



AN
ARCHAEOLOGY
OF THE

Anzac Battlefield

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In a dispatch written on 2 December 1915, C. E. W. (Charles) Bean, the Australian Imperial Force's official correspondent, wrote that the chief occupation of soldiers at Gallipoli did not entail 'continuous bomb fighting, bayoneting and bombarding' but, rather, 'the digging of mile upon mile of endless trench, of sunken road ... the carrying of biscuit boxes and building timber.'¹ Despite the passage of one hundred years, many of the 'endless' trenches, the dugouts, the tunnels and other earthworks survive at Anzac. Scattered across this jagged labyrinth are countless artefacts — tin cans and ceramic jars, ordnance and tools, personal items and glass shards, to mention just a few — the remnants of the world's first industrialised conflict. This palimpsest of manufactured objects (artefacts) and structures constitutes the tangible and tactile expressions of the Anzac battlefield, which is without a doubt the best preserved First World War battleground. This paper explains the evolution of the Joint Historical and Archaeological Survey (JHAS), a five-year project (2010–2014) that was fully funded by the Department of Veterans' Affairs (Canberra), and presents a few key results.² In doing so, it draws heavily on a forthcoming book, *Anzac Battlefield: A Gallipoli Landscape of War and Memory*.³

The study of warfare has been forged into a sub-discipline of historical research. Military historians scan the bigger picture of battles and battlefields, before unravelling the strategies

deployed by those in command. Weak or strong, win or lose, underlying the campaigns are manoeuvres and tactics mapped out for the troops serving their respective countries. In recent times, such studies have turned to the human face of conflict, tracing the lasting impact of battles, not just on life and limb, but also in terms of the deeper scars left on the human psyche. Not forgotten are the civilian casualties, those left at home, and people caught up in battle zones and displaced from their land.⁴

Archaeology, too, with its emphasis on the physical record of human activity, has a role to play in the study of conflict. Material culture is everywhere on battlefields. In the case of the 1915 campaign, the vast quantity of ordnance, which was unprecedented in scale, is not surprising. But as Charles Bean noted, it only tells part of the story. Perhaps less conspicuous to the average observer are the other paraphernalia of the landscape of warfare — kitchens, sleeping quarters, medical posts, supply depots and many more features. In this regard, the exploration of the materiality of war, especially in the modern era, benefits from an anthropological approach.

In battlefield archaeology, or to use the more inclusive term, 'conflict archaeology',⁵ the original functions of weaponry and relics collected from the arena of war have been superseded. The artefacts assume new roles, standing as tangible reminders for the nations involved of the human cost of war, of life in

(above)

FULL DETAIL OF MONTAGE
IMAGES CAN BE FOUND
ON PP. 36, 42–3.

extreme conditions, and of regret. Objects collected from modern battlefields are curiously ambiguous because they were so recently in use. These objects float where oral history, military history and archaeology intersect, where family history and global history cross. Often contested, military articles evoke individual and collective memories and feelings. Such artefacts have, in a sense, their own life. Transported from the battlefield to peoples' homes, or to museums, they become part of family history, and their 'biography' is told and retold with each passing generation. There is no more important role in this process than that supplied by archaeology.⁶ Using methods and techniques developed in archaeology we can better understand how these objects relate to a battlefield and what the broad patterns mean. Despite the plethora of Gallipoli

Bean's investigations in 1919 reveal his deep understanding of the physical landscape and how it changed in the course of eight months of conflict. The only other survey conducted prior to the JHAS was that which accompanied the Gallipoli Peninsula Peace Park project throughout the 1980s.⁸ This wide-ranging and large-scale survey documented the monuments across the peninsula, as well as providing a number of demographic and historical overviews. A preliminary extensive archaeological survey — the first for the peninsula — was also conducted.⁹ Despite the immense value of the resulting Peace Park publication, a fine-grained archaeological analysis of the Anzac battlefield had yet to be undertaken.

In 2005, Turkish road-widening activities at Anzac Cove shaved the hillside behind the

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objects that fill museums both in Australia and abroad, few artefacts have a *precise* context. The analysis and interpretation of the exact spatial relationship between an artefact and the physical layout of a site is the contribution of archaeology.

THE PROJECT — JOINT HISTORICAL AND ARCHAEOLOGICAL SURVEY

The first survey of the Anzac battlefield was carried out in early 1919, when Charles Bean returned to Turkey as leader of the Australian Historical Mission, a group of eight Australians, including a war artist (George Lambert) and photographer (Hubert Wilkins).⁷ The visit enabled Bean — assisted by Major Zeki Bey, a Turkish officer who had served through the campaign — to study the field of battle from the Turkish perspective and resolve, to his mind, 'riddles' of the 1915 campaign that remained unanswered. His purpose was to report to the Commonwealth Government on how the Australian cemeteries should be laid out and maintained, and his visit did not involve archaeology or cartography. Even so,

shoreline and exposed what was reported to be a human long bone, allegedly belonging to a soldier who died during the 1915 campaign. The nationality of the soldier is unknown: Australians, New Zealanders, English and Indians all fought and died in this Anzac area. But ethnicity was not the issue behind the swift and deeply felt reaction from Australia; rather, it was the disturbance of a site of special significance — a site embedded in the hearts and minds of many Australians.

Less than two months later, on 26 April 2005, the then prime ministers of Turkey and of Australia, Recep Tayyip Erdoğan and John Howard, agreed to cooperate on the preservation of key sites from the 1915 campaign in the Anzac battlefield area. A subsequent Australian Senate committee report, *Matters Relating to the Gallipoli Peninsula* (2005), recommended a multidisciplinary project to identify and record sites of historical significance.¹⁰ The JHAS project was thus formed, with a team composed of members from countries on both sides of the 1915 conflict: Australia, New Zealand and Turkey. Nearly five years elapsed between the Senate recommendation and the first fieldwork season,



(above)

Fig. 1. Sheet 17 of the 43-sheet map series produced under Brigadier General Mehmet Şevki Pasha. This map, at a scale of 1:5,000, covers the Anburnu area of the Gallipoli peninsula and depicts the Allied and Ottoman battlefield features as they lay in 1916.

COURTESY MITHAT ATABAY

and it took another five years to complete the project (2010–2014).

No archaeological excavations were undertaken on the battlefield at Gallipoli during the JHAS project. Rather, non-invasive surface inspection was the primary mode of study. Field surveying is an archaeological method of information gathering with a long history, and it is uniquely placed to analyse and interpret evidence concerning the spatial dimensions of human behaviour. For JHAS, all finds — from the smallest scrap of rusty metal to a long and winding trench — were recorded with precision and described in detail. Their positions were noted using Differential Global Positioning System (DGPS) technology and measurements; issues of preservation, and any obvious spatial relationships between features, were recorded in bilingual notebooks (English and Turkish). This information about earthworks and artefacts was then digitised and integrated into the project's Geographic Information System

(GIS). Remote sensing methods, including ground penetrating radar and examination of aerial photographs and satellite imagery, were also used.

THE PREPARATION

In the planning stage leading up to fieldwork, the team was aware that, given the multidisciplinary nature of the exercise, evidence should not be compartmentalised. Instead, we needed to ensure the integration of landscape archaeology and artefact analysis with maps, plans, written accounts and photographs pertaining to both sides of the conflict. In this regard, access to Ottoman evidence to balance out the well-known Anzac sources was an important goal of the project.

Maps were a crucial part of the planning stage for the survey. We needed to know what level of cartographic detail was available to the military of both sides prior to the landing, throughout the campaign and in the years after the evacuation. In response to the strategic importance of the Dardanelles Straits — a conduit linking the Aegean Sea to Istanbul and beyond, to the Black Sea and the Crimea — the French mapped the Gallipoli Peninsula, albeit not in detail, before the First World War. French soldier-surveyors collected much of the data in 1854, during the Crimean War.¹¹ The Allies adopted the same topographical information in the months leading up to the Gallipoli campaign to produce 1:63,360 scale maps (using the British scale of one inch to one mile). These British maps were published by the Survey Department in Cairo and were used by the Mediterranean Expeditionary Force during the 1915 landings. Their shortcomings have been much debated, but their primary failing was one of scale. They were simply not detailed enough for the campaign, in particular because their unconventional contours understated the ruggedness of the terrain.

The Allies' replacement maps, drafted during the course of the campaign, helped the situation. But the peninsula was not mapped in detail until the Ottoman military charted the region from March 1914 to February 1916.¹² Instrumental in this project was Brigadier Mehmet Şevki (Ölçer) Pasha, an outstanding cartographer, whose maps remain an invaluable resource.¹³ Born in 1866



in Istanbul, Şevki Pasha graduated from several Ottoman military schools before attending the French War Academy in Paris (1890–1892), where he learned his mapping skills. Upon his return to Turkey in 1894, he was appointed to the Mapping Commission and, by 1909, he was producing intricate maps for the Ottoman Empire. With the onset of the First World War, the mapping of the Gallipoli Peninsula became imperative. Fifty-eight officers led by Şevki Pasha produced 1:25,000 scale maps that were later modified for a series at a scale of 1:5000. The seventeenth sheet of this significant set of maps covers the Arıburnu (Anzac) area. It depicts the complexity of Ottoman (printed in red) and Anzac (printed in blue) trench systems and the roughness of the physical terrain (fig. 1).

THE SETTING

The Anzac area, covering approximately 3.7 square kilometres, was defined by the Treaty of Lausanne, and included in the treaty as Map Three.¹⁴ Today the territory is delineated by a series of white, concrete boundary markers



(fig. 2). It lies between the broad coastal plain of Suvla (Anafarta) and the elevated plateau of Kilitbahir. The island of Gökçeada (formerly Imbros), thinly veiled in a sea haze in summer, is visible from most vantage points (fig. 3); further away is Samothrace. During the Gallipoli campaign, many Australian soldiers were enchanted by the sunsets over the islands. Sergeant Cyril Lawrence noted in his diary

Away about fifteen miles off our position are two mountainous islands, Imbros and Samothrace. The sun goes below the sea's horizon just off the northern end of the latter throwing them both, great jagged peaks, into silhouette on a crimson background. The sea is nearly always like oil and as the crimson path streams across the water the store ships, hospital ships, torpedo boats and mine sweepers stand out jet black. God, it's just magnificent!¹⁵ (fig. 4)



(left, upper)

Fig. 2. One of the concrete boundary markers that delineate the Anzac Battlefield.

COURTESY DEPT OF VETERANS' AFFAIRS (DVA); PHOTO: A. SAGONA

(main photo)

Fig. 3. View of Plugge's Plateau with the silhouette of the island of Gökçeada on the horizon.

COURTESY DVA; PHOTO: A. SAGONA

(left, lower)

Fig. 4. Sunset over the island of Gökçeada.

COURTESY DVA; PHOTO: A. SAGONA



(above)

Fig. 5. 'The Sphinx' at sunset.

COURTESY DVA;
PHOTO: A. SAGONA

The jagged terrain of the battlefield is well known — seasonal streams and seismic activity have etched into the limestone and sandstone terraces a confusing entanglement of deep valleys and precipitous peaks, such as the 'Sphinx' at Anzac Cove (fig. 5). Today this rugged ground is carpeted by thick vegetation. Trees such as the *Arbutus andrachne* (commonly called the Greek strawberry tree, but often mistaken for rhododendron by the Anzac soldiers), and shrubs, including thorn bushes, reduce visibility on the ground and add to the difficulty of a field survey. Owing to the nature of the terrain, the most effective and systematic approach was to ground search along narrow strips of land (transects), strategically placed across the battlefield, rather than walking in a straight line over grids measuring one hundred by one hundred metres, which are conventionally used in open ploughed areas. Intensive field walking in more accessible areas was also adopted.

For most Australians the Gallipoli Peninsula is inseparable from the 1915 campaign. Some might be aware that the celebrated ancient settlement of Troy is not far away, on the other side of the straits in north-western Turkey, but

on the whole the deep and rich history of this region is little known. This is due in part to an absence of eye-catching monuments, such as those that greet visitors at Ephesus or Pergamon, but the main reason is that, compared to other parts of Anatolia, archaeological investigations in this long, narrow finger of land (five kilometres wide at its narrowest point) are in their fledging stage. Even so, we can piece together some of the peninsula's history. It was settled around the mid-seventh millennium BC, when Neolithic farming communities inhabited the north-west of Anatolia around the Marmara Sea, their last destination before they went on to transmit their knowledge of cereal cultivation and animal domestication to south-east Europe.¹⁶

Many nameless cultures, known only by their material remains, populated the region in the Bronze and Iron ages. It is not until the fifth century BC and the ancient Greeks that we encounter informative literary texts that mention the region, although Homer's *Iliad*, composed around 700 BC, also makes a passing reference to the city of Sestos on the peninsula and a few other locations in the Dardanelles area.¹⁷ To the Greeks, the peninsula

was ‘Thracian Chersonese’, which harboured a number of important cities including ‘Kallipolis’ (Beautiful City), the Greek equivalent of Gallipoli, and the Turkish ‘Gelibolu’.¹⁸ The cities on the peninsula also feature in accounts of three ancient conflicts — the Trojan, Persian and Peloponnesian wars. After the Graeco-Roman period the peninsula, often viewed as the gateway between Europe and Asia, continued to play a prominent role in Byzantine, Crusader and Turkish history. Again its position was the crucial factor. Soon after he conquered Istanbul on 29 May 1453, Fatih Sultan Mehmet (Mehmet the Conqueror) moved to fortify the Dardanelles in order to secure the capital city. The impressive castles that he built still overlook the straits today, like mute sentinels guarding the entrance to the capital. One aspect has not changed in the history of the peninsula, namely its multicultural identity. From the earliest settlements through the medieval period to 1914, it has been a place where cultures intersect. There is no better indication of this than the demography of the Dardanelles prior to the Allied campaign, when the population comprised a mix of Greeks, Turks, Jews, Armenians and Bulgarians.

THE RESULTS

In its first four years, the JHAS recorded and documented 1769 features, of which 596 are earthworks (Anzac and Ottoman), including trenches (47%), dugouts (17%) and tunnels (13%).¹⁹ The survey focused on the terrain on either side of a narrow no-man’s-land between the Anzacs and the Ottomans, along the Second Ridge and along the coast fringe.

Approximately 16.5 kilometres of trenches spread across 4.2 square kilometres have been recorded. Both the Allies and the Ottomans dug deep and narrow linear trenches, which etched the presence of both camps into the landscape (fig. 6). As the Anzac trenches evolved, they formed a complex and interconnecting system of four levels. Defining the battlefield were sinuous or zigzagged trenches shaping the lines of opposing forces. Behind them were support trenches, from which supplies and new troops passed to the front. Next, reserve trenches located well away from the front line acted as depots for emergency supplies and soldiers.

Finally, communications flowed along important arterial trenches that linked focal points on the battlefield. In many respects, the nature of trench warfare, where the main aim is to dig below the ground surface to gain protection, limited the mobility of soldiers. At Anzac, the labyrinth of earthworks evolved as a three-stage process. The first stage, in the first few days after 25 April, was the shortest and most chaotic as confused and desperate soldiers feverishly dug themselves below ground.²⁰ Then, throughout May, the basic positions were consolidated. In the third stage, continuing over the next seven months, the formidable and elaborate trench system was extended and refined with the help of engineers.

Archival photographs and plans show that, on average, Anzac trenches were dug to a depth of two metres, deep enough so that a soldier could safely stand up, and were about 1–1.2 metres wide. Some trenches, however, such as the Big Sap, or the Ottoman trench at the Nek, were massive, being several metres deep and wide,

(below)

Fig. 6. Bolton’s Ridge. Well preserved Anzac trench nestled in thick vegetation (Feature 838). Note the Greek strawberry tree on the left hand side.

COURTESY DVA;
PHOTO: A. SAGONA



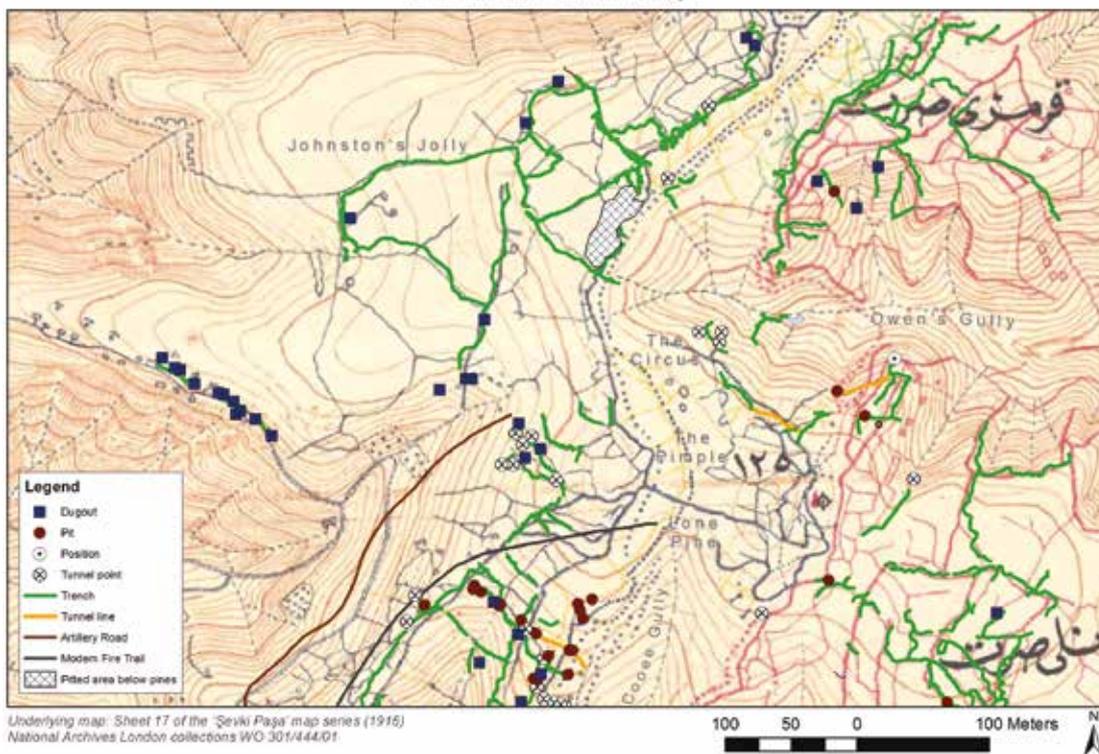
and would have required a huge investment of labour. A century on, most trenches average between eighty to ninety centimetres in depth, their walls clearly discernable and preserved by tree roots. When you stand in a trench today, you soon realise that beneath your feet is a substantial amount of eroded soil and leaf litter. This rich and deep deposit of soil has promoted the growth of *Arbutus andrachne*, so in many instances it is possible to follow the trench line by following the line of these trees. An example of the correlation between the JHAS findings and Şevki Pasha’s map can be seen in the map of Lone

Lone Pine and Johnston's Jolly

(right)

Fig. 7. Earthworks recorded during the JHAS project superimposed on Şevki Pasha's map.

COURTESY DVA;
CREATED BY
JESSIE-BIRKETT-REES



(below)

Fig. 8. Lone Pine. Well-formed, round tunnel opening, measuring 80 cm across the mouth (Feature 733).

COURTESY DVA;
PHOTO: A. SAGONA



dangerous locations. We recorded eighty-two tunnel openings, which hints at the existence of a tunnel system (fig. 8).

Dugouts are the third main form of earthworks. Usually positioned close to support and reserve trenches, these depressions were a safe haven for soldiers, where they rested from the stress of combat, or ate their meals. Their size varies from ninety centimetres to as large as five metres across, though most are today around 2.5 metres in diameter.

Terraces were also secure positions, but could accommodate a larger cohort of soldiers than a string of dugouts. Cut into the slope of a hill, terraces were levelled areas generally used as camps for food preparation. The most significant that we rediscovered was Malone's Terrace, situated behind Quinn's Post. In the first two months at Quinn's Post, soldiers had difficulty working and resting on the steep slope. When New Zealander Lieutenant-Colonel William George Malone took over the post with his Wellington Battalion on 9 June 1915, he made significant changes to improve security and make the location more comfortable for his men. Malone's contribution to the campaign is notable because Quinn's Post was a critical area, where some desperate fighting took place. No-man's-land was at its narrowest here with no more than

Pine and Johnston's Jolly (fig. 7). Even though slight divergence can be noted, it is clear that, in some instances, trenches correspond closely.

As the campaign progressed, the war went further underground, especially after the Ottomans exploded their tunnel on 29 May at Quinn's Post. Tunnelling was not new in warfare, but high explosives were. The Anzac forces burrowed in turn beneath enemy lines to detonate explosives and destroy above-ground enemy installations. Other tunnels were defensive for both forces and acted as passageways from one trench to another in



twenty-seven metres (little more than a cricket pitch) separating it from the Turkish frontline. The improved conditions no doubt helped in holding on to this position.

Artefacts comprise 1106 of the 1769 features recorded by JHAS, with 650 items found in the Anzac area and 456 in the Turkish regions. These items can be classified into thirteen categories, though for purposes of understanding life in the trenches they are best grouped into five themes: Barbed wire and bricks — the main means by which trench systems were fortified; Weapons, ordnance and tools; Food, water and drink; Communication and logistics; and Personal items (figs 9–18, overleaf).

Here I will present some of the results pertaining to food. There is no difference more marked than that between the food the two armies ate, owing largely to the fact that the Ottoman army had access to fresh food. In many ways the two ‘menus’ represent what nutritionists would consider extremes on the food spectrum. On the one hand, the Anzacs filled up on pre-packaged foods, such as corned beef and jam, supplemented by hard biscuits. Charles Bean gives a vivid account of this stomach-turning diet (fig. 19):

For a month it was possible to eat ‘bully beef’, onions, army biscuits, bacon, and jam, and drink tea with relish. But as month followed month; as heat and flies increased the troops ... had little appetite



(left)

Fig. 19. Russell's Top. Flattened can, heavily corroded (Artefact 392.2); Pope's Hill. Bully beef key and with part of winding still attached (Artefact 246).

COURTESY DVA;
PHOTO: A. SAGONA

for the over-salted ‘bully’, which, in the heat of midday or afternoon, slipped in its own fat across the platter or mess-tin, swamping stray flies as it went; or for the thin apricot jam on tasteless biscuit; or for the cheese, greasy from exposure to the sun and filling the dugout with an odour sickeningly reminiscent of that exhaling from the corpses in No-Man's Land.²¹

Turkish soldiers, on the other hand, were always served cooked foods. The meals were prepared in large cauldrons and carried in wide pans, tin buckets, or any other available container.²² Mobile kitchens ensured that food was never far away, and drew on provisions stored and organised by the Ottoman 5th Army Logistics Inspectorate at several points on the peninsula. Fresh bread was baked daily in Madytos (now Eceabat), and at the beginning of the campaign several abattoirs were established behind the battlefield. The food ration for an Ottoman soldier was 3000 calories per day.²³ Soup was served at breakfast (6–8 am), and officers had the added luxury of hot tea. During the day Ottoman soldiers snacked on dried grapes, figs, or nuts, which were kept in their kits.²⁴ Then, at lunch (11 am – 1 pm), grilled meatballs and soup were served with *pilaf* (rice). The main meal was dinner (6–8 pm) and included a dish of legumes (chickpeas, lentils and beans) served with meat (62 grams) and fresh vegetables in summer.²⁵ Green vegetables were particularly favoured as a preventive for scurvy.

Archaeological fieldwork confirms the documentary evidence on the food served to soldiers, as well as providing new insights on where it was consumed. While the Ottoman army were well served by fully-fledged kitchen installations, the artefacts associated with food and eating in the Anzac-held areas tell a different

CONSTANTINOPLÉ

Fig. 9. **Dead Man's Ridge.** An in situ fragment of German barbed wire, well camouflaged amongst the vegetation (Feature 505).



Fig. 10. **Turkish front-line trench at Dead Man's Ridge.** Pattern 1903 Ottoman bayonet (Artefact 300).



Fig. 11. **Holly Ridge between the Turkish and Anzac front lines.** The blade end of an iron entrenching tool (Artefact 962).



Fig. 12. **Turkish front line on Silt Spur.** Head stamp of a Mauser (written in Ottoman at the top) bullet cartridge case (Artefact 636); on the bottom is the Arabic date 1326 A.H. (1908 A.D.), and on either side are stamped a crescent moon and star, and another symbol; **Holly Ridge.** Cartridge case (Artefact 943). Bronze. Letters and numerals stamped onto the head stamp: 'CAC' (top), and '7', '12', and 'VI' (bottom); **German Officers'.** Nine expended bullets misshapen by impact (Artefact 102).



Fig. 13. **Outpost No. 2.** Ninety-five dark green glass shards from a single alcohol bottle (Artefact 861).



ALL IMAGES: COURTESY DVA; PHOTOS: A. SAGONA

Chateau Neuf d'Asie



14



15



17



16



18



Fig. 14. **Outpost No. 2.** Glass fragment (Artefact 1077), possibly from a whiskey bottle. Some moulded letters are partially preserved and read '...GLAND', most probably '[EN] GLAND'.

Fig. 15. **Bolton's Ridge.** Base sherd of SRD stoneware jar (Artefact 825). Stamped mark on the side reads: 'HUNTS PATENT LIVERPOO...'

Fig. 16. **Courtney's Post.** Anzac water bottle with blue enamel surface (A149). Kidney-shaped base and curved sides. Two holes, possibly bullet holes that have corroded.

Fig. 17. **The Nek.** Detail of rivets of a large water tank (Feature 562).

Fig. 18. **Johnston's Jolly.** Button with round surface and eye for thread on back (Artefact 19). The face is embossed with the crest of Edward Rex and surround by the words 'Australian Army Corps' around the circumference.

ALL IMAGES: COURTESY DVA; PHOTOS: A. SAGONA

Background image: 'Veue des Dardanelles de Constantinople c. 1700'. This French map shows Gallipoli on the left hand side and the perspective, with Constantinople on the horizon, emphasising the strategic importance of the Dardanelles.

SOURCE: THE RONALD & PAMELA WALKER COLLECTION OF MAPS OF CONSTANTINOPLE & SURROUNDS, 1493-1734, THE UNIVERSITY OF MELBOURNE MAP COLLECTIONS



(above, left)

Fig. 20. Turkish Quinn's. Arrangement of bricks in area known as Mutfak Dere (Kitchen Valley), possible part of an Ottoman kitchen structure (Feature 321).

COURTESY DVA;
PHOTO: A. SAGONA

(above, right)

Fig. 21. Ottoman soldiers lining up for a meal.

PHOTO: COURTESY
MITHAT ATABAY



story. The majority of these items (107 out of 1107 artefacts) are tin-plated steel cans, which were used as containers for pre-packaged food such as corned beef, jam and, occasionally, treats of condensed milk and cocoa. Like all material culture recorded where it is found, these tin cans are informative on several levels. The discard patterns across the battlefield, for instance, document the location of mess areas. Not surprisingly, many tin cans were recovered around dugouts and in the support trenches. A survey of Silt Spur (at Features 704, 715 and 716), however, revealed a more harrowing time at the front line. Evidence of sustained heavy conflict is everywhere — tunnel entrances, shrapnel, bullet fragments, and barbed wire segments — but pieces of metal cans and glass sherds also suggest that food was consumed in the heart of the conflict zone. To judge by the sherds of glass bottles that have also been found at Silt Spur, the bland palate of the Anzac rations was possibly improved with condiments and the nutritional value enhanced with tonics. A similar situation is found at the Anzac frontline on Holly Ridge where, between the barbed wire entanglements in no-man's-land, our survey recorded a rubbish dump. It appears that, in the thick of fighting, Anzac soldiers consumed food and threw the refuse from their meals into this patch of land — one of the outcomes of the survey that brings the day-to-day practices of the soldiers into sharper focus.

That we have few food-related items on the Turkish side is not surprising. Unlike the Anzacs, they had little in the way of inorganic refuse,

and most of their cooking and eating utensils would have been taken away at the end of the campaign. The most substantial evidence of their food supply lines are the remains of a Turkish brick oven behind German Officers' Ridge and relatively close to the front lines (figs. 20–21). Pressed bricks were found scattered across the Turkish trench system, but especially near the front line where they were used to reinforce earthworks. Many of the bricks have a *frog* — an indentation on the brick's widest sides — that bears the name of the brickworks. There is a variety of brick types from the peninsula, but the one most commonly documented during the survey had relief Greek letters reading ΜΑΔΥΤΟΣ, pointing to their manufacture at the Madytos (Eceabat) brickworks. Several slabs of sandstone, rounded at the edges, and reddened by fire, might have been used to bake flat bread.

CONCLUSION

So what has the JHAS project achieved? For the first time, the governments of three nations — Turkey, Australia and New Zealand — will have a baseline document that details sites of significance on the Anzac battlefield.

This battlefield, like other modern theatres of war, is witnessing a sharp rise in visitor numbers, reflecting the increase in specialist and public interest in twentieth-century conflict. Knowing what has survived on the Anzac battlefield will better meet the needs of the curious and individuals with family connections, heritage managers and fieldworkers. These and other

interest groups will now have a detailed record of the Anzac area.

On another level, the archaeological analysis of earthworks and their relationship to artefacts will broaden our understanding of the 1915 campaign. There is no question that the documentary record of Gallipoli is truly astounding, but it is only one source of evidence. Archaeology can now provide an independent body of data, which can be used for comparison or verification.

Thirdly, the recovery or identification of objects with precise contexts enables a high level of analysis of day-to-day behaviour of the individual soldier, which is sometimes difficult to find in the written sources. The intense psychological and physical experience of this first industrialised conflict deeply affected the soldiers. Their landscape was one of the senses — deafening noise from exploding artillery, pungent gas, and the sickening smell of death. The material culture left behind on the battlefield evokes their experiences. The spatial analysis of some of the food items, especially the discard patterns, for instance, both substantiates the documentary evidence and offers new insights into life in the frontline trenches.

Finally, the survey has utilised the notion of 'place'. It has attempted to locate the 1915 campaign within the expansive historical context of the Gallipoli Peninsula, which extends through the Ottoman hegemony to the Graeco-Roman period and into remote prehistory. ¶



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Ancient Turkey (2009), co-authored with Paul Zimansky. Recently, his research interests have extended to conflict archaeology through his investigations of the Anzac battlefield. He is also editor of the journal **Ancient Near Eastern Studies** (Peeters Press, Leuven) and its monograph series.

1. Dispatch, Commonwealth of Australia Gazette, 2 December 1915, p. 3058.
2. The information presented in this article is based on the collective hard work of a team, listed here in alphabetical order, which I had the privilege to lead in the field during five years (2010–2014) of survey work: Gürsel Akingüç, Yağmur Arslan, İrem Aydilek, Jessie Birkett-Rees, Muhammet Erat, Simon Harrington, Murat Ufuk Kara, Ersümer Karanfil, Reyhan Körpe, Chris Mackie, Ian McGibbon, Sarah Midford, Guillermo Narsilio, Michelle Negus-Cleary, Cliff Ogleby, Richard Reid and Abby Robinson. I am grateful for their camaraderie, passion for research, and sense of purpose, which made the JHAS project both enjoyable and stimulating.

Many other people and institutions have made the JHAS project possible. Mentioned here are only the few who have seen this project through its five years. To the Turkish authorities in Ankara, including the T. C. Kültür ve Turizm Bakanlığı (Kültür Varlıkları ve Müzeler Genel Müdürlüğü)/Ministry of Culture and Tourism, T. C. Dışişleri Bakanlığı/ Ministry of Foreign Affairs, and the T. C. Orman ve Su İşleri Bakanlığı/Ministry of Environments and Forests, we extend our thanks for granting us permission to carry out the field survey. The project owes a great debt of gratitude to the Department of Veterans' Affairs (Canberra), and the Ministry for Culture and Heritage, New Zealand, who provided support throughout the development of this project. I also wish to record my thanks to the various Governors/Valiler of Çanakkale, the District Governors/Kaymakamlar of Eceabat, three Australian Ambassadors to Turkey and their staff, two Australian Consuls at Çanakkale and their staff, the Rectors of Onsekiz Mart Üniversitesi, Çanakkale, and the Commanders of the Naval Museum, Çanakkale, where the survey finds are stored.

3. *Anzac Battlefield: A Gallipoli Landscape of War and Memory*, ed. by A. Sagona, M. Atabay, C. Mackie, I. McGibbon and R. Reid (Cambridge & Melbourne: Cambridge University Press, in press). I thank my colleagues (see endnote 2, above) for allowing me to present some of our collective results. A detailed open-access catalogue will also be available online — 'Gallipoli Battlefield Archaeological Database' (GBAD): www.arts.unimelb.edu.au/gallipoli-battlefield (under construction). For preliminary results, see A. Sagona, M. Atabay, R. Reid, I. McGibbon, C. J. Mackie, M. Erat and J. Birkett-Rees, 'The ANZAC [Arıburnu] Battlefield: New Perspectives and Methodologies in History and Archaeology', *Australian Historical Studies* 42 (2011), pp. 313–37.
4. See, for instance, the early study by B. Gammage, *The Broken Years: Australian Soldiers in the Great War* (Ringwood, Vic.: Penguin, 1975), who directed his attention to the experience

- of soldiers in the trenches rather than the strategies of officers. More recently, the role of civil society has been studied from a transnational perspective; see, *The Cambridge History of the First World War*, ed. by J. Winter, vol. 3 (Cambridge University Press, 2014).
5. On the anthropology of warfare see *Matters of Conflict, Material Culture, Memory and the First World War*, ed. by N. J. Saunders (London: Routledge, 2004); *Beyond the Dead Horizon: Studies in Modern Conflict Archaeology*, ed. by N. J. Saunders (Oxford: Oxbow, 2012); *Contested Objects: Material Memories of the Great War*, ed. by N. J. Saunders and P. Cornish (London: Routledge, 2008). Battlefield archaeology is well covered in D. D. Scott, R. A. Fox Jr., M. A. Connor and D. Harmon, *Archaeological Perspectives on the Battle of Little Bighorn* (Norman, OK: University of Oklahoma Press, 1989); *Fields of Conflict: Battlefield Archaeology from the Roman Empire to the Korean War*, ed. by D. D. Scott, L. Babits and C. Haecker, 2 vols (Westport, CT: Praeger Security International, 2007).
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 13. E. Özkale and M. R. Şenler, *Haritacı Mehmet Şevki Paşa ve Türk Haritacılık Tarihi (1919 yılına kadar)* (Ankara: Harita Genel Müdürlüğü, 1980).
 14. Lausanne Peace Treaty Part V, Miscellaneous Provisions, 2. Graves, Article 129.
 15. Cyril Lawrence, *The Gallipoli Diary of Sergeant Lawrence of the Australian Engineers*, ed. by Sir Ronald East (Carlton, Vic.: Melbourne University Press, 1983), p. 35.
 16. *The Neolithic in Turkey: New Excavations & New Research*, ed. by M. Özdoğan, N. Başgelen and P. Kuniholm, vol. 5, *Northwestern Turkey and Istanbul* (Istanbul: Archaeology & Art Publications, 2013).
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 19. The team is still analysing the data from the fifth (2014) field season.
 20. For a detailed account of how the Anzac battlefield was formed, see R. Reid and I. McGibbon, 'Forming the Anzac Battlefield', in 'Anzac Battlefield', Sagona et al. (in press).
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 22. Genelkurmay Askeri Tarih ve Stratejik Etüt Daire Başkanlığı (ATASE)/Turkish General Staff, *Birinci Dünya Harbi'nde Türk Harbi V. Cilt 3. Kitap, Çanakkale Cephesi Harekâtı (Haziran 1915 – Ocak 1916)* (Ankara: Genelkurmay Basımevi, 1980), p. 530.
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 24. An excellent example of a Turkish soldier's food ration bag is held in the AWM: RELAWM03972.004, <<https://www.awm.gov.au/collection/RELAWM03972.004/>>.
 25. Genelkurmay Askeri Tarih ve Stratejik Etüt Daire Başkanlığı (ATASE)/Turkish General Staff, 2002, p. 237.