, Ulster Tower, on the Thiepval–Pozières heights.

The service of more than 330 000 Australians on the Western Front and the continuing presence there of 52 000 of them calls for recognition in the form of a battlefield memorial park. The finding of the Bullecourt Digger during the 75th anniversary of the end of the war adds symbolic and historical weight to my demand.

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Dr John Laffin is one of the world's most distinguished military historians and about 60 of his 110 books concern war. Both his parents served with the Australian Imperial Force during World War I, his mother as an army nursing sister and his father as an infantry officer. During World War II John Laffin served for five years in the second AIF and is a veteran of the Kokoda Trail campaigns. With his wife, Hazelle, a Red Cross nurse during the war, Dr Laffin has been exploring Australian battlefields since 1956 and they have spent an aggregate of five years there, much longer than the Diggers of 1916–18.

His other books include *Australian Battlefields of the Western Front* and *The Western Front Illustrated 1914–18*, published by Kangaroo Press.

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