

Modern Conflict Archaeology (MCA) is a powerful interdisciplinary approach to the complex challenges facing the investigation of twentieth and twenty-first century conflict. Since its origins at the turn of the twenty-first century, the scientific archaeology and material culture anthropology of the First World War have been at the forefront of developing and refining its practical and intellectual agendas through a diversity of research projects across Europe and beyond. Here, the development and potential of this new subdiscipline will be explored drawing on evidence from the Western Front (France and Belgium), Jordan, and most recently the Sesto Dolomites in South Tyrol.

Orthofoto of the relief at the tunnel exit.
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Modern Conflict Archaeology Interdisciplinary Reflections and the “Written in the Landscape” Research Project **Nicholas J. Saunders**

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DE Die moderne Konfliktarchäologie (Modern Conflict Archaeology) stellt einen interdisziplinären Ansatz zur Erforschung der komplexen Konflikte des 20. und 21. Jahrhunderts dar. Seit ihren Anfängen zu Beginn des 21. Jahrhunderts haben die wissenschaftliche Archäologie und die materielle Kulturanthropologie auf dem Gebiet des Ersten Weltkrieges durch eine Vielzahl von Forschungsprojekten in ganz Europa und darüber hinaus eine Vorreiterrolle bei der Entwicklung und Verfeinerung der praktischen und intellektuellen Ziele dieser neuen Unterdisziplin eingenommen. In diesem Beitrag werden die Entwicklung und das Potenzial der modernen Konfliktarchäologie anhand von Zeugnissen von der Westfront (Frankreich und Belgien), aus Jordanien und den Sextner Dolomiten in Südtirol untersucht.

IT La moderna archeologia del conflitto rappresenta un potente approccio interdisciplinare per affrontare le complesse sfide che l'indagine sui conflitti del XX e XXI secolo comporta. Fin dalle sue origini all'inizio del XXI secolo, l'archeologia scientifica e l'antropologia della cultura materiale relative alla Prima guerra mondiale sono state all'avanguardia nello sviluppo e nel perfezionamento degli obiettivi pratici e teorici di questa nuova sottodisciplina, attraverso una serie di progetti di ricerca in Europa e oltre. Il presente capitolo esplora lo sviluppo e il potenziale della moderna archeologia del conflitto sulla base di testimonianze provenienti dal fronte occidentale (Francia e Belgio), dalla Giordania, e, più recentemente, dalle Dolomiti di Sesto in Alto Adige.

Modern Conflict Archaeology (MCA) is a powerful interdisciplinary approach to the complex challenges facing the investigation of twentieth and twenty-first century conflict. As a radical alternative to traditional Battlefield Archaeology's military history focus on single (and mainly pre-twentieth century) events, MCA is concerned with the wider social, cultural, psychological, and technological complexities of recent conflicts, and their volatile and unpredictable legacies. This approach yields insights into the multifaceted character of modern conflict through archaeological and anthropological fieldwork, archive research, historical documentation, critical museology, community participation, and, ever more significantly, through scientific advances in investigative technologies from DNA to LiDAR, GIS, and geochemistry to name just a few.

The University of Bolzano's ambitious "Written in the Landscape" project in the Sesto Dolomites of northern Italy, is the most recent project to adopt and adapt key elements of MCA in a cross-disciplinary intellectual framework. It deployed hi-tech survey solutions to investigating and recording a challenging mountainous terrain, ethnographic interviews and community participation in heritage work, and fly-through video presentations of digital heritage. Interestingly, and as with my own work in Jordan and Slovenia, "Written in the Landscape" research involved the challenging cultural and political complexities of borderlands, requiring a robust investigative response to the ever-changing revalorizations of objects, landscapes, people, their moral and heritage imperatives, and their enduring legacies.

Elsewhere, alone and with colleagues, I have addressed the wide remit of MCA, which includes many aspects of all kinds of twentieth century civil as well as military conflict and related issues, from landscape to objects, the human body to museums, sensoriality to incarceration (e.g. Saunders, 2003, 2004, 2012; Saunders & Cornish, 2017; Cornish & Saunders, 2022). Here, I focus on the First World War, and contextualise the "Written in the Landscape" project within the development of MCA and in light of some of my own research. It is important to state that I was neither a member of the Bolzano project nor did I participate in any of the research. This paper is an invited outsider's view, a comparative reflection on the nature and progress of MCA and on the contribution of the project "Written in the Landscape" to it.

Modern Conflict Archaeology

Modern conflict archaeology is "modern" in several ways. First, it deals only with conflicts of the twentieth and twenty-first centuries, and second, it is an anthropologically informed interdisciplinary endeavour, quite different from the single battle event focus of most traditional battlefield archaeologies, which have often seen archaeology serve as little more than a handmaiden to military history. Apart from the exceptional work at the site of the 1876 Battle of the Little Big Horn by Richard Fox and Douglas Scott (Fox, 1993) which "added significantly to the theory of the anthropology of war" (Scott, 2010, p. ii), many subsequent archaeological investigations of battlefields fell far short of this standard.

The terms "Modern Conflict Archaeology" and "Battlefield Archaeology" are neither coterminous nor interchangeable. "They embody quite different approaches and agendas, both to the empirical data, and to the presence or absence of an acknowledged theoretical sophistication concerning the nature and meaning of objects and landscapes, and their relationships to people in the past and the present" (Saunders, 2012, p. xiii). Battles and battlefields are but

one part of dealing with the complexities of historically recent conflicts whose industrialized intensity and incorporation of political and nationalistic motivations, notions of ethnicity and identity are multivalent.

The scale and range of MCA topics is vast, and over the past two decades many investigations have produced an extraordinary corpus of knowledge (and a rapid momentum), where, it can be argued, very little existed previously. It is not my intention to provide an exhaustive list, but even a selection of key contributions which, each in their own way, have helped define and enrich multi-disciplinary MCA must include the following. For leading the way (e.g. Beck et al., 2002, González-Ruibal, 2008). For the First World War and its aftermath (e.g. Aksoy, 2023; Dendooven & Chielens, 2008; Desfossés et al., 2008; Kobialka et al., 2017; Kosir et al., 2019; Nicolis et al., 2011; Saunders, 2003, 2007; Shapland & Stefani, 2017; Stichelbaut, 2018; Talida Roman, 2022; Zalewska, 2019; and Breithoff, 2020). For the Spanish Civil War (e.g. Garfi, 2019; González-Ruibal, 2020; Renshaw, 2011). For the Second World War (e.g. Arnold, 2008; Carr, 2024; Carr & Mytum, 2012; Hughes, 2022; Moshenska, 2013, 2019; Seitsonen, 2021; Sturdy Colls, 2015), and for the Cold War (e.g. Cocroft & Schofield, 2007; Glass, 2020; Hanson, 2016).

By their nature, recent historical conflicts are often within living memory, and so can incorporate an oral history dimension which itself can draw in family history and heirlooms (e.g. De Nardi, 2017), community identity, environmental issues (e.g. Biggs, 2018; Souvent & Pirc, 2001; Van Meirvenne et al., 2008), cultural heritage, and the public presentation of previously hidden criminal actions (e.g. Kobialka et al., 2024).

Many conflict locations have become (or are becoming) “sites of memory”, politically contested and economically important places of cultural heritage, public and private memory, and, increasingly, of tourism (e.g. Evanno &



1 British schoolchildren visiting the Thiepval Monument to the Missing on the Somme, France.
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Vincent, 2019; Miles, 2016) (FIG. 1). This array of issues characterizes MCA, and “Written in the Landscape” exemplifies and adds momentum to many aspects of such research, whose multidisciplinary origins lay in large part in the In Flanders Fields Museum project “The Last Witness: The War Landscape of the Westhoek” (Chielens et al., 2006). Both projects recognize modern conflict as a multifaceted phenomenon, transforming the material and mental worlds of men, women, and children in different ways.

While the early 2000s saw an increasingly anthropological approach to modern conflict landscapes, material culture, and their theorization, there were parallel advances at the micro and macro scales of scientific investigation. DNA analysis and the identification of fragmentary human remains made it possible for forensic specialists to reclaim the dead from lists of the previously anonymous “missing”, an ability which now extends well beyond the 1914–18 war to many other conflicts around the world from the Spanish Civil War to the Rwanda genocide, “the missing” of Argentina, and beyond (e.g. Renshaw, 2011; Stahn et al., 2020; Crossland & Joyce, 2015; Jugo, 2017; Delpla et al., 2012).

At the other end of the scale, the ability to observe, describe, record, and analyse landscape utilising the technological innovations of LiDAR and GIS have enabled century-old wartime aerial photographs to be digitized and manipulated with and supplemented by modern remote sensing imagery in computer software (e.g. Stichelbaut & Chielens, 2014; Stichelbaut & Cowley, 2016; Taborrelli et al., 2017; Gheyle et al., 2018; Bezzi et al., 2021; and see Note et al., 2018). The advent of UAV (unmanned aerial vehicles/drones) for photography, video, and LiDAR has added further coverage and analytical precision to understanding of the landscape, not least in 3-D digital computer-generated visualizations (DTMs, DEMs, DSMs). These are powerful if sometimes troubling technologies. Since the Russian invasion of Ukraine in February 2022 it has become a commonplace to see conflict archaeology being created in real time through UAV video footage. Here, the destruction of people, places, material culture, and landscape is captured “live”—an uncomfortable though invaluable tool for chronicling and evaluating conflict (with post-conflict legal ramifications).

These technological advances have created a vast new research agenda (and audio-visual presentational opportunities)—a digital landscape layer of conflict (in fact many overlapping layers) which have added ever more kinds of meaning and value to battle-zone investigations (e.g. Stichelbaut & Chielens, 2016; Bezzi et al., 2021). “Written in the Landscape” integrated these developments from its inception (see below), taking advantage of their potential not least because of the challenging and dramatic landscapes encompassed by the project (FIG. 2).

The Western Front as Modern Conflict Archaeology

Much of Modern Conflict Archaeology’s development began on the battlefields of the First World War along the Western Front of France and Belgium from the late 1990s, a period which saw increasing professional archaeological and anthropological engagement with that conflict (Saunders, 2001, 2002, 2007). Whereas previously such activities had been carried out by amateurs, now professional research was undertaken by French, Belgian, and British archaeologists (e.g. Desfossés et al., 2008; Robertshaw & Kenyon, 2008; Brown & Osgood, 2009; Verdegem et al., 2013; Stichelbaut, 2018).

It is perhaps difficult in 2024 to realize how different attitudes towards and understandings of First World War landscapes were just over two decades



**2 Military position in crevice with the Three Peaks in the background, Sesto Dolomites.
From: Arc-Team © 2021, unibz, WiL Archive. Reprinted with permission.**

ago when military history was the dominant narrative. Today, along the old Western Front, and also in the Sesto Dolomites study area of the project “Written in the Landscape”, the conflict, the conflict landscape is not seen simply as a century-old battlefield, but rather, variously, as a battle-zone composed of industrialised slaughterhouses, vast tombs for “the missing”, places for returning refugees and contested reconstruction, popular tourist destinations, locations of memorials and cemeteries, pilgrimage destinations, sites for archaeological research and cultural heritage development, and sometimes also as still deadly places full of unexploded shells and bombs (Saunders, 2001, p. 37). In other words, such places are now recognized as palimpsests – prime examples of landscape as ongoing process, colliding with and implicating the lives of regional, national, and international countless individuals since their inception.

As “Written in the Landscape” acknowledges, new landscape layers and meanings are constantly being added—commemorative monuments, cemeteries, war walk routes and signage, school visits, archaeological investigations, museums and art galleries and their exhibitions, books, films, and television programmes. Each is a new way of seeing and understanding the war from general and regional perspectives. The project’s conflict landscape, like any other, is a hybrid of the original geographical location, geological nature, the cultural landscape at the time of the military event, that event itself, and the various ways in which it lives on in memory and is physically reconfigured so that real worlds and memory worlds are brought into alignment (Saunders, 2021, p. 6).

MCA’s role in understanding the war beyond military history emphasized its anthropological dimension, not least in the attention given to its ma-

terial culture, notably the objects referred to as Trench Art (Saunders, 2003). There was also the re-education of the senses critical for survival (Howes, 1991; Leonard, 2019; Winterton, 2012; Saunders & Cornish, 2017). Here, it became evident that soldiers quickly developed new skills, identifying by sound different kinds of artillery shells as they travelled through the air, and recognizing the tell-tale odour of a buried corpse before (or without ever) seeing it. And air itself had been weaponized. As Bruno Latour (2006, p. 105) observed, nobody knew that air was part of the body's sensorial spheres until the Germans launched their chlorine gas attack outside Ypres on 22 April 1915. This sensorial dimension doubtless had a distinctive character for soldiers and civilians in the mountainous Sesto region.

A key aspect of MCA's development was the recognition that post-war legacies were an integral part of the study of modern conflict. For example, post First World War battlefield tourism between 1919 and 1939, was full of anthropological issues concerning landscape, identity, nationalism, class, pilgrimage, and material culture (buildings, maps, souvenirs), and not just tourist schedules and itineraries. This is an issue of particular relevance to "Written in the Landscape" as the Sesto area was a popular Austrian tourist destination before the First World War, and the area's evacuation in August 1915 saw many refugees journeying to Vienna whence many of the pre-war tourists had come.

During the inter-war years new layers of landscapes would be literally and figuratively piled one on top of the other, each infused with new meanings. If war was unpredictable, then so was its aftermath. The interdisciplinary remit of MCA allowed for a different kind of assessment of the Western Front, not only as a historical battle-zone and testament to twentieth century industrialized war, but as with Stonehenge, the Soviet gulags, or Gaza, as "something political, dynamic, and contested, something constantly open to renegotiation" (Bender, 1993, p. 276). The same is true of the Sesto Dolomites as the project shows.

On the Western Front, one example stands for many. The reconstruction of the medieval Belgian town of Ypres reveals competing memories and ideas concerning the shape of the future townscape (Anon., 1999; Various, 2020). While one view was that the ruins should be left as they were as a memorial to all who had suffered and died there, the final decision was to rebuild—not as a modern city, but rather as "an ersatz replica of what was lost forever" (Derez, 1997, p. 450).

A further anthropological dimension concerned public health and wellbeing in the immediate and more recent past. During the inter-war years, children and adults were maimed and killed in trenches and dugouts while scavenging for scrap metal to sell to make ends meet (Debaeke, 2010, p. 16, pp. 75–6, p. 114), or from which to make trench art souvenirs for tourists (FIG. 3). Equally dangerous was the effect of soils and water sources poisoned by gas attacks and artillery barrages. Along many First World War Fronts, environmental pollution by century-old lead shrapnel balls and other military metals (Souvent & Pirc, 2001; Van Meirvenne et al., 2008; Latterza et al., 2018) remains a problem. Wartime killing may have stopped, but war-related illnesses and deaths have not.

"Written in the Landscape" as Modern Conflict Archaeology

The multidisciplinary ambition of the "Written in the Landscape" project can be appreciated by its list of research headings—"Inner front and memory",



3 Trench Art bullet crucifix, tourist souvenir, Ypres, Belgium, 1920s.
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“Destruction and evacuation”, “Return and reconstruction”, and “Voices from Sesto/Sexten” (<https://writteninthelandscape.projects.unibz.it/en/progetto/>), a list which captures the complex layers of physical, social, and cultural evidence of the First World War in the Sesto region. As the project’s website says, the aim was “to search and redeem the living memories of war embedded in sites and places, promoting awareness of the conflictual and often ideologized heritage inscribed in this territory, beyond regional and national borders” (FIG. 4). The project’s methodological approaches, such as historical-archival documentation, socio-cultural research, and participating local communities disseminating and co-producing a common heritage, are well-recognized stand-alone methods, but are also integral components of MCA.



4 Trench line with the Three Peaks in the background, Sesto Dolomites. From: Arc-Team © 2021, unibz, WiL Archive. Reprinted with permission.

An important aspect of Modern Conflict Archaeology is the attention it gives to the civilian experience of conflict, and which includes anthropological as well as cultural historical perspectives, gathered where possible through interviews with local people. The “Written in the Landscape” project focuses on this to great effect, from documenting the evacuation of the valley just a few weeks after the Italian artillery began shelling the area in July 1915, to the post-war completion of rebuilding Sesto in October 1923. Equally significant, and an early driving force of MCA was the focus on material culture, and specifically war souvenirs and miscellaneous memorabilia. The “social lives” of these objects is examined by the project through the motivations and role of collectors, some of whom have—as with their compatriots along the Western Front and in Slovenia—created valuable private museums and sometimes collaborate with public institutions. “Written in the Landscape” has marshalled and combined the key elements of MCA to address the challenging cultural and geographical issues characterizing Sesto/Sesto’s experiences and memories of the First World War and its aftermath.

A comparative perspective: MCA and the Great Arab Revolt Project in Jordan

In 2005, a Modern Conflict Archaeology approach was adopted as the framework for the 10-year-long Great Arab Revolt Project (GARP) investigating the First World War in the Middle East and focusing on the 1916–18 Arab Revolt along the Ottoman Hejaz Railway in the deserts and wadis of southern Jordan (at that time, aerial and satellite photography were available, but LiDAR and UAV technologies were either not available or not permitted).

The interdisciplinary character of MCA was critical to meeting the various challenges confronting the project. The Arab Revolt saw the meeting and blending of traditional Bedouin raiding tactics and modern Western technology to create what was the world's first modern guerrilla landscape. "Given the influence of guerrilla tactics on twentieth century conflict, the Arab Revolt offers sharp insights into the character of many post-1918 conflict landscapes – not least the rapid advance of Islamic State in the same region in 2014 and using the same tactics as the British in 1917–18" (Saunders, 2021). Indeed, the unexpected success of Ukrainian forces against invading Russians aiming for Kyiv in the Spring of 2022 owed something to the same dynamic of a smaller mobile force set against a larger but slow if not immobile force.

Guerrilla warfare is asymmetric, its hit-and-run tactics often leaving only marginal traces. A consequence of this on southern Jordan's stony desert geology was that there was only a thin surface layer in this conflict zone, and so stratigraphy was horizontal not vertical, and traces of conflict were ephemeral and fragile (FIG. 5). Nevertheless, the remoteness of the area produced well-preserved sites along the Hejaz Railway. MCA's cross-disciplinary approach enabled the study of guerrilla actions which lasted only minutes, or an hour, through traces that had endured for more than a century. This aspect was shared in part with the "Written in the Landscape" project inasmuch as many features of the



5 Horizontal desert stratigraphy, Turkish army button, padlock, two broken spoons, and prehistoric flint tool, Wadi Rutm, Jordan.
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1915–1918 conflict landscapes around Sesto still exist more than a century after the conflict ended. Extreme heat and cold preserves what doesn't always survive in more temperate conditions.

Arguably the most famous (perhaps infamous) example of such a guerilla action was the Hallat Ammar ambush of 19 September 1917, when a raiding force of Bedouin and British soldiers led by T. E. Lawrence blew up a railway bridge and Turkish train. The creation of this conflict landscape was immortalised as an eye witness account by Lawrence in his *Seven Pillars of Wisdom*.

there followed a terrific roar, and the line vanished from sight behind a jettied column of black dust and smoke a hundred feet high and wide. Out of the darkness came shattering crashes and long, loud metallic clangings of ripped steel, while many lumps of iron and plate, with one entire wheel of a locomotive, whirled up suddenly black out of the cloud against the sky, and sailed musically over our heads to fall slowly and heavily into the desert behind (Lawrence, 2003, p. 407).

The fighting which followed left 70 Turkish dead, 30 wounded, and 80 taken prisoner in an ambush which lasted less than 10 minutes (ibid., pp. 405–407). So influential was Lawrence's account of this event that it became the iconic scene in David Lean's 1962 Hollywood epic *Lawrence of Arabia*. The interdisciplinary approach of MCA proved well able to track and analyse this event which circulated in three versions over a century—the historical, the literary, and the cinematic—all layered one on top of the other, and variously informing and distorting public understanding of these events.

GARP added a fourth interpretation in 2013 by investigating the ambush site which today lies in the No Mans Land border zone between Jordan and Saudi Arabia (FIG. 6). Yet, despite its isolation, the site was not the pristine remains of the 1917 ambush, but rather a layering of the intervening century's activities, disturbing, overlaying, and reconfiguring the original traces. These included post-ambush bridge repairs and fortification by the Turks, later abandonment, a short-lived re-use of the railway, subsequent conflict with Saudi Arabia, an abortive 1960s refurbishment of railway infrastructure (FIG. 7), and bulldozer clearance. In one sense this was the archaeology of ten minutes, in another sense it was anything but.

The investigation of the Hallat Ammar ambush is an extreme example to make a central point concerning the character of a modern conflict landscape, including here the roles of a world-famous book by T.E. Lawrence and an equally renowned cinematic version by David Lean in creating and perpetuating a powerful popular view of events. GARP's investigations revealed a rich and complex site biography rather than the straightforward remains of military action. And this sequence of events was broadly the same throughout the study area (Saunders, 2020). A decade of research uncovered a rich biography of the conflict archaeology of the Hejaz Railway in the same way that "Written in the Landscape" has done for the Sesto region. This biography includes:

- remains of the traditional Ottoman Hajj route
- remains of the construction era of the Hejaz Railway 1900–1908
- remains of Turkish railway defences and Arab-British raids on the railway between August 1917 and September 1918



6 Hallat Ammar ambush site, showing a shattered steel sleeper from the 1917 ambush, Jordan.
© Nicholas J. Saunders.



7 The Blockhouse, Turkish railway strongpoint showing signs of original 1905 construction, 1918 war damage, and 1960s refurbishment, Jordan.
© Nicholas J. Saunders.

- remains of Turkish repairs to the railway in the wake of Arab British attacks
- evidence of short-lived post-war repair and reuse of the railway between 1919 and the mid-1920s
- evidence of abandonment and robbing, late 1920s to early 1960s traces of the abortive refurbishment of the railway during the 1960s evidence of bulldozing and robbing from the 1970s to the present

The Arab Revolt conflict landscape of 1916–1918 is a multi-layered record of the collapse of the Ottoman Empire, the reshaping of the Middle East, and the origins of modern guerrilla warfare. Its volatile palimpsestic nature is characteristic of modern conflict landscapes, and as such is an insightful comparator for the “Written in the Landscape” project.

Concluding comments

The advent of the MCA approach which embraced and refined an interdisciplinary methodology to investigate modern conflict was a major advance for our understanding of recent wars, and for archaeology and material culture anthropology. Freed from the constraints of an often unfashionable (if also sometimes misunderstood) “military history” approach, and propelled increasingly by scientific advances and technological developments, a new generation of investigators have adopted research strategies which became wider, deeper, and more insightful as to the character of modern conflict and its legacies. From DNA to LiDAR, to satellite imagery, GIS, photogrammetry, drones and augmented reality, and geochemical analysis, amongst others, MCA paired these advances with an increasingly sophisticated and theorized approach to conflict-related landscapes, museum exhibitions, community initiatives, tourism, and heritage.

“Written in the Landscape” configured its methodologies according to its specific aims, the majority of which are key features of MCA as practiced from France and Belgium to Jordan, Slovenia, Poland and beyond. Although restricted to the First World War and its legacies, the project demonstrates the potential of such an approach and contributes to its ongoing development as a truly modern scientific and nuanced endeavour.

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