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Archaeological Monitoring in War-Torn Ukraine

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ABSTRACT

The article examines the problems of monitoring the destruction of the archaeological heritage in Ukraine as a result of the aggression of the Russian Federation. The negative impact of the war on the general state of research is indicated. The problems that arise during the monitoring of archaeological heritage in the de-occupied territories are considered. Among the factors that make it difficult to record the loss of archaeological heritage, the following are detailed: problems related to the accounting of archaeological objects; issues of limited remote and direct access to sites in the de-occupied and front-line territories; immediate risks to life and health when conducting field research. The article also gives a brief description of the work carried out in relation to monitoring of archaeological sites in the de-occupied territories and presents the activities of the 'Archaeological Landscapes Monitoring Group'. One of the conclusions of the study is the statement that there is an urgent need for a long-term state program to compile an archaeological record of Ukraine. The need to record losses in the field of archaeology during the war allows Ukraine to restart the system of site registration at a modern level and with the use of international experience.

KEYWORDS

Cultural heritage of Ukraine; war; archaeology and conflict; archaeological monitoring; recording of damage; archaeological landscapes; accounting of sites

Introduction

Modern Ukrainian society is going through one of the most difficult moments in its historic development. The brutal unprovoked aggression of the Russian Federation on peaceful towns and villages has caused numerous human casualties, forced the displacement of many people, caused significant economic losses, and damage to infrastructure and communications. During the war, cultural heritage has become one of the most vulnerable segments of social life.[1] As a result of Russian aggression, which began in 2014, thousands of cultural heritage sites have been destroyed or damaged, especially in the Kyiv, Donetsk, Luhansk regions and Crimea. At the same time, the consequences of hostilities are particularly devastating for archaeological heritage, given that archaeological sites cannot be restored and once destroyed the inextricable connection between objects the landscape and the ecological

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environment, and the universal nature of the information that can be obtained during research is lost.

Currently, cultural heritage protection in Ukraine is focused mainly on 'visible' heritage objects, such as architectural monuments, religious buildings and monumental art objects. At the same time monitoring the state of archaeological heritage faces specific difficulties. Search and recognition is much more difficult, because sites may exist in an 'un-manifested state'. Because of this, the vast majority of archaeological sites are not included in the lists of cultural heritage monuments, and the necessary set of monument protection measures is not applied to them. The specificity of archaeological sites is that their discovery is often directly related to catastrophic events, and in this case – the destruction of landscapes as a result of military operations.[2]

Legal and Organizational Context

The principal normative authority regulating the handling of cultural property during armed conflict is the *Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict*, 1954, and the two (1954 and 1999) Protocols. Ukraine has ratified this International Treaty.

The 1954 *Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict* requires states to take steps to protect cultural property in war. This includes an undertaking 'to prohibit, prevent and, if necessary, put a stop to any form of theft, pillage or misappropriation of, and any acts of vandalism directed against, cultural property' and to 'refrain from requisitioning movable cultural property situated in the territory of another High Contracting Party' (article 4(3)). States are also required to take all necessary steps to prosecute and impose sanctions on those who commit or order to commit acts of pillage, or other crimes that violate the convention (article 28). The Hague Convention also addresses the obligations of occupying forces in times of armed conflict (article 5). The obligations on the occupying power are to 'as far as possible support the competent national authorities of the occupied country in safeguarding and preserving its cultural property.' The Russian Federation ratified the Convention but only with its first Protocol. However, as can be seen throughout the entire period of hostilities since 2014, Russia systematically neglects the requirements of this international treaty.

There are two more international documents that regulate the handling of cultural heritage in military conflicts. These are the *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property*, 1970 and the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, 1972. International humanitarian law prohibits pillage, also sometimes referred to as looting, plunder, sacking, or spoliation. Pillage is the unlawful appropriation of any property during an armed conflict against the will of the rightful owner and is a war crime. International humanitarian law also prohibits the extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly.

It should be noted that the aggressor state not only does not comply with all international obligations in the humanitarian sphere, but also deliberately violates treaties. After the annexation of Crimea in 2014, these attractive archaeological territories became the focus of Russian researchers. For the most part, the collections from Crimean archaeological sites illegally excavated by the Russian occupiers were exported to the territory of

Russia. Now, during the full-scale Russian invasion, there is documentary evidence of the removal of collections from museums located within temporarily occupied territories, in particular, in Crimea, Kherson, Luhansk and Donetsk Regions. In these conditions, marking monuments as international heritage, for example in the UNESCO Blue Shield scheme, with the corresponding designation on the map, in this situation can create additional risks for these monuments. Deliberate bombing and damage to architectural monuments (for example, the Sviatohirsk Monastery, or the historical centre of Mariupol), religious buildings and museums, were repeatedly witnessed. The ineffectiveness of international legislation in the field of preservation of natural and cultural heritage is evident from the very nature of the Russian Federation's aggression, which aims to erase the cultural identity of Ukraine.[3]

Often, the study of archaeological sites in the occupied territories and the 'evacuation' of museum collections is explained by the aggressor as an attempt to save cultural values from destruction during hostilities. In fact, such explanations are entirely propaganda, because the real reason for the risk to the heritage is brutal aggression on the part of the Russian Federation. Archaeological and museum organisations that 'take care' of cultural values in the occupied territories are representatives of the Russian state, which is recognised by a number of international institutions as a sponsor of terrorism, and its leader as an international criminal.[4] Accordingly, all actions in relation to cultural values – whether excavations or the 'evacuation' of collections – should be considered from the point of view of the general criminal policy of the state that illegally invaded a neighbouring country.[5]

The protection of immovable monuments in Ukraine is regulated by the law 'On the protection of cultural heritage',[6] adopted in 2000 and which has undergone a significant number of transformations since then. These transformations were mainly related to the reduction of the responsibility of cultural heritage protection authorities in the event of threats to monuments. The result is that the main contradictions of modern site-protection legislation are the following positions:

(1) Due to the fact that archaeological sites recognised as unique evidence of ancient eras cannot be restored in case of partial damage or destruction, they must be under state jurisdiction and state property (article 17).
(2) A full set of protective measures is implemented only in relation to objects that have been entered into the State Register of Immovable Monuments of Ukraine (https://mkip.gov.ua/content/derzhavniy-reestr-neruhomih-pamyatok-ukraini.html) with clear definitions of the boundaries of the monument and the availability of a set of monument protection documents (article 1).

The first point is largely declarative in nature, because significant territories on which archaeological objects and the presence of cultural layers are recorded are in private, communal and other forms of ownership, especially in urban and suburban development zones, and accordingly, create difficulties in detecting violations when uncontrolled transformations of these territories take place. Constant monitoring of the presence of landscape transformations is much more difficult, given the technical capabilities and the small number of active professional archaeologists. Nor does the Law provide for mandatory archaeological expertise when approving construction outside the boundaries of

sites. The argument that archaeological sites are 'subsoil' belonging to the state, and only the surface of the territory is in private/communal ownership is methodologically incorrect, because there is a gap between the site and the landscape. In this case, only the cultural layer is subject to protection, not the entire assemblage of ecological, topographical, geographical features of a certain territory.

The second point also creates significant obstacles in the system of protection of archaeological sites. The procedure for placing a monument into the State Register involves a long process of compiling monument protection documentation and decision making at several hierarchical levels – at the level of local authorities, the Expert Commission of scientists, Ministry of Culture and Information Policy of Ukraine. There are entire regions in which individual archaeological sites have been placed on the State Register, while a significant number of objects known for scientific research are not under the protection of the state, and, which accordingly, do not require archaeological research before the start of any development.

According to Article 7(2) of the 1954 Hague Convention, the participating states must plan or organise the work of services or specialised personnel within their armed forces whose task will be to ensure respect for cultural values and to cooperate with the civil authorities responsible for preservation of these values in the event of an armed conflict. Currently, such an association does not exist in Ukraine, which creates additional difficulties for conducting monitoring work in the liberated territories. At each stage of monitoring process, there is a need to establish connections and direct contacts with a number of military structures, and to conduct explanatory work among the military about the importance of respecting cultural values (Figure 1).

According to both international conventions and domestic legislation, the protection of cultural heritage is entrusted to the state and the Central executive body in the field of cultural heritage protection, and in Ukraine the main coordinator and implementer of programs for monitoring the destruction of archaeological heritage is the Ministry of Culture and Information Policy. Currently a Memorandum of cooperation between the Institute of Archaeology of the National Academy of Sciences of Ukraine and the Ukrainian State Institute for Cultural Heritage, Ministry of Culture and Information Policy of Ukraine has been concluded. However, there are certain differences in understanding the nature of the necessary work in monitoring damaged archaeological areas between the archaeological community on the one hand and state structures on the other.

The Impact of War on Archaeological Research

Undoubtedly, the brutal aggression of the Russian Federation has had a negative impact on the conduct of archaeological research. First of all this concerns field work. There are several reasons for this:

First, most of the archaeological research in the country was stopped in the territories that felt the direct impact of military action. A priori, this applies to territories occupied by the enemy, where there is absolutely no question of carrying out any work, due to threats to life and the absence of appropriate conditions for research activity. In the de-occupied territories (Kyiv, Zhytomyr, Chernihiv, Kharkiv and part of the Kherson region), field research faces a number of complications. Among others factors are the immediate risk of landmines and the issue of access to



Figure 1. A lecture by S. Telizhenko for the military and civilians on the protection of archaeological heritage in wartime. Severodonetsk, December 2020. Photo by V. Vybornyi.

archaeological sites. This is only possible in coordination with the military authority, the Armed Forces of Ukraine, the Territorial Defence Service, the Security Service of Ukraine and other services. Often, access is severely limited or even prohibited due to the presence of modern military facilities in these territories (we can say that the entire country is covered with a network of dugouts, trenches, and observation posts). These same problems, together with the threat of artillery and rocket attacks, make it difficult to carry out work in the front-line areas of Kharkiv, Kherson and Mykolaiv regions.

Secondly, many international projects were cancelled due to the difficulties of carrying out research in a country in which a full-scale war is going on. It should be noted that Ukrainian archaeology largely depends on the participation of international partners, because state finance is practically non-existent in this field.

Thirdly, a significant number of practicing archaeologists became internally displaced persons, or (mostly women and elderly people) ended up outside the country as a result of evacuation. It should also be emphasised that about 20–30 archaeologists joined the ranks of the Ukrainian Armed Forces or the Territorial Defence Service and are now defending our lives in different parts of the country. Among these archaeologists, there are heads of expeditions and experienced specialists, the absence of whom definitely led to the curtailment of archaeological activity. Similar processes have taken place in the field of archaeological education. A significant number of students were evacuated outside Ukraine, or sent to cities and villages in calmer regions. It is clear that taking responsibility for the life and health of students by teachers – heads of archaeological practices in this turbulent time – is quite risky. Therefore, archaeological training took place mainly at the place of the student's current residence – either in the country that

provided shelter, or in a village or city, on the basis of a local expedition or a local museum.

However, despite these difficulties, some expeditions managed to maintain staff and the ability to work during this difficult time. Among others, we should mention expeditions in the Kyiv region, working in territories that were not subject to occupation and significant shelling, and work in the city of Kyiv itself. In the summer-autumn of 2022, the Kyiv regional expedition worked on the study of the settlement and burial ground of the Kyivan Rus era, belonging to the ancient Balts. In Kyiv, the work did not stop due to the need for constant monitoring of the destruction of archaeological sites during construction and even planned archaeological research. These works are also mainly related to the study of medieval antiquities.

On the other hand, despite the general decrease in the number of archaeological field projects in Ukraine, we can see a significant shift in the direction of research. The war requires us to solve the primary objectives of preserving and monitoring the destruction of archaeological landscapes. Academic research and projects aimed at solving purely scientific problems has given way to more urgent issues of protection of the cultural environment in general and archaeological heritage in particular. At the level of regions, we can see the emergence of initiatives designed to ensure the preservation of cultural values including the activities of non-governmental organisations, scientific institutions, volunteer groups which ensure the evacuation of museum collections and preservation of museum funds as well as the recording of damage to heritage monuments. For example in 2020, the NGO 'Union of Archaeologists of Ukraine' issued the first manual for the military, which describes the actions to be taken in should features or items of an archaeological nature be found.[7] In the summer of 2022, the Institute of Archaeology of the National Academy of Sciences of Ukraine established the Monitoring Archaeological Expedition, the task of which is to record the loss of archaeological heritage as a result of military aggression by the Russian Federation.

Losses

The greatest loss to Ukrainian archaeology is the looting of museum collections in the occupied territories. Irreparable damage was the result of a lack of developed procedures for the protection of museum collections from bombing or the evacuation of collections from front-line territories. Effective evacuation mechanisms were not developed, and the Ministry of Culture and Information Policy did not provide clear instructions, materials or organisational support for rescue operations in relation to museum funds. This problem has still not been solved despite the constantly changing front line in the south and east of our country. In such conditions, the losses are incredible – hundreds of regional local history museums were looted (Figure 2). Among the most famous are the museums of Kherson, Melitopol and Mariupol. The collections of the Kherson Museum of Local History, together with other museums of the city, were systematically exported to the occupied Crimea, which constitutes the large-scale theft of our heritage by the Russian Federation. The Melitopol local historian was noted for having an important collection of Scythian gold, traces of which have now been lost. The Mariupol Museum held unique archaeological collections, among which, for example, was the collection from the excavations of the Mariupol Neolithic Cemetery by famous Ukrainian archaeologist Mykola Makarenko.



Figure 2. A wooden sculpture of Christ by local artist, broken by the Russian occupiers in the local lore museum of Makariv town (Kyiv region), which was looted by the aggressors. Photo by P. Shydlovskyi.

The museum itself suffered significantly as a result of the fighting that took place directly in the city, and those exhibits that survived were looted by the occupiers – it is reported that the remains were transported to occupied Donetsk.[8]

The war has also impacted on historical and archaeological reserves (for example, the 'Olbia' and 'Kamyana Mohyla' reserves) and open-air exposition of the stone statues of the Middle Ages on the Mount Kremenets in Izium. Depending on how military events will develop, we can predict that a similar fate may also befall the parks of stone statues located on the inner territory of the Luhansk National University named after Taras Shevchenko, near the Coal Mining Museum in Lysychansk, or near the local history museums in Dovzhansk or Berdiansk.

Currently, according to available sources, representatives of museum institutions of the Russian Federation collect information that is used for the purpose of conducting anti-Ukrainian propaganda. It is possible that the scope of their 'interests' will also include objects of archaeological heritage. Propaganda 'reports' have already appeared about the 'rescue' of the Mariupol Museum and the 'Gold of the Scythians', which was stored in the Melitopol City Local History Museum. This attitude of the occupiers to cultural heritage is

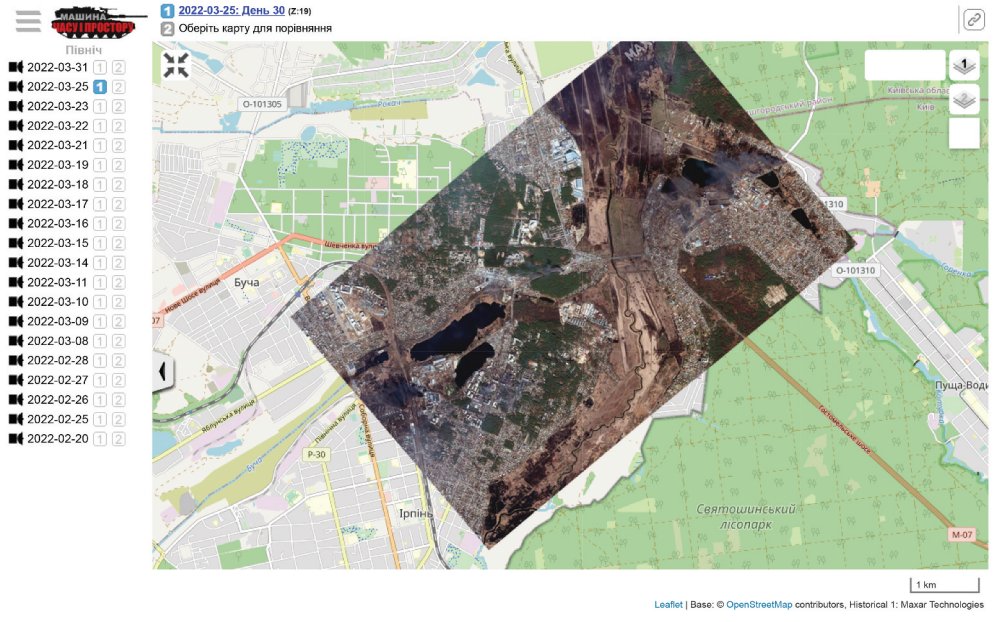


Figure 3. Irpin and Bucha, Kyiv region. Space shot of the outskirts of Kyiv, March 2022. Brown spots – territory with archaeological sites burned as a result of shelling. Fierce battles took place on the outskirts of Kyiv, which were accompanied by significant human casualties among the civilian population, destruction of infrastructure and significant damage to landscapes. Source: https://museum.kpi.ua/map/special/war/.

quite predictable, after all the goal of Putin's war against Ukraine is not only the seizure of its territory and subjugation of the Ukrainian people, but also the destruction of their identity, history and public memory. For this reason, objects of cultural heritage have become a special target for the enemy.[9] Given that the war in Ukraine has been going on since 2014, the number of destroyed or damaged cultural heritage objects is in the thousands, especially in the Donetsk and Luhansk regions as well as in Crimea.

As far as archaeological sites are concerned, their losses cannot even be established with certainty at present.[10] First, however the factors that cause damage to archaeological territories should be determined. Such phenomena or actions can be defined as threatening factors for archaeological sites:

- The destruction of archaeological sites as a result of direct military operations at the front – the consequences of rocket attacks, artillery shelling, mortar fire. It should be noted that this war is primarily a war by remote means, characterised by powerful artillery attacks – missile attacks, 'wall of fire', artillery and tank duels, for example. (Figure 3). Such actions cause the most terrible damage to landscapes, and with it, to archaeological sites (Figure 4,5).
- The destruction of sites as a result of the building of modern military facilities – dugouts, trenches, firing and observation posts, etc. During the onslaught of Russian troops in the spring of 2022, the northern, eastern and southern regions of the country were under threat of occupation, and it was not known exactly where it



Figure 4. Surroundings of Chernihiv, Spring 2022. In the first months of the attack by Russian troops, Chernihiv was partially surrounded, and fierce battles were fought on the outskirts of the city. Photo by Serhii Tarabarov.

would be possible to stop this offensive. In those conditions, the whole country practically turned into a network of checkpoints, dugouts, trenches, observation posts, in the organisation and construction of which the entire population of the country took part. This activity led to large-scale landscape transformations – moving the soil, building artificial fortifications, and excavating large amounts of ground (Figure 6,7). It is clear that similar activities take place on both sides of the front, but it is necessary to understand that the actions of the Ukrainian side to establish military facilities were the result of treacherous invasion and we had no other way out, because we had to protect human lives and homes first. In this case, the destruction of parts of monuments and cultural layers was a forced action in the face of the real



Figure 5. A crater from a mine hit the surface of the multi-layered settlement of Zanivske-I, Luhansk region, 2016. Photo by Serhii Telizhenko.



Figure 6. Defensive structures on the archaeological site. Kyiv region. Photo by I. Zotsenko.

threat of enemy attack. Due to the fact that Ukraine is a party that protects its territory and the population, the Russian side is recognised as having full responsibility for damage and losses of cultural heritage.



Figure 7. An anti-tank ditch at an archaeological site. Kyiv region. Photo by I. Zotsenko.

- The use of sites as modern military facilities. It is clear that both in previous eras and in modern warfare, topographically outstanding objects are of great importance – the highest points of the landscape, riverbanks, terrace levels, the presence of lakes, swamps, ravines, etc. The analysis of maps of military operations in Ukraine fully confirms the opinion that the topographical features of the area are fully used by both warring parties (it is clear that our troops are better off, considering that we are fighting on our own land). The front line is usually located along rivers, edges of terraces, watersheds, and protective, observation or fire structures are arranged taking into account the features of the terrain. For these reasons, such anthropogenic landscape objects as mounds, ramparts, moats, ancient hillforts also become

topographic points that are actively used, given the fact that they directly mark, or themselves are outstanding points on the landscape (Figure 8,9). For example, barrows, from the Early Iron Age to the Late Middle Ages, were traditionally built on the highest parts of the terrain, and, accordingly, even now they are a convenient place for modern military facilities.

- Looting of sites. Such actions can be observed from both sides. It is clear that the monument protection system does not work in the frontline areas and in the 'grey



Figure 8. The use of mound cemeteries for the arrangement of dugouts. Chernihiv region: Sedniv (Photo by V. Skorokhod) and Chernihiv (Photo by P. Shydlovskyi).



Figure 9. Use of the hillfort as a military object. Kyiv region. Photo by I. Zotsenko.

zone', which makes it impossible to track the actions of robbers, whose goal is to remove archaeological objects from their context and then sell them. Illegal excavations were repeatedly recorded in the liberated territories of the Luhansk region during surveys in 2016-2021 (Figure 10).[11]

- Acts of vandalism in relation to visible objects of archaeology. Known cases of vandalism in relation to ancient architecture and megalithic sculptures of the early Iron Age – Middle Ages. One of the most famous cases is the shelling of a group of Polovtsian sculptures near the city of Izium in the Kharkiv region (Figure 11).



Figure 10. Donetsk region. Photo taken by Russian army servicemen (Telegram). A mound destroyed during the construction of the military dugout and trenches.



Figure 11. The city of Izium, Kharkiv region. Damaged ritual sculptures of medieval nomads on the territory of the reserve, March 2022. Twitter, the head of the Department of Youth, Sports and Image Projects of the Izium City Council M. Strelnyk.

Typology of the nature of damage. For obvious reasons, until 2014, there was no question of carrying out this kind of research – no one in Ukraine was ever specifically engaged in the development of classifications of types of damage to archaeological objects or their mapping. An exception may be evidence of damage to archaeological objects during the First and Second World Wars, which were entered into the accounting documentation during the process of inventorying archaeological objects or archaeological excavations. According to the results of the monitoring mission to study the state of archaeological heritage in the conditions of war, which was carried out on the territory of Luhansk region in 2016, in which one of the author of this publication also participated, three conditional zonal groups of the location of archaeological heritage objects were selected:

> Group A - objects in the zone of cessation of hostilities or in the zone of active hostilities in the unoccupied territory (controlled by Ukraine);
>
> Group B - objects in the zone close to the front line, military operations were not carried out, but archaeological objects were damaged by the military (territory controlled by Ukraine);
>
> Group C - objects in the zone where hostilities are no longer taking place, or in the zone of active military operations in the occupied territory.[12]

On the basis of available information, an approximate typology of the nature of damage to archaeological heritage objects was created, which may change in connection with obtaining additional information:

(1) Barrows with partially destroyed mounds as a result of shelling (presence of craters from explosions);

(2) Mounds damaged as a result of the arrangement of protective structures/support and observation point or firing points with the help of machinery or hand tools;
(3) Settlements, hillforts and ground cemeteries, on the surface of which there are craters from explosions (the integrity of the object is damaged);
(4) Settlements, hillforts and soil ground cemeteries that were damaged or destroyed as a result of the construction of protective structures;
(5) Mined areas (Figure 12).



Figure 12. Mine barriers and military trenches at a Bronze Age settlement, Kyiv region. Photo by I. Zotsenko and P. Shydlovskyi.

(6) Areas with objects of archaeological heritage allocated for large-scale construction of military infrastructure (Crimean Peninsula). The building of civil infrastructure in the occupied territories is a topic for a separate study.

If we speak in general terms, then we are talking about the impact of the war on the state of the archaeological landscape and objects related to it. Most of the damage/destruction to archaeological sites is due to unintentional actions. This is understandable, given the circumstances that lead to this, when the personnel of military units have to take a number of measures to save life. However, isolated cases have been recorded, which have allowed us to identify archaeological objects that exhibit traces of intentional damage, probably for the purpose of robbery.[13]

It should be noted that the majority of cases of damage/destruction of archaeological objects were recorded on the territory under the control of Ukraine. This is explained by the fact that in order to fix them, targeted work is carried out, which involves specialists from the Institute of Archaeology of the National Academy of Sciences of Ukraine, museum and educational institutions, or public organisations. In the territories occupied by Russia, such work was not carried out until 2023.

Challenges for Monitoring and Conservation

The urgent issue confronting the organisation of activities to monitor the state of archaeological objects in the liberated territories requires significant administrative and legal foundations. Monitoring the state of archaeological deposits is faces a number of difficulties related to the danger of being near military objects or in areas close to military operations. This is further complicated by the difficulty of access to archaeological objects that can be of use militarily. The possibility of discovering new archaeological sites as a result of landscape transformations that occurred during military operations is also problematic. Such work requires not only the record of external damage, but also the gathering of information through the study of the facts relating to the destruction of cultural layers. This involves the direct presence of researchers on the territory of the monument, conducting necessary stages of archaeological research and scientific interpretation of the obtained data. Currently, there are several main problems for the process of recording the destruction of archaeological objects:

1. Object Registration: The problem is that even before the war, the issue of registration of archaeological objects was at a very low level. For years, some regions did not provide information about discovered archaeological objects to the central executive body in the field of cultural heritage protection – the Ministry of Culture and Information Policy of Ukraine. According to Ukrainian legislation, only an object that included into the State Register of Immovable Monuments of Ukraine considers as a monument, and therefore, the application of the entire assemblage of monument protection measures to newly discovered objects is quite problematic. The same applies to the recording of losses and damage – how to record the damage caused to an archaeological object, in case that this territory is not officially an archaeological site?

Current fixation of damage to the cultural heritage of Ukraine mainly focuses on monitoring the state of 'visible' objects – monuments of architecture, objects of monumental art, religious buildings, etc. The figure of about 1,200 objects of

cultural heritage, which is called by the Ministry of Culture and Information Policy of Ukraine, practically does not take into account archaeological vestiges. In contrast to monuments of architecture and art, archaeological objects are invisible and their detection is related to direct field research – archaeological surveys and excavations. Accordingly, in order to record the loss of certain site, it is necessary to create a site-protection documentation for this object in order to enter it into the State Register of Immovable Monuments of Ukraine, which includes, among other things, the cultural and chronological attribution of it. This process can be done only by direct presence in the field, on the territories of the sites and in the constant cooperation of archaeologists with the site-protectionists.

(1) **Monitoring the Condition of Archaeological Heritage**: The next risk in monitoring the state of archaeological heritage is the issue of access to objects. The front-line territories of the Kharkiv, Donetsk, Luhansk, Zaporizhzhia and Kherson regions are currently inaccessible for any field work due to direct threats to life and health, nevertheless de-mining and the process of reconstruction towns and villages in the de-occupied territories of the Kyiv, Zhytomyr, Chernihiv and Mykolaiv regions has already begun. However, archaeological work in these territories is significantly complicated due to limited access to land outside the modern settlements. There is a need to coordinate this work with military administrations, the Territorial Defence Service, and other structures of the military. In the northern territories bordering Belarus and the Russian Federation, a regime of heightened danger, a ban on the use of UAVs, patrolling, etc., has been improved. Therefore, a large part of the time is spent on coordinating actions with various authorities during monitoring work.
(2) **Direct risk to life**: When carrying out work in the de-occupied territories, there is a significant danger of encountering mine barriers. There is also the danger of artillery and mortar attacks, and the infiltration of groups of saboteurs. This especially applies to the districts bordering the Russian Federation in the Chernihiv, Sumy, and Kharkiv regions, which are constantly under fire from the territory of the Russian Federation.

It is essential that this activity is carried out not only in terms of archaeology, but also in relation to ecology, geology and biology. Archaeological monitoring should become a trigger for restarting the registration system of sites at a new level – in particular the creation of databases on monuments linked to a digital map and designation of territories affected by military actions. In view of the registration procedure and taking into account the limited use (practically impossible) of remote means of monitoring the landscape, the main focus of such research should be based on the direct field activities of archaeologists – conducting surveys and evaluation of specific territories that have been negatively affected by the war. Certainly, satellite imagery and aerial data should complement archaeological mapping, but access to these data is currently limited. Monitoring of historical landscapes in the newly liberated territories should take place alongside paramilitary guards, explosives services, sappers, together with an appropriate level of security.

What is Being Done

Work on collecting information on damaged archaeological sites began in 2014. In 2016, after conducting a monitoring mission to study the state of archaeological heritage in the conditions of war in the territory of Luhansk region, the mission became more active. Starting in February 2022, when a significant proportion of Ukraine territory was subject to military action, the number of damaged or destroyed archaeological heritage sites increased. Identification and analysis of cases of war damage to the archaeological heritage is the main task for the near future and there is an urgent need to develop a methodology.

From 2014 and until February 2022, military action within Ukraine took place within the borders of the two eastern regions – Luhansk and Donetsk. The conditional line of demarcation between the Russian-occupied territories of these regions and the territories controlled by Ukraine occurred in the steppe zone along the Siverskyi Donets and Kalmius rivers. The river valleys are rich in chronologically diverse settlements and inhumation cemeteries, and on the plateau, especially on prominent locations, there are individual burial mounds and groups of barrows.

The first evidence of damage to archaeological sites was sporadic, based mainly on amateur photographs and reports from the places and events which appeared in the media at that time. A vivid example is an amateur video and special reports about the defence of the section of the Ukrainian border near the international customs terminal 'Dovzhanskyi' in July-August 2014, during which time the Armed Forces of Ukraine and the State Border Service had to use a barrow group for defensive purposes. The damage to the barrows group near the terminal was captured by satellite images and can be seen on video.[14]

In 2016, a joint monitoring mission was conducted near the zone of military operations in the territory of Luhansk with the aim of recording the state of archaeological sites, in which representatives of the Institute of Archaeology of the National Academy of Sciences of Ukraine, the Ukrainian-Helsinki Human Rights Union and the International Cooperation on Human Rights participated. The results of this mission were presented at the scientific council meeting in May 2016 and in an electronic publication.[15] From 2017 to 2021, archaeological sites were regularly surveyed in the Luhansk region, both near the demarcation line and on the border with Russia. Based on the results of these studies, presentations were held in various cities of Ukraine. On 16 May 2019, the Union of Archaeologists of Ukraine organised an international seminar in Kyiv, at which, among others, a joint report by Serhii Telizhenko and Samuel Hardy 'Archaeology in occupied territories and zones of armed conflicts' was presented.[16] In May 2020, the report 'Looting and destruction during the post-revolutionary crisis in Ukraine – confirmed' was read at the international conference 'Antiquities trafficking and political violence – violent political organisations, organised crime groups and criminal entrepreneurs', which took place in Rome. In addition to this, a manual for the Armed Forces of Ukraine 'Archaeological Sites and War' was published.[17]

Methods of obtaining information:

(a) **Private messages**: The first means of obtaining information includes reports from civilians about damage/destruction of archaeological sites as a result of the construction of protective structures. The largest, the second group, consists of

messages from servicemen of the Armed Forces. They often provide information confirmed by geo-referenced photographs of the unintentional destruction of archaeological heritage/sites as a result of the construction of protective structures. The coordinates of the destroyed sites can be used after the war in order to check their condition. In addition, servicemen and women also hand over discovered artefacts, which, after processing, are transferred to the Institute of Archaeology of the National Academy of Sciences of Ukraine or museum institutions. In two cases, information was recorded and artefacts received, which were later transferred to the museums of the Luhansk region, from a sapper of the Armed Forces of Ukraine, who in 2020 and 2021 carried out demining of the territory near Popasna, Luhansk region.

(b) **Monitoring of social networks and specialised forums**: In some places, social networks (Facebook, Twitter, TG, and YouTube) post messages accompanied by photos and videos with the necessary information. Forums of participants in the illegal search for archaeological materials also serve as a source of information. It is worth noting that the robbers, who were illegally searching for artefacts on the territory of the Luhansk region, have completely stopped publishing any information since February 24, 2022. Instead, it is possible that the necessary information should be tracked on Russian resources, where materials originating from the occupied part of Ukraine may appear. One of the disadvantages of social networks monitoring which must be considered is the lack of geolocation.

(c) **Visual and field monitoring**: The visual inspection carried out during the 2016 monitoring mission; inventories of archaeological heritage sites in the Luhansk region for 2017-2021; excavations and work on the creation of historical and architectural plans of modern settlements in 2017-2020, all retrieved information which is stored in the Scientific Archive of the Institute of Archaeology of the National Academy of Sciences of Ukraine. In September 2022, the Monitoring Archaeological Expedition of the Institute of Archaeology of the National Academy of Sciences of Ukraine was established, which is currently conducting surveys of archaeological sites in the lands of Kyiv, Zhytomyr, and Chernihiv regions liberated from the Russian invaders.

(d) **Study of satellite data**: Using the Google Earth online resource provides an opportunity to monitor archaeological sites, especially those for which GPS coordinates were established before 2014. Also, thanks to the GPS rectification of old topographic maps (for example, the maps of the Western part of the Russian Empire by F.F. Schubert from the 1860s-90s), it is possible to obtain additional information about mounds and mound groups previously unrecorded, to create an inventory and evaluate their current state. It is important to the recording process that on the Google Earth resource there is an historic view function, which views of the destruction of mounds or settlements during military operations.

Knowledge of the topography of the area and the locations of archaeological monuments makes it possible to predict the presence of an archaeological heritage site quite clearly. For example, the so-called line of defence of the Russian occupying forces, which consists of deep and rather wide trenches. This line stretches along the left bank of the Krasna River in the Svatove district of the Luhansk region, with a high probability of damaging

the cultural layers of ancient settlements or ground cemeteries located close to the edge of the floodplain terrace or burial mounds on watersheds. We are also aware that areas of the floodplain and supraflood terrace of the left bank of the Siverskyi Donets River, where the density of archaeological monuments from different periods is so high, that in some places they form zones of continuous settlement. It is logical to assume that during the construction of protective structures in these specific areas, the likely destruction of archaeological evidence may be high. One example, which confirms this, is the material transferred to the Institute of Archaeology of the National Academy of Sciences of Ukraine in February 2022 from a hitherto unknown Final Bronze Age and Middle Age inhumation cemetery, destroyed during the digging of trenches, located in one of these areas of continuous settlement.

In view of the significant changes and destruction of the historical landscape caused by military operations, an additional and necessary requirement given the declared state of war, the archaeological community of Ukraine propose to strengthen control over immovable objects and movable objects of archaeological heritage.[18] In these conditions, representatives of several scientific, educational and museum institutions have established the 'Archaeological Landscapes Monitoring Group', which includes practicing archaeologists and conservationists. Representatives of the Institute of Archaeology of the National Academy of Sciences of Ukraine, the Ukrainian State Institute for Cultural Heritage, the Faculty of History of Taras Shevchenko National University of Kyiv, the National Museum of the History of Ukraine and a number of non-governmental organisations have joined the Group's activities.

One focus of the work of the group is monitoring work in the de-occupied territories of Kyiv and Chernihiv regions. Based on these territories, two detachments were created – Kyiv and Chernihiv and over the past few months, a number of monuments have been examined, including the important hillforts of the Kyivan Rus epoch – Makariv, Motyzhyn, Bilohorodka, Vyshhorod, Chernihiv, Sedniv, and Oster. The assessments were carried out at the request of the Defence Forces in the territory of ancient Kyiv and its surroundings. The implementation of these works was partially supported by Deutsches Archäologisches Institut (DAI) within the framework of the 'Ukrainian Archaeological Heritage threatened by War: saving and protection' project under the DAI Research Scholarship program (leader Alla Bujskikh, Institute of Archaeology of the National Academy of Sciences of Ukraine).[19]

The preliminary results of the work by the Archaeological Landscape Monitoring Group, as well as the discussion of problems related to the urgent issues of preservation of the archaeological heritage, were highlighted during the Scientific and Practical Seminar 'Protection and Preservation of Archaeological Heritage of Ukraine'.[20]

Surveying Archaeological Objects That Were Damaged as a Result of Military Operations

Detection and research methods can be divided into remote and field methods. During remote surveys, the main focus is on processing data from satellite images of a given area, as well as information from social networks and private messages. Visual inspection is carried out directly at archaeological sites after complete demining of the territory and a special permit has been obtained. Assessment involves the following actions: visual

inspection of the surface of the site and its georeferencing by GPS; photo and video recording of damage and destruction; examination of the soil from dumps and excavations to recover artefacts; determination of the scale of damaged areas of the archaeological site; data entry in the field diary. The recovered data is entered into a database, and additions are made to the existing record of archaeological heritage objects. It is also necessary to predict the possibility of conservation of the archaeological heritage object, since the open areas will be gradually destroyed due to the influence of natural factors,



Figure 13. Chernihiv, Boldyni Hory cemetery of the 10th-11th cent. AD. The 'Princely' barrow was damaged because of the bombing, March, 2022. As a result of massive shelling, medieval architecture from the time of Kyivan Rus, religious buildings and a significant number of archaeological sites in the city itself and in the surrounding area were damaged. Photo by S. Tarabarov and P. Shydlovskyi.



Figure 14. The damaged cultural layer around the remains of the medieval church of the 11th cent. AD in Oster, Chernihiv region, March 2023. Photo by P. Shydlovskyi.



Figure 15. The remains of the foundations of the medieval building of the 11th cent. AD on the Oster hillfort, Chernihiv region, March 2023. Photo by P. Shydlovskyi.



Figure 16. A damaged Kyivan Rus hillfort in Oster, Chernihiv region, March 2023. Photo by P. Shydlovskyi.

and may also attract those engaged in the illegal search for archaeological artefacts. It is important to develop consistent datasets, which will save time during the inspection of damaged or destroyed sites. It is mandatory that the surveys are carried together with representatives of cultural heritage protection and law enforcement agencies. The latter should perform the work of recording the factual details of any crimes. Of course, as a result of the surveys, other methods may be implemented that are not listed here and that will be more appropriate given the current situation. Monitoring has to include the entry of metadata into the database with detailed mapping of the borders of sites, which will make it possible to create the necessary documentation and add sites to the State Register of Immovable Monuments of Ukraine.

As a result of recent works, damage to the hillfort in Makariv (rocket attack), significant structural changes around Bilohorodka, damage to the Vyshgorod hillfort due to missile strikes, extensive damage to the Shestovytsia and Boldyni Hory mound cemeteries in Chernihiv district (artillery shelling, modern fortifications), destruction due to shelling in the territory of the ancient hillforts of Oster and Vypovziv were recorded (Figure 13-17).

In 2023, it is planned to scale up this work – to cover lesser-known sites – settlements, inhumation and barrow cemeteries, at the same time, to create local focus groups of archaeologists and conservationists in other territories of Ukraine, based on the personnel



Figure 17. A military dugout on the territory of a medieval hillfort of the 11th-13th cent. AD in Oster, Chernihiv region, March 2023. Photo by P. Shydlovskyi.

available. In the future a result of the Group's activities will be the development of an interactive questionnaire, the purpose of which is to record the destruction of archaeological heritage directly in the field, with the aim of creating a database and map of the destruction of archaeological sites and landscapes. It should be noted that recording the destruction of archaeological sites as a result of military aggression should take place not only in the territories where military actions took place, but in the entire territory of Ukraine. It is important to identify not only damage caused by bombing, rocket and mortar attacks, but also damage caused by fortification, road, construction works related to the organisation of defence in rear areas.[21]

Conclusions

Since the beginning of the new phase of Russian aggression, which began on 24 February 2022, the number of humanitarian crimes has increased rapidly. Against the background of terrible reports of casualties among the civilian population and the defenders of Ukraine, the destruction of settlements and the country's infrastructure, information has appeared about the damage and destruction of archaeological sites, as well as museums and universities that store archaeological collections. In a situation

where hostilities are still far from over, an important task for scientists, specialists in cultural heritage protection and public activists is the determined collection of information on the scale and nature of damage/destruction of archaeological sites.

The hostilities in Ukraine have exposed the existing problems in the monument protection system. Recording the loss of archaeological heritage should involve checking the condition not only of those sites that have defined areas and are entered in the State Register, but should include continuous survey in order to determine the presence or absence of archaeological evidence in all territories where the landscape has been transformed as result of the hostilities, and where the construction of defensive structures has taken place. This will make it possible to define the priority areas that will need to be worked on after the end of hostilities and to include a mechanism for monetary assessment of the damage caused by Russian aggression to the archaeological heritage of Ukraine. One of the important issues is the lack of a state program for monitoring archaeological heritage sites. Unfortunately, our Group's activities remain at the level of a public initiative of scientists and experts, but have so far been ignored at ministerial level. This could lead to a situation in which the group's results would not be considered in future assessments of war damage to cultural heritage.

In fact, modern Ukrainian society is more than ever ready to solve problems through civil initiatives – from providing for the army to humanitarian aid to the people affected by war. Non-governmental associations often take over the work that should be provided by state bodies. In the situation where the threat of losing part of the cultural heritage as a result of aggression is ever present, the meaning of this heritage is being rethought in society and an understanding of the importance of preserving and studying objects of historical, anthropological, ethnographic, archaeological value is being formed.

The main vectors of future development are laid in the colourful social movement of Ukraine, which is struggling. The war has exposed the problems that have been neglected by successive governments and bureaucracies; it has made those problems relevant and brought them into focus. The processes of building civil society and horizontal links between specialists has become increasingly important, and has allowed our community to survive in the critical moments of the war. Mutual aid became the basis of human solidarity and made our society more viable in contrast to the autocratic slavery of our enemies. The understanding of public values — natural wealth, architectural masterpieces, cultural heritage of Ukraine, has become more pronounced. Cultural heritage and diversity should become the principal focus of society in the new Ukraine. The struggle of Ukrainians for independence is also a struggle for humanistic values, among which respect for the cultural and natural heritage of humankind is of particular importance.

Notes

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17. Telizhenko, *Arkheolohichni pam'iatky i viina*.
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