

11th Fields of Conflict Conference

7th – 8th May 2022

Organisers: Linda Fibiger (University of Edinburgh), Xavier Rubio-Campillo (University of Barcelona) and Manuel Fernandez-Götz (University of Edinburgh)

Note: Conference schedule in UK time

SATURDAY 7th May 2022 - ZOOM BLOCK 1

9.30 WELCOME

9.45-10.45 OPENING KEYNOTE LECTURE

Rebecca Redfern (Museum of London)

Identifying and understanding violence in the archaeological record from a bioarchaeological perspective

MORNING BREAK (10.45-11.00)

PREHISTORY (11.00-13.00)

11.00-11.20 Andrea Dolfini, Raphael Hermann, Rachel Crellin, Marion Uckelmann, Quanyu Wang (Newcastle University)

Fighting in the Bronze Age: A new picture

The paper presents the exciting results from the Bronze Age Combat project, which offers groundbreaking new insights into middle and late Bronze Age fighting with swords, spears and shields. The original idea behind the project was to understand how Bronze Age weapons were used, in what kind of combat situations, and with what possible weapon strikes and body motions. The project methodology combined a variety of field tests with replica swords, spears and shields, and for comparison metalwork wear analysis of over 100 original Bronze Age weapons from Britain and Italy. Over 140 different combat scenarios were conducted in order to create a large reference catalogue of marks that can be used to explain and “read” the thousands of combat-related wear marks on the original finds. Formal experiments clarified wear formation processes with an unprecedented level of detail. These were followed by fluid combat tests based on historical fencing manuscripts, which gave us in-depth understanding of weapon handling, capabilities, and the fighting styles that could have informed their usage. Overall, the two sets of experiment, validated by the wear analysis of archaeological weapons, have painted a bold new picture of fighting practices in late 2nd and early 1st millennium BC Europe.

11.20-11.40 Kaloyan Petkov (Sofia University)

“Tropaion” – Weapons as warrior’s memory

Almost entirely in Europe, during the mid-second millennium BC, we can see the practice of offering weapons in graves and/or sanctuaries. Later on we can see at least one of the practice, basically in the entire Europe. Probably the during the period between 5c. BC until 3c.AD is the most frequent use of weapons as votive offerings, both in funeral and sacral complexes. The increase of the weapon’s sacral value which leads to different cult practices linked with them, and one of these practices is the creating trophies. The origins of this practice is still debatable but the many iconographic examples show that it was very popular during the antiquity. Trophies (*tropaion/τρόπαιον*) is a wooden monument with pair of arm-branches, decorated in warrior’s panoply and are dedicated to the gods. They mean to present not only the power of the victors, but also to show respect for the fallen enemies and respecting their memory. In my paper I would like to discuss the emergence and the development of this sacral practice.

11.40-12.00 Fabrice de Backer

MASH in MAT Ashur

While waging war all around the ancient Near East, the Neo-Assyrians certainly had some kind of field hospitals, at least places to practice field surgery, if only to save the V.I.P.’s lives. The need to save as many trained soldiers, being all quite an expensive investment in time and wealth was a part of the military strength of the kingdom. As the one, private, physician of the army commander could not take care of the hundreds or of the thousands of wounded warriors, he surely would take apprentices and students along. Thus, as was the case in History since the invention of combat, youngsters could find raw materials for training, elders could find cases for research and experimentations, and both could exercise their art for the sake of the royal army. This paper will address the hazy question of the Neo-Assyrian Field Medicine with the available archaeological human remains and archaeological sources and try to define some peculiar aspects of its practice.

12.00-12.20 Valerio Gentile (Leiden University)

Practice what you preach: Linking combat events and martial rituals in European prehistory

Archaeological and osteological data from Bronze Age and Early Iron Age Europe provide evidence for substantial armed encounters. At the same time, almost ubiquitously in the continent, selected specimens of weapons such as swords and spears were deliberately taken out of circulation and intentionally buried in hoards underground or deposited into rivers and lakes. Furthermore, previous to deposition, the functionality of some of these weapons was altered by the means of burning, bending, or fragmenting the object. Although combat practices and martial ‘rituals’ are both archaeologically visible in the periods in question, the connection between actual violence and its transfiguration into the ritual sphere still needs to be further investigated. This talk presents a reconstruction of the life-path of a sample of Late Bronze Age and Early Iron Age swords and spears from different contexts through a combined approach consisting of experimental investigation and in-depth analysis of use-wear traces. Preliminary results indicate that objects’ life-path and previous involvement in combat likely played an important role in the selection of weaponry for intentional deposition.

12.20-12.40 Giovanna Gambacurta (Ca' Foscari University)

The conflict landscape in the situlae art

The aim of the paper is to analyze some subjects and iconographies in the situlae art to identify the landscape or the scenery of conflicts. A recent reading of the situla Benvenuti showed that real and fantastic animals could have had a diatopic meaning. In this new perspective other documents can be analyzed to understand if the landscape had a relevant role in describing the conflict, or not. Sometimes appears clear that the images were referred to the landscape features, sometimes it is more difficult to understand or it is purposely avoided. Maybe, these different choices let us understand something more about the society and the way of telling through images between 7° and 5° century B.C.

12.40-13.00 Paul Moriarty (University of Wisconsin-Milwaukee)

Community extermination in prehistory: An Old World/New World comparison

Certain forms of violent behavior appear in various cultural contexts throughout human prehistoric and historic development. This paper compares so-called "overkill" sites from the late Central European Neolithic and the Pueblo Period of the American Southwest to establish a protocol for distinguishing between the levels of violence between assemblages. The goal is to be able to define the potential conditions under which extreme violent behavior may occur and to determine whether such extreme violence can be predicted in temporally and spatially distant cultures. A comparative approach to analyzing skeletal data from overkill sites was developed for this project based on the ordinal index system for ceramic analysis known as the Production Step Measure (Feinman et al. 1981). This allows variables to be compared across age and sex categories, including injury and trauma types and locations, evidence for perimortem torture and mutilation, and systematic extreme processing of the body. Preliminary results suggest that, though the extreme violence events of the late European Neolithic and the Pueblo Period of the American Southwest are culturally and spatially distinct, the overkill sites included in this analysis display commonalities in how violence was utilized in response to both internal and external stressors.

LUNCH BREAK (13.00-14.00)

ROMAN CONQUEST I (14.00-15.40)

14.00-14.20 Manuel Fernández-Götz (University of Edinburgh)

Archaeology of an epistemicide: Recent trends and approaches to the Roman conquest

The last few decades have witnessed fundamental advances in the archaeological research of the Roman conquest, at both a conceptual and methodological level. Conceptually, there has been an increasing interest in exploring the more brutal and repressive sides of Roman expansionism. This has resulted, among other aspects, in the introduction of notions such as 'predatory regime' and 'epistemicide'. Work on the archaeology of Roman frontier installations (limes archaeology) has been accompanied by a growing interest in the impact of the act of conquest itself on indigenous populations, as well as on the transformations that occurred in the decades immediately after the military campaigns. Methodologically, the

increasing application of LiDAR and other remote sensing methods, together with the development of a proper methodology for the study of battlefields, has revolutionised our knowledge of the conquest process by providing a hitherto unprecedented amount of new archaeological evidence. This paper will provide an overview on the main recent trends and approaches, illustrated with some selected cases studies from Iberia, Gaul, and Britain.

14.20-14.40 Dominik Maschek (University of Oxford)

From the Siege of Fregellae (125 BCE) to Operation Diadem (1944): Battlefield Archaeology in the territory of Ceprano (Lazio)

In 125 BCE, a Roman army led by the praetor Lucius Opimius attacked the allied Latin town of Fregellae, located in the Liri valley close to modern Ceprano (Lazio, Italy). Fregellae was taken and destroyed in the very same year, fuelling a series of crises which ultimately led to the Social War of 91 BCE. Since 2015, the project 'A Landscape of Conflict', funded by the John Fell OUP Research Fund, aims to identify the archaeological traces of this cataclysmic siege as well as those of other clashes from the Napoleonic Wars to World War II. In collaboration with the Archaeological Museum at Ceprano, the British School at Rome, and the company Archeo V.A.L., it is the primary goal of the project to establish the size and shape of the siegeworks erected by the Roman army under Lucius Opimius in 125 BCE. Combining LiDAR with geophysical and terrestrial survey, this has led to the successful identification of a circumvallation system which resembles the Roman siege fortifications at *Numantia* (133 BCE), including ditches, ramparts, and two camps. The aim of this paper is to present the results of the project and sketch out the routes for future research.

14.40-15.00 Carmen Rueda, Juan Pedro Bellón, Miguel Ángel Lechuga (Universidad de Jaén)

The consequences of war in the Iberian territories of Baecula and Iliturgi (Jaén, Spain)

Going beyond the restricted reading of the events revealed by the analysis of the conflict contexts linked to places such as Baecula (Santo Tomé, Jaén) or Iliturgi (Mengíbar, Jaén), the studies incorporated in sub-discipline of conflict archaeology were the starting point for designing a methodology applied not only to the localisation and study of battlefields from an archaeological approach, but also to the analysis of the regional dynamics in the Alto Guadalquivir (Andalusia) in their correlation with different social, religious, political and economic processes linked to the impact of the Second Punic War. For this session we propose a much-needed reflection aimed at paying heed to other social readings of the war, which are necessary for the construction of more comprehensive and complex historical narratives. We begin with the archaeological analysis of the consequences of the war projected on the post-conflict dynamics in the oppida of Baecula and Iliturgi. This will allow us to analyse archaeologically the transformations seen in those local territories, incorporating into the debate aspects having to do with the social adaptation to abrupt changes, strategies of socialisation, infancy and violence, and war and women; in short, with the broad dimension of war and the mark it leaves on the actions, behaviour and social and cultural transformations, measured on different spatial-temporal scales. All these analyses are incorporated within the ongoing research project Methodology for the study of battle fields and sieges in the context of the Second Punic War.

15.00-15.20 Eduardo J. Peralta Labrador (Proyecto Guerras Cántabra), Jesús F. Torres-Martínez (IMBEAC), Santiago David Domínguez-Solera (Ares Arqueología)

The Siege of La Loma (Santibáñez de la Peña, Palencia, Spain): A battle between Romans and Cantabrians in the 1st Century BC

The archaeological complex of La Loma (Santibáñez de la Peña, Palencia, Spain) is composed by a spectacular and very well preserved device of Roman siege around a hillfort located in the territory of the Cantabria Peoples (Camáricos) who lived in northern Palencia. In some of the first campaigns of the Cantabrian Wars (which extend between the years 29 and 16 BC) this settlement was besieged by the Roman army via a main camp ("castra aestiva") and several secondary camps (two "castella" have been located). The hillfort was probably taken to the assault from the razed north-western slope, as has been found archaeologically (battlefield archaeology). During more than 17 years of archaeological campaigns (2003-2019) one of the largest and more impressive collections of Roman military material from the 1st century BC has been recovered: legionary weapons, arrowheads, artillery shells, "clavi caligarii", cavalry harness, coins, tent pegs, etc. showing the development of the battle. Thereby, rebuilding the details of the siege, assault and destruction of this hillfort has been possible. In the last research campaigns the works are focusing on the study of the morphology and evolution of the indigenous fortifications to which the Roman army had to face.

15.20-15.40 Craig J. Brown (University of Edinburgh), Manuel Fernández-Götz (University of Edinburgh), Jesús F. Torres-Martínez (IMBEAC)

Oppugnatio repentina – The Roman conquest of the Cantabrian oppidum of Monte Bernorio (c. 26/25 BC): Using KOCOA analysis to interpret terrain and artefact assemblages associated with Roman conflict

KOCOA (OKOCA) Terrain Analysis has been used as a locational, analytical and planning aid in cultural resource management within the United States since the mid 1990's. It has been utilised only rarely on historical conflict sites outside of the United States, and rarer still on classical, protohistorical, or prehistoric conflict sites. KOCOA's well-defined and easily transferable terrain classification terminology render it a useful application in reconstructing events at Roman conflict sites that are undocumented in classical historical sources. An ongoing program of survey and excavation conducted by the Monte Bernorio Institute of Ancient Studies of the Cantabric (IMBEAC) has provided a wealth of information regarding the *oppidum*, offering an opportunity to apply KOCOA as an analytical tool on an undocumented conflict site in a classical context. In 2016, KOCOA was used to interpret terrain features and artefact distribution associated with the Roman attack on the Monte Bernorio *oppidum*. The resulting battle reconstruction supports initial IMBEAC interpretation and adds significant new insights into the conduct of the event.

AFTERNOON BREAK (15.40-16.00)

POST-1950 (16.00-18.00)

16.00-16.20 Richard Burt, Danielle Willkens, Junshan Liu, Keith Hebert, David Carter (Auburn University)

Bringing history to life: Selma's Bloody Sunday on the Edmund Pettus Bridge

The conflict that occurred on the southern end of the Edmund Pettus Bridge in Selma, Alabama on March 7th, 1965 triggered a significant turning point in the American Civil Rights Movement. Large portions of the built and natural environment of the conflict area have changed dramatically since 1965, presenting visitors with an altered perception of the site. However, what might be unique among conflict sites is the amount of contemporary visual evidence available in the form of film and photography. A multidisciplinary team of architectural and Civil Rights historians, and surveyors collected 3D digital data of Selma's extant structures and combined with evidenced based digital reconstructions using photogrammetric analysis of several hundred contemporary photographs to accurately analyze the events that occurred in less than two minutes. By developing individual cut sheets for missing buildings, structures, street furniture and vehicles, the conditions in place during the conflict have been documented and have resulted in the identification of specific phases of the conflict such as the dispersion of both the foot and mounted Alabama State Troopers. Analysis of the "retreat" of the protestors, identified locations of fallen marchers, tear gas cannisters and substantial discarded personal belongings such as hats, shoes and bags.

16.20-16.40 Juan B. Leoni (CONICET)

Symbolic struggles on the Malvinas/Falklands battlefields: British and Argentine commemoration of the 1982 war

Conflict archaeology has claimed memorialization as one of its main fields of concern, focusing -among other issues- on the symbolic and ideological disputes expressed in war memorials. In this paper I present a comparison of the British and Argentine commemorative landscapes constructed on the battlefields of the 1982 conflict, specifically on the mountains around Port Stanley, where the decisive combats of the war were fought. The British memorial landscape – which has been aptly addressed by archaeologist Tony Pollard-officially owns the local geography. It is inscribed in a national memorial tradition that has a formalized commemorative liturgy, and honors both military units and individual military men fallen in the fight. On the other hand, there is a non-official Argentine commemoration, largely carried out by veterans who return to the islands in individual or group pilgrimages. This memorialization -inorganic, discontinuous, and of a low scale- is clandestine (as it is not officially authorized), ephemeral (as any material object is rapidly removed afterwards) and hidden (in order to avoid the former). Unlike British commemoration, it can be conflictive as well, as it expresses ideologically loaded, alternative Argentine views of the war.

16.40-17.00 Ryan Rybka (University of Massachusetts, Amherst)

Oil pipelines as spaces of conflict: Archaeology's contested role in oil

The scale of conflict surrounding oil pipelines on Indigenous land was not popularly witnessed until the construction of the Dakota Access Pipeline on the Standing Rock Sioux Indian Reservation in 2016. Relationships between Indigenous communities and corporations are generally understood as problematic; yet, the role that archaeology has, as both a discipline and as a business in land extractive ventures, is less well understood. Oil pipelines create spaces of conflict by connecting private, public, and tribally sovereign lands that bring together a myriad of stakeholders with opposing land-use goals. Archaeologists are critical stakeholders within these resource-extractive relationships because of their many and often conflicting legal and ethical obligations to communities and to the material past.

What constitutes as conflict should not be limited solely to episodes of physical violence; instead, conflict should be engaged with in terms of more nuanced forms of structural and cultural harm that would allow archaeologists to be understood as both participants in conflict as well as a means of healing. This paper is an investigation into the real-time developments of the Canadian oil company Enbridge's 1,097-mile crude oil pipeline, Line 3 in Minnesota to understand the role archaeology has in resource extracting conflicts.

17.00-17.20 Zeido Zeido (Brandenburg University of Technology)

The division of Aleppo city

This chapter explores the role of the urban heritage of Aleppo – a focal point in the Syrian conflict – in materialising the city's wartime division into the rebel-controlled east and the regime-controlled west. Using a variety of scholarly resources that discuss these changes in Aleppo, as well as interviews with experts and locals, UNESCO reports, local and international news agencies and even comments from social media, this chapter traces the physical transformations of Aleppo's heritage before and during the war as well as the changes in the perception of heritage by the Aleppines. The argument of the chapter is that the city's socio-spatial polarisation into east and west dates from a period long before the war, and that the specific localisation and fabric of heritage contributed to the division of Aleppo during wartime. The chapter however also observes that bewailing the loss of heritage may have the power to bring its residents together.

17.20-17.40 Terence Christian (Temple University)

"Honor to the soldier and sailor everywhere, who bravely bears his country's cause:" Study results of a legislative and administrative history of battlefield preservation in the United States Federal Government

Battlefield Preservation initiatives consistently show public benefit. The United States Federal Government generally, and the Department of the Interior (DOI) and the National Park Service (NPS) specifically, have been at the vanguard of battlefield preservation initiatives since the field's earliest conception. Under DOI and NPS leadership, battlefield preservation and conflict archaeology best practices have been developed, refined, and become industry standard. However, new priorities and new viewpoints on how DOI and NPS serve the American public and preserve battlefield heritage sees Federal battlefield preservation programming moving into a new era. This paper reports the findings of a landmark study on the legislative and administrative history of battlefield preservation and conflict archaeology in the Federal Government. The study identifies and assesses past and present Federal preservation program timelines, legislative scope, and administrative decisions to clarify Federal battlefield preservation theory, policy, and practice. The presented discourse employs unpublished archival material, expert opinion, assessment of past Federal battlefield preservation and conflict archaeology programs, interviews with past and current leaders in Federal battlefield preservation and conflict archaeology programming, and real-world battlefield preservation case studies to identify preservation successes, shortcomings, and lessons learned. Recommendations on future preservation initiatives and research strands are highlighted.

17.40-18.00 Tony Pollard (Glasgow University)

So much covered with blood: Early visitor accounts and the location of grave sites on the

battlefield of Waterloo.
Abstract to be defined.

SATURDAY 7th May 2022 - ZOOM BLOCK 2

FIRST WORLD WAR (11.00-13.00)

11.00-11.20 Andy Jepson (Stobs Camp Project Officer, Archaeology Scotland)

Stobs: Exploring the First World War training & internment camp in the Scottish Borders

This paper will discuss the benefits and opportunities of the community-focused Stobs Camp Project which is currently exploring the internationally important training and internment camp in the Scottish Borders. The aims of the project are to better understand Stobs and the role that it played during the First World War, to value, share and commemorate Stobs and the people connected to it and to protect it for future generations. The paper will give a flavour of some of the 4,500 hours recorded by project volunteers, touching on how we have worked together with schools, communities and international partners. We have inspired our children, the future archaeologists, historians and custodians of Stobs, developed a digital platform on which the community can share its story and, through an act of remembrance, commemorated the German prisoners who died and were buried at Stobs. It will reveal the important role that public archaeology plays, through fieldwork and desk-based activities, in engaging communities in local First World War heritage. It will also demonstrate how archival material and memorialisation can bring international communities together which is as relevant and important today as it was one hundred years ago.

11.20-11.40 Devon DeCelles (Historic Environment Scotland)

We're Doon'ed! The ambition and failure of a First World War aerial gunnery school

This paper is in two parts. First, it tells the story of a highly ambitious project for an aerial gunnery school on the shores of Loch Doon in East Ayrshire during the First World War. The paper continues to discuss the findings of a walkover survey, the result of fieldwork carried out in 2017. The project significantly evidenced a change in tactical thinking and aerial warfare. However, ultimately, it was an exercise in miscommunication, ill advice, zeal, and a huge error in judgement. Everything that could go wrong did: two failed airfields, a breach of the Hague Convention, and an embarrassing inquiry exposing an immense waste of public money, the full cost of which has never been revealed. The survey formed part of HES's designations review of First World War remains, which earmarked the sites at Loch Doon for assessment to determine how much was extant. The review identified a vast network of archaeological remains with a remarkable level of survival for a site that was never operational, abandoned almost as quickly as it was conceived. Aerial and ground photography, historic and modern maps will uncover the full extent of this military scandal that remained hidden for over 100 years.

11.40-12.00 Peter Masters (Cranfield University)

Unsung heroes of the First World War – Spark under fire

The Royal Flying Corps (RFC) later known as the Royal Air Force (RAF), from 1st April 1918, were the early pioneers in air warfare during the First World War. For the pilots to engage with the troops on the ground they relied on wireless operators, called Sparks that were stationed with the gun batteries behind the lines. One such wireless operator, Arthur Edward Taylor, Air Mechanic 3rd class, fought at the Battle of Messines in June 1917. This paper illustrates what Arthur Edward Taylor did based on his diary entries that he kept throughout the war. He was one of the lucky ones to survive the war - as many as 400 wireless operators lost their lives per year throughout the conflict, although between May and September 1918 this figure exceeded 500. At the beginning of his deployment to the Western Front, he was based at Plugstreet (Ploegsteert), Belgium, where archaeological investigations have taken place from 2007 to 2014 and the landscape has been surveyed using geophysical techniques to reveal what lies beneath today

12.00-12.20 Vincent Merkenbreack (Service d'Archéologie Préventive, France)

Characterizing a modern conflict landscape: A 1st World War example from Avesnes-lès-Bapaume, France, 1914-18. Archaeology of a battlefield between Albert and Bapaume

The archaeological excavation realized at Avesnes-lès-Bapaume on a battlefield of the First World War is about, unfortunately, opportunistic archaeology even if the interest for that discipline is higher than before by archaeological authorities and hierarchy of archaeological services. Two German trenches in fact cross the Celtic and Roman site here. That battlefield archaeology reveal us the stigma of that conflict in the middle of the Front line in a coveted area during four years. The discovery of soldiers was here the opportunity to apprehend the management of the everyday dead, of the death of a companion but also of an enemy dead body. Outside of the contributions of this type of archaeological operation, and even if we are unable to identify the soldiers dead bodies found, these combatants were finally able to acquire a grave worthy of the name. This archaeological of a recent past faced to numerous sources at our disposal (photography, text, witnesses...) constitute a "formidable laboratoire expérimental" (Schnitzler, Landolt 2013: 116-127) which oblige us to ask ourselves questions about our excavation methodology, analysis, interpretation and choices of preservation.

12.20-12.40 Daniel Gaudio

One century later. The archaeology of White War and the multidisciplinary analysis of WW1 human remains

In the alpine Trentino region (Northern Italy), which was part of the Austrian-Hungarian empire until 1918, the so called "White War" took place. This peculiar strife of WWI was fought at very high altitudes, even in the glacial environment. Although Archaeology of the Great War is not a common field of interest in Italy, since 2007 The Archaeological Heritage Office of the Autonomous Province of Trento, in collaboration with the Military Authorities and forensic scientists, has been leading operations of recovery and analysis of the WW1 soldiers. The archaeological and the post-mortem analysis performed on 13 human remains (2007-2017) led to the osteobiography of the soldiers. Accordingly, the estimation of the biological profile (Age, Sex, Ancestry and Stature) as well as the detection of pathologies and skeletal trauma were carried out. The soldiers, both Austrian and Italian, were young adults and, in two cases, probably adolescents. The analysis of skeletal traumas revealed that the majority of the subjects were struck by grenade explosions. The analysis of

comprehensive data gained by archaeological and forensic anthropological methods revealed the dramatic story of these soldiers and, eventually, it played an important role in the attempt of getting personal identification.

12.40-13.00 Paul Hamilton

'To encounter death': When young people come face-to-face with human remains

Following a successful crowdfunding campaign, Team Dig Hill 80 excavated a well-preserved German strongpoint at a ridge-top near the village of Wijtschate, Belgium. The dig itself was about more than battlefield archaeology; it was an international project with education, peace and reconciliation as its key principles. Staying true to these principles, a group of secondary school pupils from the United Kingdom visited Dig Hill 80 (as part of a battlefield tour) during June 2018 and were granted guided-access to the dig-site. Perhaps most significant though was that they were given the opportunity to witness the work being carried out to recover bodies from a comrades grave (Kameradengrab); a unique experience for these young people, dissonant from anything else they had seen or heard whilst visiting the Ypres Salient.

This paper focuses on the reflections of these young people (captured through participant diaries and semi-structured interviews) and their thoughts about 'death', not only as it relates to their comprehension of the First World War, but also through their coming to terms with what was perhaps an unsettling (or unusual) experience when they found themselves face-to-face with human remains. For some, reflections on the brutality of conflict, and for others, reflections on the fragility of life - a cathartic experience.

LUNCH BREAK (13.00-14.00)

SECOND WORLD WAR (I) (14.00-15.40)

14.00-14.20 Adam Welfare (Historic Environment Scotland)

The aerial defences of Glasgow and the River Clyde during the Second World War

In the past 80 years many of the installations that were hurriedly constructed from 1939 to protect Glasgow and its industries along the River Clyde from an air war with the Luftwaffe have been lost to redevelopment, neglect or decay. Never-the-less, much has recently been recovered by a small fieldwork team from Historic Environment Scotland using contemporary maps, military reports and aerial photographs as a guide to tracing what was once set in place.

Both active and passive measures were introduced and these evolved in response to changes in technology as the war continued. The passive measures included the deployment of barrage balloons, decoys, mine watching posts and anti-glider defensive ditch systems, while the active measures comprised the installation of light anti-aircraft batteries, heavy anti-aircraft batteries, rocket projector batteries and searchlights. In addition, a squadron of night fighters stationed at Ayr was established to engage with the enemy in flight. This paper will consider the detailed components of this system and their effectiveness when confronted by attack. Later this framework formed the basis of the first Cold War defence strategy when many of the batteries were recommissioned, undergoing substantial rebuilding to accommodate new infrastructure.

14.20-14.40 Allan Kilpatrick (Historic Environment Scotland)

The most scenic spigot mortar in the world - The fixed defences of Lerwick

Despite its location the Shetland Islands has never been isolated from conflict. In the Second World War the islands effectively blocked easy access to the Atlantic to German naval vessels. Their critical location resulted in the Islands being heavily protected - in particular, the island's capital Lerwick. In addition to the coast batteries guarding the two approaches from the sea, the high ground overlooking Lerwick on its landward side was heavily fortified. This paper will introduce the results of the survey work by Historic Environment Scotland and the community group, Archaeology Shetland. Like towns and vulnerable places across the British Isles, Lerwick was provided with fixed defences; but unlike most the defences have survived in remarkable condition. This town was protected by two distinct defensive lines, comprising fire trenches, anti-tank obstacles, machine gun positions, trenches, foxholes, pillboxes, spigot mortar emplacements as well as observation posts and light AA defences. This paper will examine the distribution, nature and extent of this system and highlight its importance for the study of UK fixed defences.

14.40-15.00 Geoffrey Stell - University of Edinburgh

'Shutting the stable door': The immediate aftermath of the sinking of HMS Royal Oak

On the night of 13-14 October, 1939, the German U-boat, U-47, slipped undetected into Scapa Flow, Orkney, and torpedoed the anchored battleship HMS Royal Oak with the loss of 834 lives, the first major British military setback of World War II. On entering and leaving the Royal Navy's principal wartime anchorage, the submarine followed a route through Kirk Sound, the deepest and fastest-flowing of the eastern channels into Scapa Flow, a route which took it past an unmanned coast battery and some displaced blockships. This early disaster ultimately led to the creation of the Churchill Barriers, one of the largest and most time-consuming wartime engineering projects in home waters, but more immediately it prompted a reconfiguration of the blockships, the installation of indicator loops, and a hasty re-occupation and reconstruction of the previously unmanned Breckan Coast Battery at Holm, the specific focus of this short paper.

15.00-15.20 Euan Loarridge (University of Glasgow)

The Battle of Britains: Toy soldiers and the material culture of play in the Second World War

The archaeology of post-medieval play has been described as hindered by a lack of comparative literature. This paper explores what the materiality of conflict can bring to this discussion by examining contemporary sets of toy soldiers. Toys have long been identified as valuable indicators of society and the toy soldier, with its intrinsic connection to conflict, presents an ideal object-type for investigating the interaction between war and play. Cast-lead figurines depicting the historical and contemporary armies of the European empires, enjoyed widespread popularity during the late 19th and early 20th centuries. By the time of the Anglo-Boer War, it is estimated that about ten million figures were being sold annually in the UK alone. This period surrounding the war represents an interesting focus for study as it encompasses a flash point in the ongoing commercial rivalry that pitted the established German tradition against new British practices. Through an examination of surviving figures and sets produced at the time, this paper provides insights into the ways in which the

portrayal of the Anglo-Boer War in miniature reflected, and potentially influenced, contemporary social and cultural responses to conflict.

15.20-15.40 Gordon J Barclay, Louise Heren

Tanks in the streets? Myth, memory and reality in Red Clydeside, 1919

The 'Battle of George Square', 31 January 1919, is surely the most mythologised event in twentieth-century Scottish history. A demonstration by strikers descended into a riot; the army was called in by the city authorities. The dominant version of events remains that set out in a handful of political memoirs, the over-arching theme: 'the army was sent by the government to crush the strike'. These partisan accounts have fuelled a century of myth-making: 'all the troops were English' does not appear before 1957; 'Churchill sent the tanks' was invented in 1973. Social media now promote the mythology, and imagination and wishful-thinking create new versions of the 'truth' weekly: '37 people died under the tracks of the tanks in George Square' (they actually arrived three days after the riot). Our paper briefly explores the reality behind the myths; the trajectory of the developing mythology; the extent to which original sources have lain unexplored, and the ways in which the original socialist narrative has been adopted by some in the Scottish nationalist movement to create an 'English invasion'. We are working in forensic detail through all the available evidence and our paper will take account of the most up-to-date research.

AFTERNOON BREAK (15.40-16.00)

SECOND WORLD WAR (II) (16.00-18.00)

16.00-16.20 Camilla Damlund

Cementing a Legacy: Cultural Perspectives of Denmark's Atlantic Wall

The most obvious enduring evidence of WWII in Denmark is the concrete bunkers dotting the landscape. On the west coast, the structures were part of the enormous chain of bunkers that created the Atlantic Wall. The bunkers remain today and have become an integral part of the landscape of the west coast. This paper seeks to explore the ways in which the structures have been assimilated into Danish culture, and how the Danish people react to and engage with them. It will also explore the way this dark heritage from the war, something built at the behest of the German occupying force, has been reclaimed by the Danish, and has been made simultaneously both important and unimportant in terms of the Danish culture.

16.20-16.40 David G Passmore (University of Toronto Mississauga)

The archaeology of air power: An interpretative framework for tactical air operations in the Normandy Campaign, France 1944.

This paper reviews the status, challenges and potential of bomb cratered landscapes ('craterscapes') as emerging and widespread WW2 heritage assets in woodlands across NW Europe, and with particular reference to Allied tactical air operations during the 1944 Normandy Campaign. Documentary archives (including day-by-day mission records) are shown to be critical for establishing the context and biasing of the archaeological record. On the one hand they inform archaeological prospection by identifying sites with high potential

for surface preservation (i.e. targets in woodland attacked with high-explosive bombs yielding distinctive craters) and enable crater attribution to specific missions. Conversely, they invite recognition of the many raids with little or no prospect for leaving a landscape signature, notably those in non-wooded locations and/or using non-cratering ordnance. Case studies of contrasting tactical air strikes in Normandy forests are developed in an interpretative framework that seeks firstly to integrate craterescapes with the wider landscapes of contemporary air power and air defence, including airfields, aircraft crash sites and anti-aircraft (flak) positions. Secondly, these studies provide a focus for the commemoration of the civilian and non-combatant casualties of Allied tactical bombing which have only recently begun to be highlighted in English-language narratives of the Normandy Campaign

16.40-17.00 Toni L. Carrell, Jennifer F. McKinnon (Ships of Exploration and Discovery Research, Inc.)

The Bitterest Battle: The invasion of Peleliu

At 8:32 am on September 15, 1944, the 1st Marine Division stormed the beaches of a small island in the Pacific. The battle for Peleliu was one of the bloodiest and longest in the Pacific Theater and ranks as one of the worst in the nearly 200-year history of the Marines. The protracted 2 ½-month battle and its emotional and physical toll was made famous by Tom Lea's drawings in Life magazine and coined the phrase "the 2000-yard stare." While the focus of prior research has been on the island's extensive cave system and numerous horrific firefights, the invasion beaches have been largely ignored. In 2018, a Ships of Exploration and Discovery Research team undertook a targeted survey of the reef, lagoon, and near shore defenses. This paper focuses on the results of the survey and the first hours of the invasion.

17.00-17.20 Natasha Ferguson (GUARD Archaeology)

'Lapland: bare rocks, mosquitoes, mud, tundra and hunger': The materiality of displacement and the autograph book of a Polished forced labour in WWII Finnish Lapland

In 1943, Franciszek (Frank) Wardzynski, was displaced from his home in German occupied Warsaw, Poland and transported to Rovaniemi, Finland where he worked as a forced labourer and driver in the German auxiliary unit Organisation Todt. During this time Frank kept a wooden bound autographbook. Its pages are filled with signatures, comments, sketches, and poignantly sad farewells in array of languages including Finnish, Swedish and English. The autographbook not only provides a valuable narrative of his experience of Finnish Lapland as a material witness of conflict, it also gives rare voice to the individuals he fostered relationships with, including his fellow compatriots the young women of Rovaniemi he befriended. This paper will explore the autograph book as a powerful object in the material culture of displacement and how we can draw from it an understanding of the environmental context of his experience, and the network of social interactions which underpinned its creation. It will also ask: how was the book modified? What conditions did he experience? What meanings can be drawn from expressions of identity, both personal and political? How did his identity transform as his journey progressed? And finally, can his journey be mapped using a psychogeographical approach?

17.20-17.40 Karol Szejko

Study of archival photographs as a contribution to interdisciplinary archaeological research on the military infrastructure of Westerplatte Battlefield

Since 2016, Museum of Westerplatte and War of 1939 has been conducting the first wide-spanning archaeological research since WWII on the historical battlefield at Westerplatte. The former Westerplatte Military Transit Depot is one of the most important sites in the military history of the world. The main objective of the works was to locate and document the state of preservation of former Depot's buildings and field fortifications. Prior to field works, hundreds of archival documents had been examined -- documents, witness accounts, and aerial photographs. The paper will explain how meticulous examination of archival and aerial photographs helped field archaeologists to identify specific locations and infrastructure within the battlefield, thus providing new insights into the history of the first battle of WWII. Such use of archival material is an important contribution to a more detailed interdisciplinary research. The comparison of archival aerial photography with the current state of battlefield's preservation resulted in unearthing thousands of artefacts relating to the battle itself and to soldiers' personal lives. This method of archaeological research, confronted with historical and architectural analyses, is the basis for further work, the final effect of which is to create an open-air Westerplatte Museum, telling the story of the battlefield where WWII began on 1st September 1939.

SUNDAY 8th May 2022 (ZOOM BLOCK 1)

EARLY MODERN I (9.00-11.00)

9.00-9.20 Claes Pettersson, Sven Engkvist

A battle relevant today? The Getaryggen 1567 project – to research and mediate a campaign of the Nordic Seven Years War

In late autumn 1567 a Danish army crossed the border into Sweden and marched rapidly along the Nissan River valley. They met little resistance, despite that an in-depth defence had been prepared. The first battle of the campaign stood on Getaryggen, west of the strategic fortress town Jönköping. Here regular Swedish units and local militia were defeated by the elite forces of Fredrik II. However, this action had delayed the advance and gave the defenders time to evacuate and burn the town. In the Getaryggen 1567 project this campaign through the province of Småland has been researched. Using a combination of written sources, LIDAR, field walking and excavations on the battlefield, a vivid picture of the extensive devastation and the long-lasting effects in the region has emerged. As a direct consequence of this project and the public interest it caused in the local community, a documentary film was produced within the Tidsbron (Time bridge) project. Over a period of three years several hundred youths were participating as actors and helpers, thus getting a chance to know and relive their history!

9.20-9.40 Jon Cooper

'Lost without a Trace' – The archaeology, history and memory of Scotland's longest siege: Haddington 1548-49

When Mary of Guise viewed the demolished fortress of Haddington in September 1549, she remarked that the English had left the Scots nothing but the plague. It was the end of Scotland's longest siege and perhaps the most important, as it heralded the latest technological advances in the construction of fortifications, a new craze that was to literally reshape the architecture of fortresses for ever – 'Trace Italienne'. The later historians agreed with Mary that nothing remains of the first great 'Trace Italienne' fortress in Scotland, as the protagonists levelled every rampart, bastions and bulwark. However, since 2016 a team of local historians and conflict archaeologists from the Centre for Battlefield Archaeology at Glasgow University have been pulling together the fragmentary evidence of the construction, lay out and location of the fort and set about revealing the archaeological evidence of the besieged fortifications and the surrounding siege lines. This paper introduces the audience to the history of the siege, the strategy behind the construction of 'Trace Italienne' forts in Scotland and the latest developments in the search for the lost fortress.

9.40-10.00 Craig J. Brown (University of Edinburgh)

The 1573 Siege of Edinburgh Castle: Reacquiring Key Battlefield Features in an Urbanized Environment through KOCOA (OKOCA) Analysis

The Marian Civil War (1568-1573) was a period of conflict and political turmoil which followed the abdication of Mary Queen of Scots and her subsequent escape from imprisonment in Lochleven Castle in May 1568. The Scottish capital of Edinburgh became the epicenter of the conflict with the commencement of the 1571-1573 'Lang Siege'. The April-May 1573 Siege of Edinburgh Castle that brought the 'Lang Siege' to a close proved to be a significant transformational episode in the history of the city of Edinburgh. Military operations during the siege altered Edinburgh's built environment as neighborhoods were burned and street layouts changed when rows of buildings were incorporated into the defenses. English trenches constructed north, west and south of the Castle cut through orchards and country estates. These archaeological features associated with the 1573 Siege of Edinburgh Castle have been subsumed within the urbanization of Edinburgh's City Centre with important battlefield landmarks being lost to the passage of time. A KOCOA analysis conducted in 2016 likely established the location of these features within the present City Centre providing a more tangible link to and insight into the conduct of the 1573 Siege of Edinburgh Castle.

10.00-10.20 Karla Gusar (University of Zadar)

On a troubled border – archaeological traces of late medieval and early modern period in the area of Vrana (Croatia)

Vrana has been an important centre in Dalmatia since the 11th century at the latest. Croatian King Dmitar Zvonimir donated a Benedictine monastery in Vrana to Pope Gregory VII where he kept his insignia. From the 12th to the 14th centuries Vrana was in possession of the Knight Templars and from 1312 the Hospitallers when Vrana was the seat for the whole of Hungary and Croatia. At the beginning of the 15th century, Vrana territory came under Venetian rule and soon, with the advancement of the Ottomans towards the West, it became exposed to Ottoman war activities and was occupied in 1538. Through the 16th and 17th centuries, Vrana was on the border of the Ottoman Empire and the Venetian Republic,

whose cannons destroyed the fort during the War of Candia (1645-1669). It is in this area that the Department of Archaeology of the University of Zadar has conducted archaeological research on several sites over the last 13 years. Although only part of the architectural remains and small finds can be directly related to the war, the results of the excavations help to clarify life on both sides of the Venetian-Ottoman border. In this presentation, we will present some of the results relating to the end of the Middle Age and Early Modern Times, the most turbulent era in the history of Vrana.

10.20-10.40 Ladislav Rytíř (Univerzita Hradec Králové)

Thirty Years War field fortification - Military handbook and experienced reality

This paper will introduce archeological experiment which is part of 1620 Cesta k porážce (www.1620.cz) project, which is focused on commemoration of the beginning of the Thirty Years War in Bohemia (Bohemian revolt 1618 - 1620). As a part of commemoration events there will be artillery redoubt reconstructed at Rakovník battlefield. We know some instructions and recommendations are in period Military Handbooks. We want to verify this information in terms of real difficulty and human resource requirements. There will be 120 m of field work enclosing area of 900m² with gabion protection nad artillery platforms. To simulate deployment of workers and how it inflicts speed and quality of work there will be three groups of them: 1 - students (as forced power), 2 -reenactors (as volunteers or forced soldiers) and 3 - paid diggers (as paid power) in total number around 100. We will be focused on work speed, its quality and also durability in conflict and time (redoubt and proces of its spontaneous decay up to 10 years).

10.40-11.00 Jordi Principal (Museu d'Arqueologia de Catalunya), Roger Sala, Francesc Xavier Hernández Cardona

The Battle of St. Llorenç de Montgai (Camarasa, Catalonia), reconstructing a conflict landscape of the 17th century

The 22nd June 1645, in the context of the Revolt of Catalonia against Philip IV of Spain or Reapers' War (1640-1659), the French-Catalan army of Henri Harcourt confronted Andrea Cantelmo's forces at the Sant Llorenç de Montgai wide valley, in what is called the Battle of St. Llorenç de Montgai or Bataille de Liorens (according to the French sources). The action became celebrated because of the encircling movement of Harcourt's army, which ambushed the Spanish forces, resulting in a humiliating defeat. Thanks to the development of a methodological approach combining the critical study of contemporary (late 17th c.) sources (chronicles, descriptions and historical cartography) and landscape analysis (generation of a GIS project, using spatial analysis tools, such as LCP or viewshed algorithms; LiDAR image processing) not only the location of the main battlefield and the static defences (bastions, palisades) related to the Segre front line, but also the track followed by the French-Catalan troops during their march, from the town of Camarasa up to the Spanish rear, have been identified. A field survey conducted in the battlefield area has completed this first phase of the research project.

MORNING BREAK (11.00-11.20)

EARLY MODERN – OLD WORLD (11.20-13.00)

11.20-11.40 Richard Leese (University of Huddersfield)

Investigating Early Modern Sieges: Bullet Holes as Evidence of 17th Century Siege Actions

Small-arms bullet impact scars on stone structures are an untapped source of archaeological evidence for historic conflict actions of the early modern period. While impact scars can be found in varying quantities at Wars of the Three Kingdoms sites across England, siege actions typically provide the best opportunities for the occurrence of a bullet striking a worked stone surface, producing the archetypal bullet impact scar observed on numerous castles, churches and country houses.

In contrast to the uncertainty of the origin or impact location of a bullet found in topsoil context on battlefields, impact scars are direct evidence of the terminal position of the ballistic trajectory of a bullet fired in the past, captured within its 3D spatial context. Detailed recording of more than one hundred scars across numerous siege sites in England has been undertaken as part of doctoral research by the author. Examination of individual scar shape and collective distribution within site contexts, coupled with recent ballistic experiment results, indicates that these marks can be used to investigate a range of issues including the practical accuracy of seventeenth century musket fire, the possible location of defended positions that are no longer extant, and extrapolate the approximate location of the shooter within the historic landscape.

11.40-12.00 Richard Bradley (Wessex Archaeology)

Recent investigations at Worcester – sampling a seventeenth century battlefield in an alluvial environment

Unlike many other English Civil War battlefields, where the material residue of conflict can generally be found in the ploughsoil and is therefore more accessible (and also at risk), large parts of the Battle of Worcester (1651) took place within a floodplain environment adjacent to the Rivers Severn and Teme. As a result, frequent silt deposition across this landscape is thought to have buried artefacts beyond the reach of metal-detectors, leaving any archaeological horizon associated with the fighting largely unidentified and of unknown depth below the surface. This paper details the results of recent commercial archaeological work, undertaken during the widening of a major road crossing part of the battlefield, that included the application of optically-stimulated luminescence (OSL) dating within a programme of trial trenching in an attempt to try and resolve whether a seventeenth-century level could be located within the alluvial layers on the battlefield. The results proved crucial for understanding and dating the alluvial formation, generating a plausible and consistent depositional sequence. This enabled subsequent artefact recovery through metal-detecting to be specifically targeted, with the methodical approach producing the first systematically recorded and mapped evidence of the battle.

12.00-12.20 Colin Parkman

Experimental firing, and analysis of impacted 17th-18th century lead bullets

The analysis of spherical lead bullets recovered from early modern battlefields (1500-1815) has produced valuable data regarding battle location and the extent of the action. Previous experimentation and analysis of individual bullets demonstrate that diagnostic traits can be transferred to the surface of the bullet. However, the nature of impacted bullets and their potential to retain characteristic evidence from the impact surface have yet to be

systematically addressed within conflict archaeology. This paper examines the nature of bullet impact evidence through a series of proof of concept experimental firing trials. To achieve this aim, a reference collection of known bullet impacts was created and used as a comparative tool against archaeologically recovered bullets. Experimental firing was conducted over sterile and stony ground surfaces as well as numerous wooden targets to establish a baseline of known bullet impacts. The results from the experimental firing reveal that bullets that impacted the ground surface retain distinct diagnostic characteristics that can be identified within bullets from archaeological assemblages. However, the distinctive characteristics identified on bullets that impacted wooden targets were not observed. This paper demonstrates that experimentally fired bullets retain diagnostic traits from the impact surface that allow for specific classification and an advanced understanding of archaeologically recovered bullet assemblages.

12.20-12.40 Kevin Munro (Historic Environment Scotland)

“This Park here is to be our left”: New evidence for Culloden Parks and the Jacobite left flank at Culloden

Historic Environment Scotland has a statutory duty to maintain the Inventory of Historic Battlefields, identifying nationally important battlefield landscapes across Scotland. During their routine work for this role, staff at Historic Environment Scotland uncovered new evidence for the location of Culloden Parks. The parks were a designed landscape connected to Culloden House, and they were an important element of the battlefield landscape of Culloden in 1746, but which had been thought lost to landscape changes in the intervening years. The research by Historic Environment Scotland highlighted not only the location of the designed landscape, but that much of it survives, in both modern landscape patterns and physical remains. Crucially, the surviving remains fundamentally alter the current understanding of the events of the battle, and their relationship to the modern landscape. In this paper, Kevin Munro, Senior Designations Officer at Historic Environment Scotland, will discuss the new evidence for the Culloden Parks and the impact it has upon our understanding of the Battle of Culloden.

12.40-13.00 Damian Shiels

Uncovering the battlefield of Vinegar Hill, Co. Wexford, 1798

The Battle of Vinegar Hill, Co. Wexford is the most famous engagement of the United Irish Rebellion. Fought on 21 June 1798, it was the culmination of a Crown invasion of the county that pitted 10-15,000 troops under General Gerard Lake against an encampment of c. 20-30,000 insurgents. After some hard fighting, Lake eventually succeeded in routing the rebel force, inflicting between 500 and 1200 casualties. In 2017, an archaeological research-programme at Vinegar Hill was funded by Wexford County Council. Across two survey-weeks in May and August an international archaeological team conducted the largest battlefield survey yet undertaken on the island of Ireland. It produced the largest archaeological assemblage scientifically retrieved from an Irish battlefield, results which promise to significantly improve our understanding of the fighting. This paper will outline the project findings, and briefly explore some of the wider methodological implications they have for Irish conflict archaeology. It will also seek to highlight the growing evidence for the rich archaeological potential of the 1798 Rebellion, a neglected campaign that was a significant learning experience for many of the leading British commanders of the Peninsular War.

LUNCH BREAK (13.00-14.00)

EARLY MODERN – NEW WORLD (14.00-16.20)

14.00-14.20 Erin Stone (University of West Florida)

The conquest of Española as a “structure of conjuncture”

In December 1492, Columbus landed on the northwestern coast of Española, initiating the conquest of the island and forming his first alliance with an indigenous leader, cacique Guacanagarí. Excited to make contact with the ruler of the region, Columbus offered the cacique food and invited him aboard his ship. Solidifying the relationship, Columbus gave Guacanagarí red shoes, amber beads, orange scented water, and the sheets from his bed. Reciprocating, cacique Guacanagarí provided the explorer with a few pieces of worked gold (likely guanín) and a belt. The encounter between Columbus and Guacanagarí began what Sahlins calls the “structure of the conjuncture.” The conjuncture takes place when two cultural systems collide with one another, producing a moment in which multiple cultural schemas are present and interpreted in distinct ways. Here, the newly negotiated set of structures provided Guacanagarí with an opportunity to gain power over other caciques on the island. It was also the beginning of a decade of conflict that engulfed Española. Using both historical and archaeological evidence this paper (or poster) analyzes the first decade of conquest through as a “structure of conjuncture,” a period filled with negotiation, misunderstandings, war, and shifting alliances between European colonists and indigenous leaders.

14.20-14.40 Matthew F. Schmader (University of New Mexico)

First contact and interindigenous conflict: Vázquez de Coronado and war with the southern Tiwa of central New Mexico, 1540-1542

In early 1540, Francisco Vázquez de Coronado was chosen by Viceroy Mendoza of Nueva España to lead an ambitious exploration to find a northern route to Asia. The huge undertaking of hundreds of Europeans and thousands of Mexican soldiers expected to establish diplomatic and trade relations with rumored civilizations. Instead, they encountered native groups in northern Mexico and became the first outsiders to make contact with the Pueblos peoples of today's American Southwest. Woefully unprepared for the constant need for food and approaching wintertime cold, the expeditionaries engaged in numerous fights, especially with the Southern Tiwa who lived along the Rio Grande in central New Mexico. Ongoing battles resulted in the earliest named war in United States history, called the "Tiguex War." Research at the largest and most intact of the Tiguex War battle sites, called Piedras Marcadas pueblo, has uncovered evidence of sustained assault by Coronado's forces and resistance by the Pueblo defenders. European medieval weaponry is found mixed with Mexican native weapons and Puebloan defensive materials. Lines of assault, concentrations of ammunition and lost personal items, and other sixteenth century metal items all have a strong tactical patterning related to former standing architecture at the Piedras Marcadas site.

14.40-15.00 Joel Bohy (Skinner Auctions), Douglas D. Scott (Colorado Mesa University)

A house riddled with bullets: Applying shooting incident reconstruction techniques to an American colonial house associated with the British retreat to Boston, April 19, 1775

The British Regulars retreat from Lexington and Concord on April 19, 1775 is legendary in American history. Colonial militias and the famous Minute Men ambushed the British column along the retreat route back to Boston. Fighting was intense in several places with the Colonists' militias using local homes as ambush points. By the time the British reached Arlington, Massachusetts, the intermixed units were largely without command and control and fired, almost indiscriminately, into homes along the route. One home, the Jason Russell house, is the only one still standing from that era. It is preserved by the Arlington Historical Society. Twelve Colonists were killed in the house by British musket fire. At least twenty bullet holes are still evident in the walls and around doors and windows. Shooting incident reconstruction techniques were applied to the study of the bullet holes to determine the origin of the musket fire. Lead residue testing was also performed to confirm the holes' origins as bullet holes.

15.00-15.20 Lawrence E. Babits, Joshua B. Howard (East Carolina University)

The other "battle within a battle". The northern flank at Guilford Courthouse, 15 March 1781

During the 15 March 1781, Battle of Guilford Courthouse, North Carolina, there were three axes of fighting. The main axis along the New Garden Road is well known. The southern flank's "battle within a battle," is also fairly well known, in large part because the authors of most major publications fought in it. Little is known of the important and vicious fighting on the battle's northern flank where an ad hoc force of Continentals and militia riflemen held the American army's retreat route open despite suffering fairly heavy casualties. Collection of the northern flank landscape by avocational metal detectorists revealed the fight zone, the fight's intensity, and caused a reevaluation of documentary sources, including pension records, that provide new insights into a crucial, and totally overlooked, episode during the battle. It is significant that the relic hunting took place AFTER the mandated cultural resources archaeological survey.

15.20-15.40 Ryan K. McNutt (Georgia Southern University)

'We'll never ask you for peace': Resistance, masculinity, and survival in an American Civil War POW camp

Archaeologies of internment present unique challenges and benefits. Myriad aspects of human behavior that stretch over temporal scales of generations and centuries at other archaeological sites are visible in ephemeral traces of short-term occupation at sites of internment such as prisoner of war camps; resistance, domination, the structure and scaffolds of authority, agency and identity are created, cast, and discarded into the soil. The paper examines some of these stories from the earth of a military prison of the American Civil War: Camp Lawton (9JS1). Located in southeastern Georgia, USA, the archaeological and documentary records of Camp Lawton, ephemeral as they are, demonstrate evidence of resistance in various forms; symbolic, physical, and economical. Resistance should be understood as a multiscale activity that does not always equate to outright, active revolt or violent upheaval. It can, as was the case for POWs in the American Civil War, be subtle and anonymous, eroding and undermining an opponent who in open confrontation would win. Furthermore, we can see how resistance, when it intersected with systems of structural

violence within POW camps spurred the development of a masculinity in the 19th century unique to POWs that was divergent from the Victorian ideal.

15.40-16.00 William B. Lees (University of West Florida)

Don't blame the powder: Explaining Confederate loss at Honey Springs, Muscogee Nation, USA

The 1863 Battle of Honey Springs took place during the American Civil War in the Muscogee Nation in what is today Oklahoma. Combatants were Native American and White regiments on both sides and a regiment of US African Americans. The stakes for the US and the Confederacy were control of the Indian Territory. Motives for Native Americans and African Americans' involvement were much more complicated. A metal detector survey stretching for three miles along the Texas Road identified two areas of battle-related artifacts. Memory and terrain support dividing the northern area into two battlefields, and archaeology suggests a third not tied to memory is layered beneath. I interpret the southern battlefield as two asynchronous events close in time on the same prominent terrain feature. Although terrain analysis shows the wisdom of the rebel defensive positions, archaeology confirms an overwhelming US advantage in artillery, and that only part of available rebel troops were actually deployed. Although present in small numbers, analysis strongly supports that metal arrowheads found during the survey were used in the battle.

16.00-16.20 Charles M. Haecker, Christopher D. Adams

U.S. Cavalry-Mescalero Apache Conflict Sites in the Guadalupe Mountains

In the span of six weeks—18 November to 30 December, 1869—The Guadalupe Mountains, located within southeastern New Mexico and northwest Texas, was the setting for three cavalry-Mescalero Apache confrontations. These actions typified most Indian War fights on the western frontier, which usually involved small-scale cavalry units that attacked and destroyed the Indians' winter camps. Usually in these attacks most of the Indians would escape but, in the process, lose all of their possessions needed for winter survival. Locations of two of the three attacked Mescalero camps have been identified and archaeologically recorded. Resultant data indicate tactical use of landforms by both the cavalry unit and the Mescalero warriors who defended their camps. Ballistic analysis of cartridge cases, percussion caps, and fired/unfired bullets, with accompanying point provenience, provide insights as to how these fights unfolded. Analysis of possessions abandoned by the camps' occupants are reflective of Apachean re-use and re-purposing of Euro-American manufactured objects.

AFTERNOON BREAK

POSTER SESSION I: 1-Minute Flash Talks and Q&A (16.20-17.20)

1. Adrian Mandzy, Daniel M. Sivilich

Fighting at Holtzhausen: A window into the 1813 Battle of Nations

The Battle of Nations was fought over 5 days (14th - 19th October 1813) and was the largest military action fought outside the 20th century. Given the immense scope of the battle, both in terms of people and physical space, our study focused on a small section of the

engagement – the fighting around Holzhausen. The area around Holzhausen not only provides a window into the application of the Trachenberg plan (the Allied military strategy to defeat Napoleon) but the lack of urban development of the town's surrounding agricultural fields made it optimal for the recovery of artifacts associated with the fighting. Archival research uncovered a series of 18 and 19th century maps of Holzhausen. These maps noted the existence of a depression-like feature, which when geo-referenced with present day aerial orthophotography maps, allowed us to identify the historical landscape. Placing the finds into our recreated landscape allowed us to identify the exact position of a French artillery battery and the avenues of the Allied assault on the town. While the fieldwork is still ongoing, our initial analysis of the artifacts noted the presence of pewter balls. Although relatively few in number (13.8% of the recovered assemblage), these balls are visibly darker in color. One darker ball, along with three lead balls previously recovered from the battlefield, were analyzed by Dan Elliot of the LAMAR Institute. These balls were subject to elemental analysis which confirmed that the darker ball contained significant quantities of pewter.

2. Christine Thompson, Kevin C. Nolan (Ball State University)

A decade of research at St. Clair's Defeat, a new view of the conflict

Since 2010, the Applied Anthropology Laboratories, Ball State University, has conducted archaeological, preservation, and interpretation research at St. Clair's Defeat, a relatively unknown 1791 Northwest Indian War battle that was the largest defeat of U.S. military by American Indian forces, in this case an alliance of nine tribes. Using KOCOA military terrain analysis, we focus on how the use of the landscape influenced the outcome of the battle, specifically the tribal battle strategy. Research results have helped in forming a more nuanced interpretation of the battle, one that more fully recognizes and balances the involvement and decisions of both the American Indian tribes and the U.S. military. We use community engaged scholarship methods as we work with the local community of Fort Recovery, Ohio, the Ohio History Connection, and over a dozen U.S. federally recognized tribes to communicate these results to the public in multiple ways. We use our research results and a humanities focus to tell the story within a bigger context of tribes protecting their homelands, the aftermath for tribes resulting in removal and attempted eradication of their culture, and the effects of this battle and the Northwest Indian War on tribes today.

3. Jennifer F. McKinnon, Toni L. Carrell (Ships of Exploration and Discovery Research, Inc.)

Battle for Saipan: Understanding submerged sites in the larger battlefield narrative

The U.S. amphibious invasion of Saipan in June and July of 1944 left as much residue and detritus of war in the water as it did on land. Over two dozen submerged archaeological sites, both U.S. and Japanese, have been investigated in the last decade. These include aircraft, shipwrecks, amphibious vehicles, and singular isolated finds. This paper takes a closer look at specific sites to identify their origin, cause of crash, sinking, or discard, and their relationship to the larger battlefield narrative. It also considers some management and preservation concerns related to recent investigations of corrosion data surveys.

4. Stefano Marchiaro

The safeguarding and promotion of cultural heritage in Judea and Samaria (West Bank - area C)

Since the earliest millennia the lands between the Mediterranean Sea and the Jordan River have always played a crucial role in the economy, politics and cultural life of the Middle East. In the region, that today includes the State of Israel and the Palestinian territories, numerous archaeological sites are universally recognized to be of great interest and in particular need of an adequate protection and valorization. However, the cultural heterogeneity and the many human conflicts arising in the area constitute a real threat for the preservation of many sites. Since the creation of Israel in 1948, the difficulty for setting up a proper safeguarding system for the antiquities was immediately evident. In a land torn by conflicts and exposed to numerous military operations, the success of this kind of actions depends mainly on prevention and, if necessary, a most rapid response.

In the last decades the Israel Antiquities Authority and the Palestinian Ministry of Tourism and Antiquities have greatly contributed to the creation of a modern infrastructure dedicated to the not easy task of cultural heritage management. Their actions, together with the work of local and international organizations, is essential for the development and the preservation of the common Heritage.

5. Allan Kilpatrick (Historic Environment Scotland)

The ship on land - The story of the WW1 Cromarty Coast Batteries

Coast batteries were constructed to protect vulnerable anchorages, harbours and industry, as well as population centres from seaward attack. Historic Environment Scotland are undertaking a survey of these military sites across Scotland. The Firth of Forth and Scapa Flow have already been subject to detailed investigation, but the Cromarty, Clyde and Loch Ewe batteries have never received the attention they deserve. This paper will look the results of recent survey work at the Cromarty Firth batteries, which were first built in 1913-14 by the Admiralty and are unique in their design. Adapted and rebuilt for the Second World War they remain in an excellent state of preservation. This paper will examine the unique character of the site, especially the WW1 installations. It will examine the approach the Admiralty took to the design of the batteries protecting the Cromarty Firth Naval Base. In addition it will discuss how the batteries were defended from the threat of landward attack.

6. Eduard Visković

Town of Hvar in anticipation of conflict – archaeological traces of Hvar's preparation for battle

Various archeological traces in the Croatian town of Hvar on the island of the same name can be traced from the Bronze Age to the late Middle Ages. Written sources about the town of Hvar first appeared in the 12th century when the city fell under the rule of the Venetian Republic. From the period before written sources, and during archaeological research, the remains of a Bronze Age and Iron Age settlement were found. During the research, remains of arson strata dating from the Greek colonization of the island and the founding of the town of Pharos were found on the site of the present town of Stari Grad, some 20 kilometers away from Hvar town, and may indicate conflicts between the indigenous population and the Greek colonizers. Traces of the conflict are known from written sources about the history of Pharos. The history of the town of Hvar is poorly known during classical antiquity, but the true development of the settlement begins in late antiquity. All archaeological excavations in the town of Hvar have found the remains of a late antique city. Among them are the remains

of defensive ramparts found by archeological research in the Arsenal area. It is unknown whether the defensive walls played any role in the defense of the city, which for some reason was largely abandoned during the early Middle Ages. In the 12th century, the city came under the rule of Venice, whose rule, with minor interruptions, lasted until 1797 and the end of the Venetian Republic. During this period, the most important fortifications and defense systems of the city were built, whose buildings are still in their original form today or are being found through archaeological research. Most of the fortifications were built in anticipation of the Ottoman Empire's attack. The attack, which came only once, lasted very briefly and left an indelible mark on the history of the town of Hvar.

7. Emil Nankov (National Archaeological Institute with Museum, Bulgarian Academy of Sciences)

Why battle damage on armour matters: The curious case of two helmets from Late Classical and Hellenistic Thrace

This poster highlights the potential of studying unrepaired battle damage on armor by focusing on two helmets from rich tumular burials in inland Thrace. I start with the premise that unrepaired damage marks the end of armor's life-cycle. Then I continue to explore the significance and broader historical implications behind it. While simple scratches or small indentations on the surface of a helmet, for instance, could be ignored, substantial deformations and perforations would instantly need specialized care to make a protective piece of equipment effective again. Therefore, every example of untreated battle damage considerably compromising the integrity of armor would require an adequate explanation as to why in due course it was reckoned unnecessary. As case studies, I closely examine the helmets from the Sashova tumulus near the village of Yasenov, Kazanlak municipality and Dalakova tumulus near the village of Topolchane, Sliven district. The burials were found unlooted and contained pieces of armor featuring traces of unrepaired battle damage. I argue that the identical almond-shaped deformations on the helmets are consistent with blunt-force damage caused by the rapid movement of lead sling bullets. I conclude that having sustained blows to the head in the heat of a battle, the occupants of Sashova and Dalakova tumuli were buried with full panoply soon afterwards. What we have is essentially a non-penetrative missile shot, as a result of which the helmet deformed and the head would receive considerable cranial injury – a phenomenon known as “rear effect” in modern ballistic studies on bullet-proof helmets. Such incidents were apparently a common sight following the more systematic employment of slingers in ancient warfare from the 4th c. BC onward

8. Jon Cooper

'Tartan Tenko': The Scottish regiments in Singapore in 1942 through the adjutant's paperwork

In 2011 at the National Archives at Kew, a diligent Far East POW researcher spotted some unusual large black marks on a collection of regimental rolls. It appeared that the lists of names, ranks and numbers and a very enigmatic code of abbreviations and dates, had been typed and written onto target paper from a military firing range. He had found the legendary 'missing' papers from the Bureau of Record and Enquiry, the administration office at the Changi POW Camp in Singapore that had been printed onto paper 'liberated' from stores in

the early days of captivity. This remarkable find prompted Jon Cooper from Glasgow University's Centre for Conflict Archaeology, to review the rolls relating to the Scots in wartime Singapore. What he discovered was not exactly as the Hollywood directors would have you believe about the history of the Singapore campaign and imprisonment in the Far East.

This paper reveals the work of the BRE clerks and the battalion adjutants, the plight of the Scots in Singapore and how tedious paperwork can be just the start of a re-interpretation of what Churchill the greatest military defeat in British History.

9. Kevin Michael Donaghy (Temple University)

Theoretical approach, methodology, and conclusions of the Brandywine Battlefield predictive modeling survey and field investigations

The Brandywine battlefield investigation was a longitudinal study in both research and site development strategies. Despite being a National Historic Landmark, one of the largest battles of the American Revolution, and underinvestigated, the battlefield is endangered by commercial and residential development, expanding infrastructure, and inaccurate battlefield resources locations. Two themes of this investigation were: successful predictive analysis to locate areas of battlefield action and activity as well as as understanding why areas long held to be the locations of said activity were wrong. This contribution provides a theoretical approach to historical battlefield predictability modeling and illustrates the problem of how battlefield areas "move" over time. The Interest-Density Theoretical Model (IDTM), illustrates an effect on the production of battlefield histories which contribute to a pattern of site selection bias. In regards to this study, the effect of Interest-Density is illustrated by the inaccurate location of a prominent artillery battery at Chad's Ford and the location of the American second line of defense. There were two goals for this investigation. The first goal was to develop predictive modeling to locate two areas of battlefield activity and the second was to understand, if the predictions were correct, how the inaccurate locations became factual.

10. Janene Johnston

Exploring the Collection: A Survey of Arms and Armor Recovered from James Fort

Excavations at Historic Jamestowne started in the early 1900s. However, it wasn't until 1994 that the Jamestown Rediscovery project was launched and excavations began in earnest. Though the island has sites and artifacts representing earlier prehistoric and later historic periods, the main research focus has been on the early 17th century English colonial fort. As a result, archaeologists have recovered thousands of pieces of arms and armor from fort-period contexts. The arms collection contains a range of artifacts from guns parts and bandoliers to daggers, sword hilts, and halberds. Additionally, there are materials such as melting pan waste, strainers, casting sprues, drips, and bullet molds that relate to the production of lead shot. Included amongst the armor collection is plate armor, jack of plate, brigandine armor, and even a few fragments of chain mail. This paper is designed to provide a brief view of this segment of the collection as it stands and what we hope to do next. It also serves as an invitation for students and researchers to consider Jamestown as a potential source of material as these tightly-dated contexts allow for excellent comparative studies.

SUNDAY 8th May 2022 - ZOOM BLOCK 2

ROMAN CONQUEST II AND MEDIEVAL (9.00-10.40)

9.00-9.20 Xavier Rubio-Campillo – Universitat de Barcelona / University of Edinburgh

Beyond the battle: understanding the role of landscape to contextualize ancient battlefields

The relation between territory and conflict is an essential topic to understand warfare during any period of our past. Landscape shapes both tactics and formations, and it may heavily affect the outcome of any military engagement by providing highly defensible positions, areas where troops can be concealed or prominent locations where to control the battlefield.

The importance of terrain in battlefields is a popular topic in battlefield archaeology but lesser number of works have focused on the relevance of landscape beyond the battle itself. How were logistic routes shaped by the control of the territory? Why were specific regions chosen to face the enemy in battle? How commanders and soldiers perceived this landscape before and after the battle?

This presentation will explore the relation between landscape and conflict within the archaeological site of Puig Ciutat (Catalonia, Spain). A garrison deployed at this location was attacked during Julius Caesar's campaign in Ilerda (49 BC) but the successful assault is not mentioned in any written source. We use here a computational framework grounded on connectivity analysis to gain insights on the role of this site and its landscape within the scope of Caesar's campaign.

9.20-9.40 Joanne Ball (University of Liverpool)

Bullets, ballistae, and breaches: The archaeology of Roman siege in the First Roman-Jewish War

During the First Roman-Jewish War (AD 66-73), the Roman province of Judaea became an area of intense conflict and loss of life. The Roman Army subjected several Jewish strongholds to large-scale sieges, several of which withstood the attacks for weeks, even months, before they surrendered or fell. In doing so, the conflict became one of the most violent and protracted periods of resistance to Roman rule. Archaeological explorations of the Jewish cities subjected to sieges during the conflict were conducted at various points during the later C20th, including Masada (excavated 1963-1965), Herodium (1972-2010), Gamla (1978-2000), Yodefat (1992-2000), and Jerusalem (ongoing). Although these projects largely pre-date the introduction of spatial-based conflict archaeology methodology, they nevertheless provide a detailed record of both the individual sieges, and the process of Roman siege more generally. This paper presents an overview of the archaeology of Roman siege during the First Roman-Jewish War, exploring both the composition and spatial distribution of the siege-deposited assemblages. These assemblages will be used to reconstruct the process of both Roman offensive and Jewish defensive tactics during the conflict, and demonstrate the contribution that conflict archaeology can make to the study of siegecraft in the Roman world more widely.

9.40-10.00 John H Reid (Trimontium Trust)

Two new battlefields from Roman Iron Age Britain?

Since the seminal work of Scott and Fox at the Little Bighorn, the mapping of detector-located lead ammunition scatters has become a central technique for the identification and interpretation of conflicts which have taken place from the time of the invention of the gun. In recent years however, it has also been recognised that much older battlefields e.g. from the Iron Age can be identified by similarly locating dispersed lead sling-shot. These metallic sling bullets (or glandes) have acted as a proxy for ancient conflicts from Persia to Scotland. Our previous work at Burnswark Hill in Southern Scotland and our review of other sites, have shown that groups of glandes occur in two characteristic scenarios: a) in a relatively closely spatially-related 'storage' situation e.g. within an excavated or ploughed out structure such as a fort and b) considerably more widespread field scatters indicative of a conflict event. We present a pair of case histories of the latter phenomenon which we suggest strongly indicate two previously unsuspected conflicts which took place during the Roman Iron Age in Britain probably in the 1st and 2nd centuries AD. We hypothesise both represent events involving the Roman army: i) a second century Roman defensive action within a siege situation and ii) a first century Roman assault on a native force possibly signposting a recorded historical event.

10.00-10.20 Trudi Buck (Durham University)

Trophy-head taking in Roman Britain: Evidence from the Severan fort of Vindolanda

The Roman military were strongly associated with trophy-head taking and post-battle corpse abuse. Depictions of decapitations and corpse display are prominent on Trajan's Column in Rome and the Bridgeness Distance Slab from the Antonine Wall in Scotland. Tombstones from northern Britain depict cavalry veterans holding the severed heads of their defeated enemies. This paper will describe recent bioarchaeological evidence for such practices. Excavations at the fort of Vindolanda have revealed two partial crania located in the fill of the defensive ditches surrounding the Severan period fort, dating to the time of the military campaigns in the north. These crania are likely the remains of trophy-heads brought back from battle and displayed on the ramparts of the fort until they decomposed and fell as refuse into the ditches. Support for this comes from the fact that both crania display sharp force trauma likely inflicted during face-to-face fighting and one shows evidence suggesting decapitation. Further support for these crania representing the remains of enemy combatants comes from isotopic data that indicates one of the individuals spent his childhood north of Hadrian's Wall.

10.20-10.40 Angela Boyle (University of Edinburgh)

Cowboys and Indians? Violence in Early Medieval south-east Scotland, AD 400-800

The information recovered from the study of human remains can allow us to challenge many of the traditionally held perceptions of past societies. Current multi-faceted research into the evidence for violence in early medieval Scotland will be used to demonstrate this proposition. During the period in question, south-east Scotland experienced several dramatic events including the end of Roman rule, the Anglian invasion and the commencement of

Viking attacks. Osteological analysis of more than 300 skeletons, many of which were excavated in the 19th and first half of the 20th century has demonstrated a general absence of evidence for violence except in notable concentrations in and around the Firth of Forth. What does this tell us about the relationships between Angles, Britons and Picts and the nature of conflict in the area? This research incorporates much material which hitherto has not been examined and the work is complimented by new radiocarbon dates, isotope and aDNA analysis alongside XRF analysis of injuries.

10.40-11.00 Samuel Fox (Historic Environment Scotland)

A battle lost? Battle of the Pass of Brander 1308 – A public proposal to designate a historic battlefield

Since its creation in 2015, Historic Environment Scotland has a role in creating and maintaining the Inventory of Historic Battlefields. The process for assessing a battlefield involves several stages of work, and this process can be started in multiple ways, such as internal research or through proposals from members of the public or other bodies. In this paper, we will explain how we assess a candidate battlefield using our designation policy and selection guidance. As a case study, the paper will discuss a review we undertook in 2016-17 of the Battle of the Pass of Brander (1308), the research methods we used, and the challenges that had to be overcome to complete the assessment within our target timescale.

MORNING BREAK (11.00-11.30)

THEORY / METHODOLOGY / VISUALS (11.30-12.20)

11.30-11.50 Joseph F. Balicki

Tell me why: How economic theory, cognitive theory, noise, and randomness apply to the examination of fields of conflict

Conflict researchers are good at discerning the who, what, where, and how, but like most other social sciences, the “why” question remains elusive. The goal of this discussion is to introduce a multidisciplinary approach incorporating research from economists, behavioral scientists, game theorists, psychologists, decision scientists, anthropologists, and archaeologists that is better suited for addressing why individuals and States make certain decisions and assume certain risks. This multi-disciplinary, multi-tiered approach uses Prospect Theory as its foundation. Initially developed for economics, prospect theory, and its heuristic and cognitive bias components, has been increasingly adopted by other Social Sciences and fields such as legal judgement, intelligence analysis, medical diagnosis, philosophy, finance, statistics, international relations, and military strategy. Within this framework it is shown that examination of heuristics, biases, noise (variance from an expected decision or outcome), and randomness and the dynamic interplay among these factors offers the most promising approach to gain meaningful insight into the examination of WHY.

11.50-12.20 Sara Nylund

Visualising the archaeology of conflict: The challenges & opportunities of illustrating the violent past

The growth and development of battlefield and conflict archaeology in Ireland over recent years has raised the profile of the sub-discipline in the eyes of both the public and the wider archaeological profession. This has led to an increase in dedicated conflict-related research projects and the more frequent inclusion of conflict specialists in analysing the military artefacts and biofacts uncovered during “traditional” archaeological investigations. The often striking narrative potential of the results that follow has seen a growth in the popularity of the violent past as a subject for archaeological reconstruction and archaeological illustration. Through a series of examples drawn from Irish conflict archaeology, this paper will examine some of the opportunities and difficulties that accompany the visualisation of the violent past for public audiences. It will detail the typical processes involved in creating viable illustrations and reconstructions, in distilling complex stories into visual form, and discuss their value as a dissemination tool. The paper will also explore the many challenges that confront the conflict illustrator, ranging from varying budgetary and timescale restrictions, to issues of brief and appropriate research. Finally, it will reflect on the implications of illustrating these often highly emotive and occasionally controversial events, and consider if the development of a series of ethical standards may be appropriate.

12.20-12.40 Heather M. Tamminen, Andrew Ford, Kate Welham, Martin J. Smith
(Bournemouth University)

Cutting-edge technology: Exploring the use of digital methods to record and interpret trauma to the skeleton

In 2009 a mass grave containing approximately 50 individuals who had met a violent fate was discovered on the South Dorset Ridgeway. They were radiocarbon dated to 970-1025 CE and their isotopic signatures placed their origin as northern Europe and Scandinavia; hence they became known as the ‘Weymouth Ridgeway Vikings’. Osteological and burial evidence revealed that these individuals were violently decapitated and display corresponding sharp force trauma to the neck and jaw in addition to other weapon injuries consistent with an episode of conflict prior to their executions. Now, these skeletons are being re-examined using modern digital technology to determine what additional information can be learned about the events surrounding their death as well as executions and interpersonal violence at that time. Photogrammetry has been used to digitise the cutmarks to allow for more in-depth analysis to be performed in order to understand the trauma as comprehensively as possible. This method has the benefit of creating a 3D digital version of the cutmark that can be studied and manipulated in ways the real one could not be without causing permanent damage. Within this presentation, the initial findings of the on-going research into the Weymouth Ridgeway Vikings are discussed.

12.40-13.00 Hamad Mohamed Hamdeen (University of El Neelain)

Conflicts scenes on the rock arts at Wadi Gorgod in the Western Desert of the third cataract region, Northern Sudan

Wadi Gorgod is located in the western bank of the Third Cataract region in northern Sudan. The research in Wadi Gorgod was first briefly studied by the Italian mission of the University of Pisa in the early 60’s of the 20th century. Allard-Huard begun her fieldwork which lasted from 1979 to 1985. Jean Leclant mentions activities in the Gorgod region undertaken by the Sedeinga Archaeological Unit in 1991 and 1999. The Gorgod rock art sites were also briefly explored by the Mahas Survey Project directed by Osman and Edwards 2012. The Western of the desert of the Third cataract began in 2018 new fields work in the Wadi directed by the

Author. More than two thousand and half of rock art were reported some of them reported before that but others were discovered for the first time. The rock art include cattle, horses, camel, dogs,..etc. and wild animal, giraffe, elephant, gazelle, hippopotamus, crocodile, birds, humans, figures, inscriptions...etc. this paper will focus on the scenes of wars and conflict between the different groups that were presented on the rock arts as one of the fields of conflict archaeology, these scenes depict people in battles, ride horses and camels and carry swords and spear in their hands.

LUNCH BREAK (13.00-14.00)

19th CENTURY (14.00-14.40)

14.00-14.20 Hannah Grabmayer (Novetus GmbH)

The Battle of Wagram 1809 – Paleopathological evidence of life and death during the Napoleonic Wars

On July 5th and 6th 1809, the French and the Austrian armies met at Wagram to the northeast of Vienna in one of the largest battles of the Napoleonic Wars, leading to the death of up to 18.000 soldiers. Prior to construction works for the S8 new motorway to Marchfeldschnellstraße* in 2017 and 2018, leading through the area of the historic battlefield, salvage excavations revealed 25 battle-related burial sites at Pabersdorf and Deutsch Wagram, with a total of 60 skeletons recovered. All 60 individuals were studied as part of a systematic bioarchaeological assessment in order to elucidate living conditions of soldiers of the Napoleonic era, but also death on the battlefield. We considered demographic parameters, markers of poor health during life, as well as evidence of perimortem trauma attesting to their death on the battlefield. The results of the paleopathological analysis show signs of heavy physical activity, osteoarthritis and overuse despite their young age-at-death. Scurvy, pneumonia, meningitis and chronic sinusitis were common and indicate the harsh living conditions of soldiers during long field campaigns. Perimortem trauma was largely confined to ballistic head trauma, conforming to standard Napoleonic warfare, with a heavy reliance on infantry.

14.20-14.40 Chryshane Mendis

Biography of a battlefield, the authors of Waterloo

What has been termed a 'biography of landscape' investigates the dynamic past of landscapes viewed as life-worlds, with the theme of authorship exploring the roles of the people throughout the ages and how they have experienced the landscape and given it new meaning. The fields south of the town of Waterloo in Belgium were witnesses to the epic battle which changed the future of Europe on the 18 June 1815. This study investigates the biography of the battlefield of Waterloo with the aim of exploring as to who are the authors of the landscape. Focusing on a part of the battlefield, the chateau of Hougoumont and exploring the historiography and archaeology, three distinct authors were identified. One the 'Legal Owners' and how they used the landscape before and after the battle; two the 'Soldiers' and how they made an ordinary farm a battlefield and three the 'Re-enactors' which is the most surprising author as they appear even on the archaeological record creating a material imprint. Understanding these authors and the various ways in which they

experienced and transformed the landscape is an interesting perspective when looking into the life history of the landscape of the battlefield of Waterloo.

POST-1950s (14.40-15.20)

14.40-15.00 Gediminas Petrauskas (National Museum of Lithuania)

Campscapes of resistance: Traces of military training of the Lithuanian Freedom Army in Plokštinė Forest, Lithuania

Wars and armed conflicts leave material and intangible evidence on the landscape. On the one hand, above-ground and underground military structures, buried remains of the dead and archaeological finds bear witness to past warfare. On the other hand, however, the locations of battles, camps and armed conflicts in general were often determined by the landscape and natural environment, as well as by the presence of railways, roads and other human-made features in the area. The archaeology of the Second World War is a growing sub-discipline of modern conflict research, and the analysis of fortified and open-type campsites, their location and relationship to the landscape is a significant issue in uncovering the phenomena of the deadliest conflict in human history. In the summer of 1944, as the Red Army units were pushing the Wehrmacht westwards through Lithuania, thousands of Lithuanian Freedom Army soldiers (the so-called “hawks”) were gathered in the forests of Samogitia, Western Lithuania. One of these large concentrations of “hawks” was the Plokštinė Forest on the south-eastern shore of Lake Plateliai. Remembering the repressions that took place during the Soviet occupation of Lithuania in 1940–1941 and in order to avoid their repetition, the Lithuanian Freedom Army organised a military training camp, where Samogitian youths (mainly students) with no combat experience were trained in military tactics, formation, shooting, handling explosives, and various other basics of war and armed resistance. The paper presents the archaeological field surveys carried out at the site of the military training camp in Plokštinė Forest in 2019 and 2020, and examines the results of the research. Based on the survey data, the significance of the landscape in the selection of the campsite, the shaping of its space, and the delineation of activity zones is revealed.

15.00-15.20 Adrian Mandzy

Discovering an erased history. The attack and liberation of the Nazi slave labor camp at Sviatoslav, Ukraine

The July 1943 attack on a Nazi slave labor camp near Skole was one of the first military operations undertaken by Ukrainian nationalist insurgence in the Carpathian Mountains. During the post-war period, the Soviet authorities sought to destroy the nationalist organization and suppress any knowledge of its activities against the Nazi occupation. As a result, all memory of the raid and even the very existence of a slave labor camp was effectively removed from the public consciousness. At the start of our research, all the evidence for this engagement came from a single work published in 1972 by a political émigré in the US. Working in cooperation with the Ukrainian organization Dolia (Fate), which searches for and reburies victims of 20th century violence, in the summer of 2017 we conducted a metal detecting survey at the proposed location of the camp. Though most of the area was impacted by industrial developed over the last seventy years, we were able to recover physical evidence which supported the émigré’s account. Further research uncovered new sources, including a memoir, where an organizer of the raid detailed how the

liberated malnourished prisoners were moved through the mountains and feed by the local population in the weeks that followed the attack.

AFTERNOON BREAK (15.20-16.00)

POSTER SESSION II – 1-Minute Flash Talks and Q&A (16.00-17.20)

1. Chris Espenshade (New South Associates, Inc.)

Conflict archaeology comes of age: Nagging questions

For the 2020 Fields of Conflict conference, it is safe to anticipate that there will be many excellent papers suggesting conflict archaeology has come of age. In terms of methodological and theoretical developments, acceptance within and outside the discipline, expanding educational opportunities, and funding of research, our discipline is indeed advancing rapidly. This paper suggests that it may now be time to pause and reflect in our maturity. Why do conflict archaeologists hide behind a vocabulary and passive-voice style that minimize the real human tragedy of war? Are we wrong to present casualty numbers in the same tone as the annual corn harvest? Is it intellectually honest to discuss effective ranges of small arms without detailing what that actually means in terms of destroying flesh and bone? Is there no problem with conflict archaeology enabling the ongoing glorification and worship of war? Do we have any ethical obligations beyond simply doing good archaeology? In this call for self-examination, no definitive answers are offered.

2. Rebecca Strong (Teesside University)

An experimental investigation of cutmark analysis of sharp force trauma in the Bronze Age

Studies of Bronze Age (BA) weaponry have focused on demonstrating the capability and effectiveness of weapons in a combat context, with little or no observation of the osteological evidence for trauma and weapon use. Downing and Fibiger (2017) is the only study to have taken into consideration osteological evidence related to BA weapons. Their results demonstrated a need for further research to distinguish between cutmarks sustained by BA swords and dirks. Upon reevaluation of the cut marks sustained by a Late BA sword and dirk, no distinguishing morphologies were established, with both weapons producing cutmarks characteristic of both knife and sword weapon classes. This demonstrates both the BA sword and dirk can be potentially used in similar forms of combat. Furthermore, contrary to previous research, this research demonstrates the capability of the dirk as a viable combat weapon. This experimental approach provides a preliminary foundation to aid in further understanding of weapon use and weapon choice in conflict contexts throughout the BA.

3. Monique Depace (University of Edinburgh)

Vampire or victim? Examining a case of blunt force trauma at Nessebar, Bulgaria

During excavations of the Medieval Church of Sts Michael and Gabriel in Nessebar, Bulgaria, the skeleton of an Ottoman (16th– 18th century) individual was discovered with a large iron nail driven through their chest, giving the individual the moniker of “vampire”. This individual, SMG 22, sustained multiple massive blunt force cranial injuries that likely caused death almost immediately. The osteological analysis indicates that this individual was likely a

scapegoat for the town at a time where political change and social anxiety were rampant. The level of “overkill” that SMG 22 had inflicted upon their person could be suggestive of an extreme response to factors beyond human control. The existence of a vampire folkloric belief has been recorded from ancient Greece and Rome up to the Byzantine Empire and in Greek Orthodox precepts. Many of the classic symptoms that identify an individual as a vampire can be explained, however, through an understanding of disease and the taphonomic conditions that can affect a decomposing corpse. The conditions of SMG 22’s burial and the pathological changes identified upon the skeletal remains, along with an isotopic reconstruction of the individual’s diet during life will be used to understand the circumstances surrounding their violent death.

4. Miguel Ángel Moreno (Institut Català de Paleoecologia Humana i Evolució Social & University Rovira i Virgili)

Late Neolithic – Chalcolithic cranial trauma in the Northeast of the Iberian Peninsula: Analysis and interpretation of the weapon-tool used through the fracture pattern

The most direct evidence of interpersonal violence in the archaeological record are the signals on the skeleton. Violent confrontations have been an important aspect of human behavior through all periods of our history, but during the Neolithic there was an exponential increase. Our objective is to reconstruct the way in which a trauma in a Neolithic – Chalcolithic cranium was caused, identifying the timing of the fracture, the object used and the direction of the impact. The cranium belongs to an old adult man, from the collective burial assemblage of Cova Foradada site (Calafell, Tarragona, Spain). It was analyzed macroscopically and microscopically using a micro-CT scan, comparing this fracture with multiple archaeological and forensic cases. The fracture is located on the right parietal bone, and it presents all the characteristics of a perimortem trauma, which was probably the cause of death of the individual. In addition, the same cranium presents two healed antemortem fractures, probably related to previous violent events. The object used was identified as a stone adze by the resulting fracture pattern, and the blow was made from the back of the individual, probably by a right-handed attacker.

5. Claes Pettersson

The weak link in the chain. Jönköping Castle: A forgotten border fortress of the 17th century

The vulnerable southern border of the 17th century Swedish realm was protected by three strategically located fortresses – Älvsborg, Kalmar and Jönköping. The latter being a former Franciscan friary, rebuilt into a royal residence and artillery fortress after the Reformation. Its aim was to block the main inland routes towards central Sweden. However, it only saw action at two instances, in the wars of 1567 and 1612. Extensive excavations 2011 – 2014 has shown this impressive castle to be something best characterized as a jerry building. One may doubt whether its bastions and ramparts could have withstood a serious siege. Still, this being a well-kept secret, it did serve its purpose as an obstacle any invading force had to take into serious consideration. But while both Kalmar and Älvsborg plays prominent parts in the historical narrative, Jönköping castle has been forgotten. Its ruins were demolished in 19th century and the remains hidden underground largely neglected by the antiquarian authorities until recently. A fortress that did not generate heroics was of limited interest to the old historians, something that tends to affect research to this very day!

6. Milena Grzybowska (Archaeological Research Services Ltd.)

Life and death in conflict – evidence of inter-personal violence in Early Medieval England

An archaeological excavation undertaken by Archaeological Research Services Ltd in 2019, revealed the isolated remains of an adult male individual, radiocarbon dated to 7th-9th centuries AD. Evidence of healed injuries and cuts sustained around the time of death were observed, including multiple skeletal signs of violent trauma. The study focuses on a series of sharp-force, peri-mortem trauma to the skull, examined using macroscopic and microscopic methods of investigation and three-dimensional digital modelling. Traits including position of the lesions, shape, size, angle, flaking, associated breaks etc. are investigated in order to determine number of the lesions, type of weapon, direction of bone penetration and the overall sequence of injuries around the time of death.

7. Petr Hejhal, Pavel Drnovský

Archaeology of the (post)war landscape: War of the Bavarian Succession in east Bohemia

The War of the Bavarian Succession took place from 1778 to 1779. The war was another in a series of wars between Austrian Empire and Prussia kingdom. An essential part of the conflict was happened in the territory of Bohemia (Czech republic). The report is devoted to research activities of the authors who investigate the relics of this war event to the landscape. Important monuments include relics of Austrian field fortifications, which played an important role in this conflict. The so-called Lacy's fortification system was made up of several dozen objects built in a line over 80 kilometres long. A large number of these fortifications are still preserved in a landscape. Most of these fortifications are preserved by forest, in fewer cases, the fortifications have remained in open treeless areas. Military encampments or places of clashes between Austrian and Prussian units are a specific group of objects related to the War of the Bavarian Succession. Currently, documenting the preserved fortifications is going on in terrain. The objects, that are not preserved, are investigated with non-destructive archaeology methods. A few field fortifications were researched using archaeological excavations.

8. Ray Sumner (Colorado State University)

"You can't study the past, if you can't find the past": Using LiDAR, thermal, and multispectral imagery to locate Indian Wars conflict sites in Colorado, USA

In early 1865, the Cheyenne, Arapaho, and Lakota Native American tribes responded to the U.S. Army's 1864 massacre at Sand Creek with a six-week offensive campaign against ranches, stage stations, telegraph lines, and military outposts located along 100-miles stretch of the Overland Trail adjacent to the South Platte River in Colorado. Overshadowed by the events of Sand Creek and the later well-known battles of the Indian Wars, no professional historian or archaeologist has researched these sites. As a result, over the intervening 150-years, the exact location of these sites was lost to history. Fortunately, advances in airborne remote sensing capabilities over the last decade now allow for a comprehensive landscape-level analysis of the entire campaign area. I have conducted an initial landscape analysis utilizing LiDAR. High probability areas identified in the LiDAR data are then analyzed using drone-based thermal and multispectral imagery to locate archaeological features at possible site locations.

9. Robert A. Church, Daniel J. Warren (Oceaneering International, Inc.)

Analysis of a World War II battle in the Gulf of Mexico: The German U-boat, U-166 vs. U.S. Navy Patrol Craft 566

The passenger freighter Robert E. Lee steamed through the Gulf of Mexico on a hot July afternoon in 1942. With the danger of German U-boats in the Caribbean and along the United States Coast, the freighter was escorted by the United States Navy Patrol Craft 566. They were unaware the German U-boat, U-166, lay in wait. As they neared the Mississippi River, a torpedo from U-166 ripped through the freighter's starboard side. PC-566 quickly located and engaged the U-boat with depth charges. After dropping 10 depth charges, the patrol craft lost contact with the U-boat and the crew felt it had been destroyed. A U.S. Military Review Committee, however, determined that the attack was ineffective and suspected the U-boat had escaped. The archaeological and historical evidence, however, tells a much different story. Through detail analysis of the historical and archaeological data, the battle sequence of the engagement between U-166 and PC-566 is reconstructed. The story it tells vindicates the commander and crew of PC-566 and sheds new light on one of the Gulf of Mexico's most unique battlefields of World War II.

10. Ray Summer (Colorado State University)

The days after Colorado's darkest day: Initial work at an early Indian Wars battlefield in Colorado, USA

Julesburg Station and Camp Rankin, located in northeastern Colorado along the South Platte River, became the focal point of the Native American response to the 1864 Sand Creek Massacre. The location was chosen as the initial and last battle of a six-week campaign in early 1865 due to its isolated location and abundant stage company warehouses. Remarkably, the site has not been studied by professional historians or archaeologists. Unfortunately, the battlefield has been heavily disturbed by relic hunters. Initial work focused on identifying the exact site boundaries using the historical records, remote sensing, ground survey, and limited excavation. Additionally, my research team documented private and museum collections to form a digital repository of site artifacts to assist in understanding the battles. The initial phases of work also includes the initiation of tribal consultation with the Cheyenne, Arapaho, and Lakota nations and a public outreach campaign.

11. Linda Naunapper (DePaul University)

Colonial forts, Indian forts, indigenous fortifications and ethnicity

17th and 18th century Midwestern and Eastern North America (USA) was a period of enormous cultural, economic and political change, due to intense colonial rivalries and ever shifting indigenous alliances. Conflict and warfare is manifest by the increasing number and variety of fortification types on the landscape over time. Historic documents and maps provide clues to fort locations of the period, and archaeologists combine that information with field data to develop a site interpretation that addresses the questions of who was present on location and why. While the ethnic affiliation of Euro colonial forts is most always certain and well corroborated by historical and archaeological information, understanding the history and ethnic affiliations of indigenous fortifications and what are sometimes referred to in primary sources as Indian forts is more complicated. The availability of historic information

about such sites can vary widely and, rather than taken at face value, should be considered and analyzed within the broader historical contexts of colonialism, Euro-indigenous contact and conflict. This poster showcases examples that illustrate the complex nature of interpreting fortification sites that involve layers of mingled historical circumstances.

17.30-18.30 CLOSING KEYNOTE LECTURE

Alfredo González-Ruibal (Incipit-CSIC)

A view from the trenches: an archaeological narrative of the Spanish Civil War (1936-1939)