Journal of Field Archaeology

ISSN: 0093-4690 (Print) 2042-4582 (Online) Journal homepage: www.tandfonline.com/journals/yjfa20

Archaeology and "Life Unworthy of Life:" The Extermination of People with Mental Disorders or Disabilities in Death Valley in Chojnice, Poland

Dawid Kobiałka, Joanna Rogóż, Michał Czarnik, Jakub Stępnik, Izabela Mazanowska, Laura Muñoz-Encinar & Tomasz Ceran

To cite this article: Dawid Kobiałka, Joanna Rogóż, Michał Czarnik, Jakub Stępnik, Izabela Mazanowska, Laura Muñoz-Encinar & Tomasz Ceran (17 Aug 2026): Archaeology and "Life Unworthy of Life:" The Extermination of People with Mental Disorders or Disabilities in Death Valley in Chojnice, Poland, Journal of Field Archaeology, DOI: 10.1080/00934690.2026.2709997

To link to this article: https://doi.org/10.1080/00934690.2026.2709997

Published online: 17 Aug 2026.

JOURNAL OF FIELD ARCHAEOLOGY
https://doi.org/10.1080/00934690.2026.2709997

Routledge
Taylor & Francis Group

Archaeology and "Life Unworthy of Life:" The Extermination of People with Mental Disorders or Disabilities in Death Valley in Chojnice, Poland

Dawid Kobiałka [1], Joanna Rogóż[2], Michał Czarnik[2], Jakub Stępnik[3], Izabela Mazanowska[4], Laura Muñoz-Encinar[5], and Tomasz Ceran[6]

[1]University of Lodz, Łódź, Poland; [2]University of Rzeszów, Rzeszów, Poland; [3]University of Warsaw, Poland; [4]Institute of National Remembrance in Bydgoszcz, Poland; [5]Institute of Heritage Sciences of the Spanish National Research Council, Spain; [6]Pilecki Institute in Warsaw, Poland

ABSTRACT

The first months of the Second World War were particularly tragic in the area of the former Pomeranian Voivodeship, Poland. The Germans exterminated local elites, people with disabilities and disorders, farmers, and workers, as well as a small number of members of the local Jewish community. Relatively little is known about these events because traces of the crimes were covered up—victims' bodies were hidden in mass graves, records were burned, and in the second half of 1944, the so-called *Aktion 1005* took place in Pomerania. The first grave to be discovered archaeologically of people with mental disorders or disabilities, defined in Nazi ideology as "life unworthy of life" (*Lebensunwertes Leben*), was studied in 2024 in Death Valley in Chojnice. This article demonstrates the fundamental role of archaeology in documenting and examining the traces of mass crimes. It presents archaeology as an important mission with social, cultural, historical, and humanitarian significance.

ARTICLE HISTORY
Received 26 June 2026
Accepted 18 July 2026

KEYWORDS
Forensic archaeology; mass grave; mass crime; genocide; Second World War

Introduction

Archaeology has played a key role in investigating mass violence, genocide, and crimes against humanity committed under 20th century A.D. totalitarian and dictatorial regimes (Sturdy Colls 2015; Theune 2018). Often, after such events, the concealment and destruction of criminal evidence have been systematic and intentional: documents were burned, concentration camps dismantled or destroyed, and mass graves hidden or obliterated. Archaeology has brought to light surviving evidence of these processes of erasure and challenged the perpetrators' aims, demonstrating that it is impossible to make the disappeared disappear (González-Ruibal 2020a). Such investigations include the exhumation of mass graves, analyzed in relation to other repressive materialities, understood as part of the strategies of control and punishment deployed by authoritarian regimes (Myers and Moshenska 2011). Within this field, the study of violence has been a central focus, serving to shed light on processes of human rights violations, generate evidence for judicial proceedings, and contribute to processes of mourning and reparation for victims and their families (Crossland 2013). In this context, particularly in relation to the recovery of bodies and the exhumation of mass graves, the term forensic archaeology has been widely employed. This is defined as the application of archaeological techniques and methods to the study of recent death scenes or contexts in which human remains have been deposited (Hunter et al. 2001). This approach has enabled the development of standardized scientific procedures for the documentation, recovery, and analysis of human remains in contexts of political violence and repression worldwide. The systematic incorporation of forensic science—often described as the forensic turn—has been fundamental, opening new possibilities for identifying victims through DNA analysis and reconstructing hidden pasts. Advanced methods based on the interaction of archaeological and forensic sciences are revealing invisible traces of violence and annihilation in Europe and elsewhere (Gilead, Haimi, and Mazurek 2010; Theune 2010; Sturdy Colls 2015; Muñoz-Encinar 2019; González-Ruibal 2020b).

The use of archaeological methods and tools to investigate and document crime scenes has a long tradition in Poland. Poland, as a state, society, and nation, experienced the years 1939–1945 and the communist era in an exceptionally tragic and dramatic way (Szwagrzyk 2021). It is therefore not surprising that archaeologists quickly recognized the importance of their own discipline in documenting traces of totalitarian systems. As early as the 1960s, Polish scientists conducted the first excavations of this kind at the death factory that was the Auschwitz-Birkenau extermination camp (Karski and Kobiałka 2021). Łucja Pawlicka-Nowak's long-standing archaeological research included the non-invasive, invasive, and, most essentially, interdisciplinary research of the first direct extermination camp, the Chełmno nad Nerem camp (Kulmhof) in west-central Poland (Pawlicka-Nowak 2015). In the context of Polish, European, and global scholarship, the work that was begun in the 1990s on the so-called Katyn Massacre, the murder of approximately 22,000 Polish prisoners of war executed by People's Commissariat for Internal Affairs (NKVD) officers, is of particular significance. Archaeologists were part of larger research and investigative teams that led to the discovery and exhumation of thousands of Poles buried in death pits at several mass execution sites (Głosek 2004; Kola 2005).

CONTACT Dawid Kobiałka dawid.kobialka@filhist.uni.lodz.pl Institute of Archaeology, University of Lodz, ul. Prezydenta Gabriela Narutowicza 65, 90-131, Łódź, Poland.

Over the past two decades, many other sites of historical significance in the context of the Second World War have been archaeologically excavated in Poland (Kola 2000). Our research on the mass crimes committed by members of various German military and police units in the autumn of 1939 in Gdańsk Pomerania also fits into this tradition and understanding of the role and significance of the discipline (Kobiałka 2026). In this article, we present the results of our work in Death Valley in Chojnice, where, in 2024, a grave of people with mental disorders or disabilities murdered outside the town was discovered and investigated using archaeological methods. This is the first finding of its kind in Poland, Europe, or the world. The article presents the broader historical context related to the elimination of "life unworthy of life" (*Lebensunwertes Leben*) by Nazi Germany. We discuss the historical context surrounding the events of late October and early November 1939 which occurred near Chojnice. We then discuss the results of interdisciplinary research that uncovered and examined the grave of mentally ill people. The article highlights the fundamental role of archaeology in uncovering and investigating what was meant to be hidden forever and repressed from memory and history. Such archaeology is a mission with an important social, cultural, historical, and humanitarian role.

Historical Context—Extermination of People with Mental Disorders or Disabilities in the Autumn of 1939 in Gdańsk Pomerania

In the autumn of 1939, a mass extermination of Polish (and a small number of Jewish) civilians took place in the pre-war Pomeranian Voivodeship, Poland. The events, known today as the Pomeranian Crime of 1939, affected the intelligentsia, farmers, and workers, but also people with mental disorders or disabilities, and took place during the first months of the German occupation. Approximately 400 mass execution sites have been identified so far in the pre-war Pomeranian Voivodeship (Ceran 2024, 19–25).

The perpetrators were primarily local *Volksdeutsche*, members of the paramilitary *Selbstschutz Westpreussen* unit, commanded by *Schutzstaffe* (SS) men from the Reich. In the case of the extermination of psychiatric patients, the *Selbstschutz* was not required to participate. This does not mean that local Germans did not participate in the executions of mentally ill individuals. In the case of the two largest execution sites, i.e., Piaśnica (Bojarska 2009) and Szpęgawsk (Kubicki 2019a), the responsibility for the killings lies with the *Wachsturmbann Eimann* unit.

Psychiatric hospital patients were the second largest group exterminated in Pomerania in 1939 and, for this group of victims, also in early 1940. While in the Third Reich, from October 1939, as part of *Aktion T4*, directed by headquarters in Berlin, patients were killed in gas chambers and by lethal injections according to strictly defined procedures, in Poland the same death pits were used for this purpose, where, among others, Polish intelligentsia perished (Ceran 2024, 257). The patients of Pomeranian psychiatric hospitals, victims of the Pomeranian Crime, came from all over Poland and the German Reich. Nationality was irrelevant in this case. Many countries, including the Third Reich, were developing the concept of creating a "perfect society" by eliminating individuals deemed harmful or worthless, especially those with mental disorders. In areas newly incorporated into the Reich, such as Pomerania, psychiatric hospitals were also emptied so that the buildings could be used for military and settlement purposes. In the pre-war Pomeranian Voivodeship, people with mental disorders were treated at the National Psychiatric Institution in Kocborowo near Starogard, the National Psychiatric Institution in Świecie nad Wisłą, the National Social Welfare Institutions in Chojnice, the orphanage for mentally ill children in Gniew, and the ward for the mentally ill at the municipal prison in Grudziądz (Kubicki 2024, 124). According to the latest findings, approximately 4000 mentally ill patients were murdered in the pre-war Pomeranian Voivodeship.

The mass executions in Piaśnica began at the turn of October and November 1939 and continued until early 1940 (Tomkiewicz 2017, 5). Patient transport cards from four hospitals (Ückermünde, Stralsund, Treptów, and Lębork) enable us to determine that 1214 of them were deported. Historians, however, are not convinced that all of them were murdered in Piaśnica (Tomkiewicz 2019, 15). The bodies of those murdered were buried in dozens of mass graves. In late August 1944, work began to remove traces of the crime. The remains of the murdered buried in 24 graves were excavated and burned in pyres as part of the so-called *Aktion 1005* (Hoffmann 2008; Angrick 2018). In 1946, during a Polish exhumation, the remains of 305 people were found in two graves, 55 of whom were identified. To date, 1300 names of executed Poles and 1200 mentally ill people brought from Germany have been identified (Tomkiewicz 2019, 17–21).

The site where the patients from Kocborowo in Starogard County were murdered was the nearby Szpęgawsk Forest. The executions took place from 22 September 1939–21 January 1940 (Kubicki 2019a, 161–173). The total number of mentally handicapped people murdered in the Szpęgawsk area is 1689, out of 2403 identified victims of this crime so far (Kubicki 2019a). The second execution site where mentally ill people were executed in the autumn of 1939 in Starogard County was the Zajączek Forest, located approximately 3–4 km from Skórcz. According to Mateusz Kubicki's research, on 23 November 1939, residents of the Poor House in Skórcz were shot there. The Germans had classified them according to their health status, i.e., those with mental disorders and disabilities. There were no more than 30 inmates there. It is unlikely they were all shot. Kubicki identified 12 of the murdered (Kubicki 2023, 118–119).

The liquidation of the National Psychiatric Institution in Świecie began in the third week of September 1939. Patients were transported either to the execution site or, in the case of some, to the hospital in Kocborowo. The number of people under the hospital's care at that time ranged between 1500 and 2000. Up to 300 patients were kept outside the facility because their health did not require hospitalization. This saved many of their lives. The deportation of patients, in batches of 50, took from five days to a week. To this day, it is not known exactly where in Świecie County or neighboring Bydgoszcz County the patients were murdered. There were no direct witnesses to the events. Hospital staff saw the cars carrying patients and were only able to determine the direction in which they departed. Patients at the Świecie hospital may have been murdered in Luszków, Grupa, Dobrcz, Borówno, or near Jeżewo.

In October 1945, an exhumation was carried out in the Nekla district in the Dobrcz commune in Bydgoszcz County. Traces of murdered people were found in two trenches approximately 200 m long on either side of the road in the

village of Borówno. Local residents reported that Poles from Świecie were brought there by lorries. In 1944, during *Aktion 1005* (Hoffmann 2008; Angrick 2018), the bodies of those murdered there, located on the left side of the road, were exhumed and burned. The remains of 102 people were unearthed in a trench on the right side of the road. Along with patients, the Germans also shot doctors in the death pits. One of them was the director of the hospital in Świecie, Dr. Józef Władysław Bednarz, nicknamed the "Pomeranian Korczak" after the war because he refused to leave his workplace despite having the opportunity to do so (Kubicki 2019b, 81).[1]

All of the above-mentioned execution sites, where people with mental disorders were murdered, were destroyed to a greater or lesser extent in the second half of 1944, when *Aktion 1005* was carried out in Gdańsk Pomerania. These operations encompassed sites of similar war crimes in all of central and eastern Europe. They involved locating death pits, excavating the bodies of previously murdered victims, and burning them on pyres. The burned bones were sometimes further destroyed in special mills and then scattered throughout forests, fields, or thrown into rivers (Weliczker 2019). The only mass murder site in Gdańsk Pomerania where, among others, the mentally ill were murdered and which was not destroyed as part of *Aktion 1005* is Death Valley in Chojnice (Buchholc 1947). The history and archaeology of this site are the subject of the following sections of this article.

Historical Context—Execution of People with Mental Disorders or Disabilities in Death Valley

The events that took place at the turn of October and November 1939 on the northern outskirts of Chojnice fit into the broader context of mass murders carried out at that time by various German formations throughout Gdańsk Pomerania (Steyer 1967; Bojarska 1972; Jastrzębski 1974). In the case of Chojnice, fragments of Polish military trenches prepared in the event of war with the Third Reich were used as mass graves—places to hide the bodies of executed people (Lorbiecki 2017). As early as June 1945, the District Committee for Commemorating the Victims of Nazi Crimes was established in Chojnice (Grochowski 1947). Its main tasks included collecting witness accounts, locating mass graves, and exhuming the murdered (Figure 1). In 1945, an investigation into the mass crimes near the town was also initiated.[2] After several years, it was suspended, but it was resumed at the turn of the 1960s and 1970s.[3] These sources allowed for a partial reconstruction of the events. For the purposes of this article, we focus solely on the topic of what the perpetrators called the "transfer" (German: *verlegen*) of the mentally ill. The historical context of the mass crimes near the town has already been discussed in more detail in several of our other publications (e.g., Kobiałka 2022, 2026).

The first executions near Chojnice took place as early as 15 September 1939 (Buchholc 1947). However, the so-called *Igielskie Pola* (Igły Fields), farm fields surrounding Chojnice from the north, were not used as a mass murder site until late October 1939. It was then that, within a few days, residents of the National Social Welfare Institution in Chojnice, partly a branch of the psychiatric hospital in Kocborowo (Kubicki 2019a), were transported there. The testimonies of Polish workers forced by the Germans to continue working at the facility after 1 September 1939 constituted a primary source of information about the extermination of patients from the Chojnice facility. Several individuals testified to this fact, including Klara Kaszubowska and Bernard Jakubowski (Buchholc 1947). However, one of the more extensive accounts was provided by Leon Ryk.[4]

According to the witness, there were 219 patients in the hospital—all but one, who worked as an assistant to one of the Chojnice butchers, were murdered in nearby fields at the turn of October and November 1939. One afternoon, a lorry arrived. Karl Diezel, head of the local parapolice organization *Selbstschutz Westpreussen* (Mazanowska, Ceran, and Przegiętka 2021), ordered hospital staff to prepare a group of several dozen patients. They were stripped down to their shirts and then loaded into the back of a lorry. Despite assurances that the patients were being transported to the hospital in Kocborowo, resistance continued. Hospital nurse Jan Krauze, who was looking for a ride to the train station in Chojnice, took part in the first transport. According to Leon Ryk, he soon ran to the hospital with information that the patients were being shot in nearby fields. On that fateful day, the lorry took two more transports of patients. Of course, the cars returned empty within a few minutes of their departure. The following evening, as the witness recalled, another group of patients was taken away from the Chojnice hospital.

A crucial piece of information included in the witness's interrogation report was the statement that a group of Poles observed the execution of the patients from one of the transports from the second floor of the facility building. This must have been the northernmost one (see Figure 1). Furthermore, the lorry stopped in a farm field some 200–300 m from the aforementioned building, and the patients were then taken another 40 m to a Polish military trench that ran through the area. They were then shot next to its edge. The executions were carried out with long and short firearms. Some of the people attempted to escape and were shot on the way to the trench itself. Leon Ryk also testified that two days after the executions, he went to see the site. The victims' bodies were very lightly buried, so the patients' limbs were still protruding from the military trench. The limbs remained visible in the trench for approximately 80 m.

There were supposedly 28 more patients with mild illnesses remaining in the hospital who worked for the hospital and tended the gardens. Approximately two weeks after the last execution, they were also shot in a nearby field. A total of 218 patients at the Chojnice hospital were murdered. As in the case of the hospitals in Kocborowo and Świecie, the vacated patient rooms were used as prisons, internment camps for local social and political elites, and later as nursing homes for Germans brought in to occupy the new living space (*Lebensraum*) (Kubicki 2019a, 2025).

The case files also include sworn statements made in the presence of a judge that the mass shooting of patients from the Chojnice hospital took place not 200–300 m from its buildings but less than 2 km farther north. The dates of the executions and the number of victims also varied—some witnesses claimed as many as 249 patients were killed. The removal of the patients' personal files and their subsequent destruction made it impossible to identify the murdered individuals. All Polish witnesses, employees of the facility and its constituent hospital, always referred to them as the

Figure 1. Death Valley—a landscape of crime. A) The sketch plan prepared in 1970, based on the testimony of witness Leon Styp-Rekowski, who managed to escape during his execution. B) Sketch outline prepared for field research purposes. 1) Prison, 2) meat processing plant (a landmark for town residents), 3) National Social Welfare Institutions, 4) memorial in Death Valley, 5) site of the crime and escape of witness Leon Styp-Rekowski, 6) place where the witness hid under the bridge, 7) place where the witness fought with his executioner, 8) Rzepiński buildings, and 9) Schüelke buildings. - - - = the witness's escape route from the crime scene to the Rzepiński buildings (by K. Karski; source: the Institute of National Remembrance).

"sick" (*chorzy*) or the "mentally ill" (*umysłowo chorzy*). None of their names or surnames were mentioned during the testimonies. At this time, only two victims have been identified.

From the perspective of the historical (and archaeological) research, the testimony of Franciszek Piaskowski[5] was crucial. He was a senior nurse at the hospital during the period in question, responsible, among other things, for patient records. He unequivocally confirmed that the hospital housed 218 patients at that time. The patients were brought in August 1938 from two other hospitals in Kocborowo and Świecie. The Chojnice ward was for adult men only. The witness was ordered by the German head of the facility, named Robert Six, to prepare a list of the 50 most seriously ill patients. He then spoke of the lorry into which the patients were loaded. Robert Six and three SS men were also in the group. The witness also confirmed that a Polish male nurse boarded the lorry with the patients.

As Leon Ryk stated, the patients were supposedly being transported to another hospital. However, when the lorry turned right, leaving the facility, where only fields and meadows lay, it was obvious to everyone that the patients were doomed. The witness also recalled going to the second floor of the facility building, where a group of Polish nurses observed the events unfolding. The male nurse who accompanied the patients during the first evacuation transport of patients from the Chojnice hospital was Jan Krauze.[6] His testimony was also collected. It seems to have been of fundamental importance, also in the context of locating the mass grave at the turn of November and December 1945, when an inspection of the site and the subsequent exhumation of some of the victims were conducted there. After turning into a nearby field, the patients were led to the edge of an open military trench and then shot. Seeing what was happening, the witness jumped from the lorry and began to flee towards the facility. Despite attempts to shoot him while he was escaping, none of the bullets reached him.

Members of the Committee for Commemorating the Victims of Hitler's Crimes conducted the first inspection of mass murder sites in the town, its surrounding area, and the entire county as early as late June 1945. Documents from these visits and subsequent exhumations have been preserved, allowing us to trace the course of events. During this June visit, the site where patients from the Chojnice hospital were allegedly murdered was identified.[7] For economic (potato harvest) and sanitary reasons, exhumations in Death Valley near Chojnice, the largest site of mass execution in the region, were scheduled for late November and early December 1945.[8] First, a mass grave of local elites, workers, farmers, and 15 members of the Jewish community was located. The remains of 107 people were recovered, of whom families and friends identified 53 victims. The grave of patients from the Chojnice hospital was discovered on 1 December 1945.[9] The record

confirms the most important witness testimonies. A Polish military firing trench located in a nearby field served as the death pit. The grave was approximately 80 m long, with human remains lying at a depth of 50 cm. The bodies were arranged in layers, with those laying deeper being better preserved. Preserved hospital pajamas, along with appropriate labels, and hospital underwear were the basis for identifying the victims as residents of the National Social Welfare Institutions. Crucially, only 61 skulls were removed from the grave and placed in two coffins. They were buried with the remaining victims on 8 December 1945 at the Cemetery of the Victims of Hitler's Crimes in Chojnice. The grave itself was filled in and leveled. The report on the activities carried out does not contain any detailed information on the cause of death, injuries observed, the sex and age of the victims, etc. It can be said that the patients were buried, just as quickly as they were discovered, in essentially the place of execution.

According to archival materials, prior to the exhumation work, on 19 October 1945, a meeting of those responsible for matters including the exhumation of the victims' remains took place at Chojnice Town Hall. It was then that several important decisions were made. One of them was the determination that "the mentally ill who were murdered from the local institution […] will not be exhumed" (our translation).[10] The same applied to the remains of several hundred people murdered at the end of January 1945 near the town (see Kobiałka 2023). It is not clearly stated, but financial, logistical, material, and other reasons meant that full and reliable exhumation work was not carried out in 1945. The case of the patients (and other victims murdered near Chojnice) became relevant again only in 2020, when several years of archaeological and interdisciplinary research began to find the victims who were murdered near the town (Kobiałka et al. 2021).

The Materiality of the Crime—Traces of the Extermination of People with Mental Disorders or Disabilities in Death Valley

Mentally ill individuals from Pomeranian hospitals were "evacuated" first. The goal was to eliminate "life unworthy of life" and simultaneously clear the premises for other (primarily military but also civilian) needs. For example, in the case of the hospital in Świecie, the intention was to use the buildings, among other things, as a prison for local elites (Kubicki 2025). The infrastructure of the facility in Chojnice was similar. Here, a so-called "internment camp" (*Internierungslager*) was established which had little in common with the term as it is understood today. It was simply a gathering point for local elites and others prior to their extermination in the surrounding fields and meadows.

In fact, it is the mentally ill executed at the beginning of the Second World War in Gdańsk Pomerania that are least known (Ceran 2024). The identities of several thousand of them remain unknown. At the time of writing, the patients at the Chojnice facility, who were transported to nearby fields, have also not been identified. The difficulties stem from several factors. On the one hand, the personal files of the patients were in most cases destroyed during the eradication of the crimes committed. Importantly, all the main execution sites where the mentally ill were murdered—Piaśnica Forest (Bojarska 2009), Szpęgawsk Forest (Kubicki 2019a), and the forests around Mniszek-Grupa (Kubicki 2025)—were destroyed in 1944, when *Aktion 1005* took place in this area (Hoffmann 2008; Angrick 2018). As part of this effort, earlier execution sites were located, and the bodies of the victims were dug up and then burned. Prisoners responsible for this physical labor were shot at the end of it, and their bodies were also burned to eliminate unnecessary witnesses. There is no known account of anyone participating in this work in Gdańsk Pomerania who escaped from the site (Berendt 2016). Several such accounts are known from other regions of occupied central and eastern Europe (e.g., Weliczker 2019). There is a near-certain assumption that some of the victims found in exhumations after the war in the trenches by Lake Borówno, just north of Bydgoszcz, were patients of the psychiatric hospital in Świecie. However, these were not scientific efforts but strictly technical and humanitarian activities that had little to do with archaeology, even as it was understood in the immediate post-war years (Ceran 2024, 257).

The interdisciplinary archaeological research in Death Valley utilized a well-established and widely used research methodology, which consisted of three stages: 1) a desk-based phase, 2) non-invasive archaeological surveys, and 3) invasive archaeological research (Sturdy Colls 2015). Their application stemmed from a hypothesis regarding the materiality of the crime itself. At a site where several hundred people were murdered during the Second World War (including, among others, over 200 patients from the Chojnice hospital), traces of this must have remained in the area, primarily in the form of cartridge casings and bullets from both long and short firearms. Due to the complexity of the obtained results, we present those that proved crucial in the context of locating and examining the grave of people with mental disorders or disabilities murdered near the town.

Post-war witness accounts (and the rather vague and imprecise results of the exhumations) were crucial. Key clues helpful in fieldwork included those about the execution of the sick in a nearby field. However, these accounts could diverge by almost 2 km. Importantly, there was no fighting in the area on 1 September 1939, when Chojnice was attacked by German units and occupied the same day (Lorbiecki and Wałdoch 2014). In other words, the line of field fortifications that had been prepared here had not been used as a site of fighting on either side. Therefore, each discovered cartridge casing or bullet had a potentially significant impact on locating the execution site. The research assumption was that mass graves might be located near concentrations of artifacts. Between 2022 and 2024, several rifle and pistol cartridge casings and single rifle and pistols bullets were discovered during systematically conducted and repeated metal detector surveys (Figure 2).

Pistol cartridge casings and bullets were single items in the collection. The artifacts did not form a single, distinct cluster; rather, they appeared to be scattered randomly. The rifle cartridge casings were usually in poor condition—a result of the soil conditions in which they had spent decades. Some of the casings were identified. They turned out to be Mauser rifle casings of both German and Polish manufacture. This provided material evidence that at least some of the executions were carried out using captured Polish ammunition.

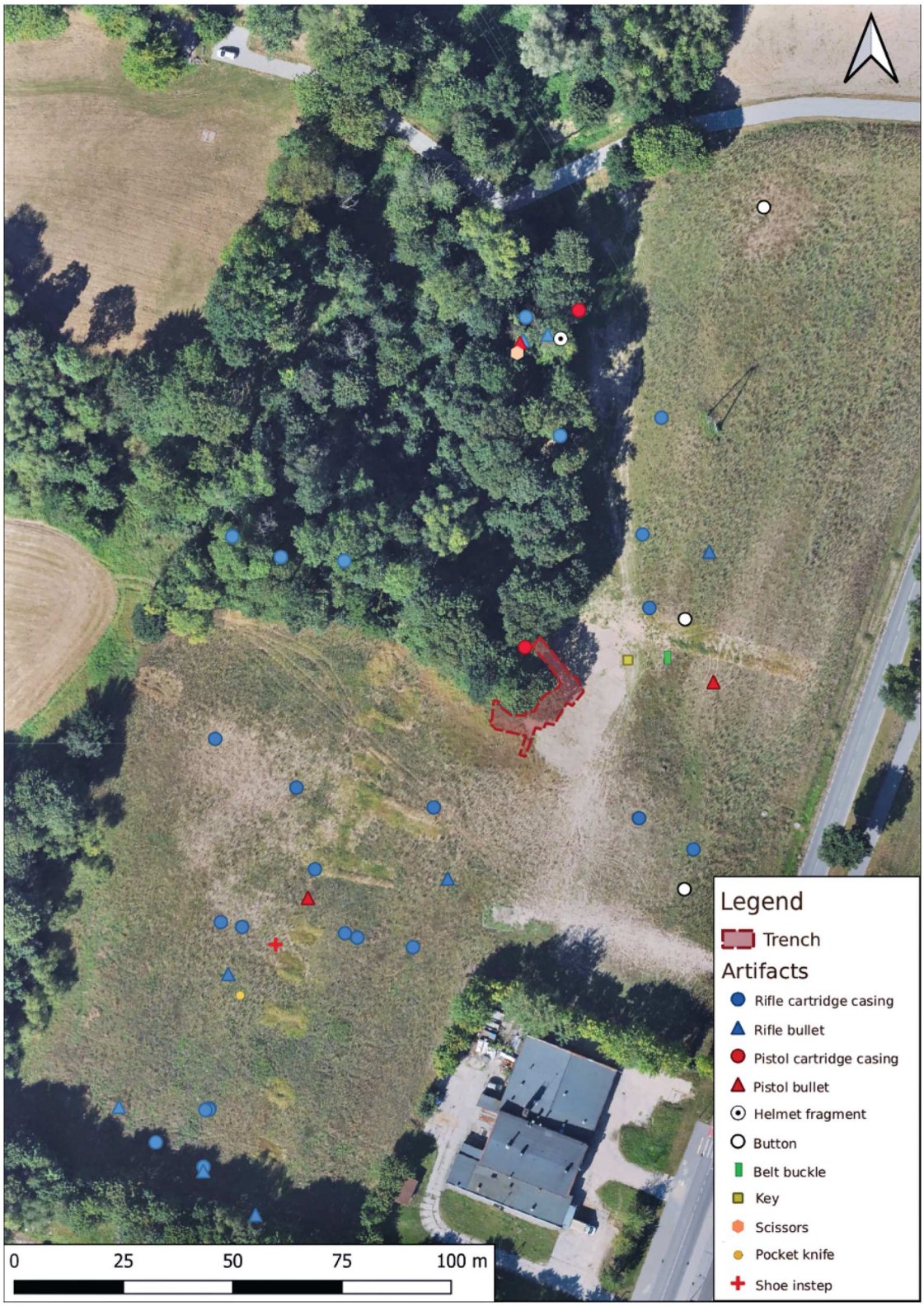

Figure 2. Results of a metal detector survey from 2022 in the area initially identified as the hiding place for the bodies of mentally ill individuals from the Chojnice hospital (by M. Czarnik).

Parallel to these activities, remote sensing data were acquired and processed. Both historical aerial photographs and airborne laser scanning derivatives were analyzed. The earliest source we could locate was a German photomap from 1940. Unfortunately, its quality and large scale prevented a full and in-depth interpretation. However, a fragment of a military trench, manifesting as a positive cropmark, was clearly visible on it. A fragment of that field fortification was used as the site of the elimination of local elites, not people with mental disorders or disabilities (Kobiałka et al. 2021).

The military trenches were filled in from the turn of 1939 and 1940. Before the war, during it, and to this day, these fields have been cultivated. Therefore, analysis of derivatives of airborne laser scanning, which typically allows for the documentation of even minor terrain leveling and the mapping of the course of field fortifications, also had limited research potential here. The same was true for the conducted

GPR surveys. The fact that the excavated trenches were filled in with the same soil only a few months after their digging significantly complicated the interpretation of the acquired field data.

Taking into account the local terrain and historical data, it was assumed that the fortification line ran north-south parallel to the dirt road leading to the then Igły estate (see Figure 1). Our goal was to locate the trench by digging a series of test trenches running west-east, cutting across the fortification line. The very first trench dug there revealed a buried and leveled military trench. It had a distinct U-shaped profile. The first field observations suggested that such wide and deep fortifications could have been perceived by the Germans as ideal locations for concealing the bodies of hundreds of victims (Figure 3).

What had been merely a preliminary suspicion and research intuition was scientifically confirmed on 14 May 2024, at 9:04 AM. It was then that, in Trench number 27, irrefutable, indisputable, material evidence of the crime was discovered—human remains. They lay at the bottom of the trench, following its course. Over the following hours, days, and weeks, the trench was systematically cleared for documentation purposes and the subsequent recovery of the discovered human remains. Importantly, the human remains were preserved in good or even very good condition. However, at one point, preserved skeletons were located without the skulls. This was a crucial observation: it was known from historical research that the 1945 Polish Commission had excavated 61 skulls from the grave of the sick, leaving the rest of the bodies.

Figure 3. Profile of a Polish military trench used as a mass grave located during fieldwork (by D. Frymark).

Another important clue in interpreting the grave as a mass grave for residents of the National Social Welfare Institutions in Chojnice was its location. It was not 200–300 m from the facility building, as witness Leon Ryk claimed, but was slightly farther. As the crow flies, the grave was approximately 530 m from the site from which the executions were observed. Furthermore, along the western edge of the grave, on the slope and depression, there are contemporary trees and various bushes. This area was also forested in the autumn of 1939, as confirmed by the aerial photograph (Kobiałka et al. 2021). The exhumation report described the crime scene as *nad Witkami*, which can be translated into English as "near the bushes."

Finally, material culture, or rather its lack thereof, was also important evidence in identifying the mass grave and its victims. The patients were, as the witnesses testified, wearing pajamas and underwear when they were transported to a nearby field for execution. Fragments of these fabrics were preserved on some of the bodies when the grave was located and opened on 1–2 December 1945. We were unable to find the fabrics—they had decomposed in the intervening time. However, small zinc buttons, remnants of these pajamas, were preserved (Figure 4). More than 300 of them were found during the fieldwork. The victims were not found with the typical personal belongings found in mass graves from this period. In the exhumed mass grave of local elites, located several hundred meters farther north, there were still items such as rosaries, medallions, crucifixes, cufflinks, a razor, house keys, footwear, glasses, civilian buttons, etc. In the case of the grave in question, there was no such diversity indicating the social status and religion of the murdered. Hospital patients simply did not carry such items in the facility.

However, artifacts related to the method of inflicting death and the perpetrators themselves have been preserved. These primarily include cartridge casings and bullets from firearms, both pistols and Mauser rifles (Figure 5). 7.65×17 RS Browning and 9×19 Parabellum caliber weapons were used during the executions. Importantly, in more than a dozen cases, it was determined that the 7.65×17 RS Browning bullets were covered with a nickel-plated jacket (Nita 2024). This is important information, as this type of weapon was intended for the civilian market, not the military. It was used by various German police and gendarmerie units. This evidence suggests that their representatives participated in the extermination of the patients near Chojnice.

Of particular note is the so-called *Adler*, which was discovered in the grave fill. This is an aluminum eagle, an emblem worn on shako-style caps by German police and gendarmerie units (Figure 6). It is worth mentioning that among the human remains was a glass cologne bottle. A metal buckle with a fragment of a leather belt was also found at the neck of one of the victims. This is an interesting discovery, as there is an account in the literature that the bodies of victims shot farther away from the trench were bound with a leather belt, dragged along the ground to a trench, and thrown there (Kuta 1966).

Material Traces of the Crime—Human Remains

Anthropological analysis of the skeletal remains was conducted macroscopically using classic research methods. Its primary aim was to determine the most important issues

Figure 4. Materiality of the crime—examples of underwear buttons found among the human remains in the mass grave of patients of the Chojnice hospital (by M. Majorek).

such as the minimum number of individuals (MNI), age at death, and biological sex and to observe possible perimortem injuries. Furthermore, bone morphology was assessed in relation to pathological changes regarding diseases and healed injuries. After reaching the layer containing human bones, the remains were gradually and carefully uncovered, using spatulas, brushes, and other similar tools. A key stage of exhumation is to decide how individual bones, bone clusters, skeletons, or their parts should be marked and separated. This has significant implications for subsequent interpretation. The MNI was determined based on the most frequently occurring bone on a given side of the body. It should be added that this determination often involves simultaneous analysis of the morphological similarity of the bones, as well as the age and sex of the deceased(s) to whom specific bones or bone fragments may have belonged and even pathological changes. The analysis of age at death was based primarily on the finding of (in)complete skeletal development (Bochenek and Reicher 1952; Krogman 1962; Buikstra and Ubelaker 1994; Piontek 1999; Scheuer and Black 2004; White and Folkens 2005). It should be noted here that some bones did not show complete formation.

Figure 5. Materiality of the crime—Mauser rifle cartridge casing found near and inside the mass grave of patients from the Chojnice hospital (by D. Frymark).

The age at death was determined by the general condition of the dentition and the degree of wear of the tooth crowns, the degree of fusion of the cranial sutures, the morphology of the auricular surfaces of the iliac bones, and the morphology of the symphyseal surfaces of the pubic bones—this feature was particularly emphasized (Piontek 1999; Bass 2005; White and Folkens 2005). The presence of possible age-related changes in the skeletal system was also taken into account (e.g., degenerative changes; Buikstra and Ubelaker 1994; Piontek 1999). Likewise, the hyoid bones, specifically the fusion/non-fusion of this bone with the greater horns, may be subject to interpretation in the context of age determination (Gupta et al. 2008; Harjeet et al. 2010). The Latin age class designations for adults were used: *adultus* (18–20 to 30–35 years), *maturus* (30–35 to 50–55 years), and *senilis* (50–55 and above) (Malinowski and Bożiłow 1997).

In assessing biological sex, the most important factors are the morphology of the entire pelvis (the shape of the pelvic inlet and the subpubic angle), as well as the morphology of the bones constituting its components—the sacrum and pelvic bones. In the latter case, the morphology of the pubic bones and the shape of the greater sciatic notch are assessed (e.g., Buikstra and Ubelaker 1994; Piontek 1999; White and Folkens 2005). The skull and mandible are the next most important skeletal parts. The analysis includes the inclination of the frontal squama, the prominence of the glabella and superciliary ridges, the shape of the orbits, the shape of the upper orbital rim, the size of the mastoid process of the temporal bone, the shape of the occipital squama, the prominence of the nuchal line and the external occipital protuberance (e.g., Buikstra and Ubelaker 1994; Piontek 1999; White and Folkens 2005). Moreover, the massiveness and morphology of the mandible—the prominence of the mental protuberance, the formation of the mandibular angle, and the morphology of the ramus—are taken into consideration. In addition to the analysis of the morphology of the pelvis and skull, the overall massiveness and formation of muscle attachments of the postcranial skeleton (e.g., the formation of the linea aspera of the femur) were considered.

The topic of pathological changes in the skeletal system is extremely broad and encompasses various categories, including the most common: changes in the masticatory apparatus and degenerative or inflammatory changes (Ortner 2003).

Figure 6. Eagle found in the fill of the mass grave in Death Valley. A) Obverse and B) reverse (photo by M. Majorek).

Degenerative changes are frequently observed by anthropologists, which not only indicate the health status of an individual person but also provide indirect evidence for determining their age at death. In the context of an exhumation like this, it is important to emphasize the crucial distinction between disease indications, postmortem changes, and perimortem injuries (e.g., Knüsel and Robb 2023). Postmortem changes are manifested as a result of various factors and circumstances, including taphonomy, animal activity, and mechanical damage caused by humans over the years the bones remained in the ground (e.g., infrastructure or agricultural work). Determining whether a perimortem injury was inflicted just before death or after death, when the bone still shows the features of fresh bone, is extremely difficult and often even impossible.

All skeletal abnormalities, both in terms of disease and injury, were identified based on the knowledge of the correct morphology of the skeletal system and its inter-individual variability (e.g., Bochenek and Reicher 1952; White and Folkens 2005), as well as the knowledge of the potential appearance of disease- or trauma-related changes (e.g., Piontek 1999; Ortner 2003). In the context of potential injuries, the nature of fractures, the character of bone fragment edges (e.g., shafts of long bones), or holes that may be potential gunshot holes are determined (Chagowski, Smędra, and Teresiński 2019). A characteristic group of features that can be examined are so-called nonmetric bone traits, which constitute certain morphological variants and are not considered in the context of pathological changes. They are mentioned

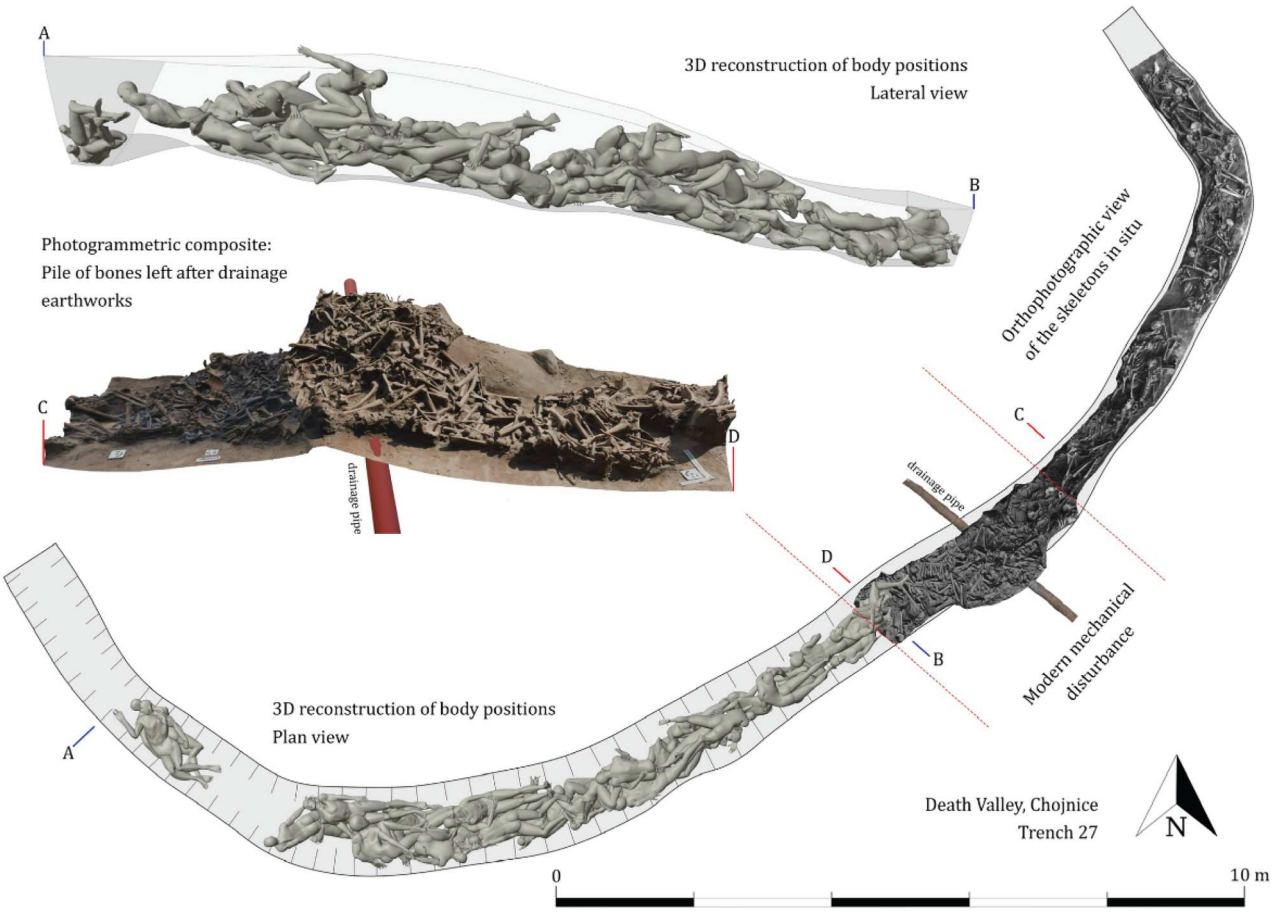

Figure 7. Three-dimensional documentation of the mass grave with a reconstruction of the position of the victims' bodies (by K. Stępnik).

here because of one specific nonmetric trait: a round hole in the sternum body. Theoretically, this could imitate a gunshot hole, as noted by William M. Bass (2005).

In the discussed mass grave in Chojnice, the condition of preserved human bones was good/very good. The arrangement of the remains was very complex, which required great consideration and caution in isolating the bones. The remains were found in layers, so at a given stage of exploration, particular bones could be undiscovered or only partially visible. Some skeletons remained in their anatomical arrangement, more or less complete. Loose bones were also present, not along the entire length of the trench but in clusters (three large and four smaller clusters). In fact, some skeletons were found outside the bone clusters, while others were isolated within one of the large clusters, where commingled bones covered or surrounded the skeletons (or their parts) remaining in anatomical arrangement (Figure 7).

The position of the remains (or even the skulls themselves), with respect to the cardinal directions, was diverse. The anatomical arrangement was also varied: the bodies were laying most often on the back and stomach (in similar proportions) but were also found on the side or with the pelvis and lower limb bones rotated relative to the torso. Sometimes they were in a strongly contracted (fetal) position, as well. The bones of the lower and upper limbs also had varied positions, usually bent to some extent; the lower limbs could also be straightened. The bones of the hands and feet were usually in a more or less distorted arrangement, a common situation due to the small size of these skeletal parts, particularly the bones of the hands and phalanges of the feet.

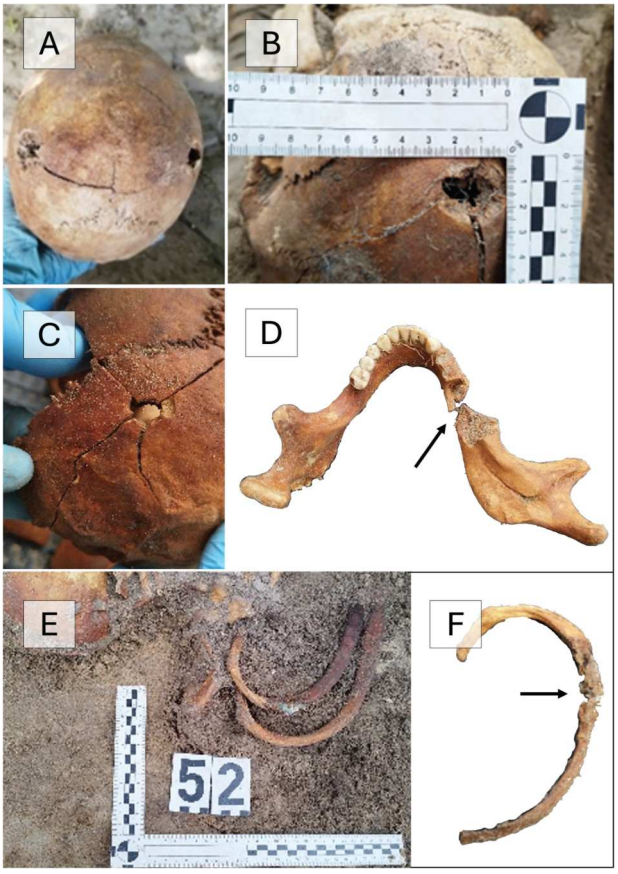

Figure 8. Victims. A–B) Skull: gunshot wound, entry and exit hole—entry hole in the right parietal bone, approximately 10 × 21 mm, probably slightly enlarged postmortem, extended fracture; exit hole in the left parietal bone, irregular, approximately 8 × 14 mm, fractures. C–D) Fragmented skull and mandible; fragment of skull, entry hole in the left part of the occipital squama, 8 × 8 mm—right mandibular ramus—fracture from the inside and through the M1 socket; probable exit of the bullet. E–F) Left rib: fracture of the shaft due to the gunshot, green area visible (by J. Rogóż).

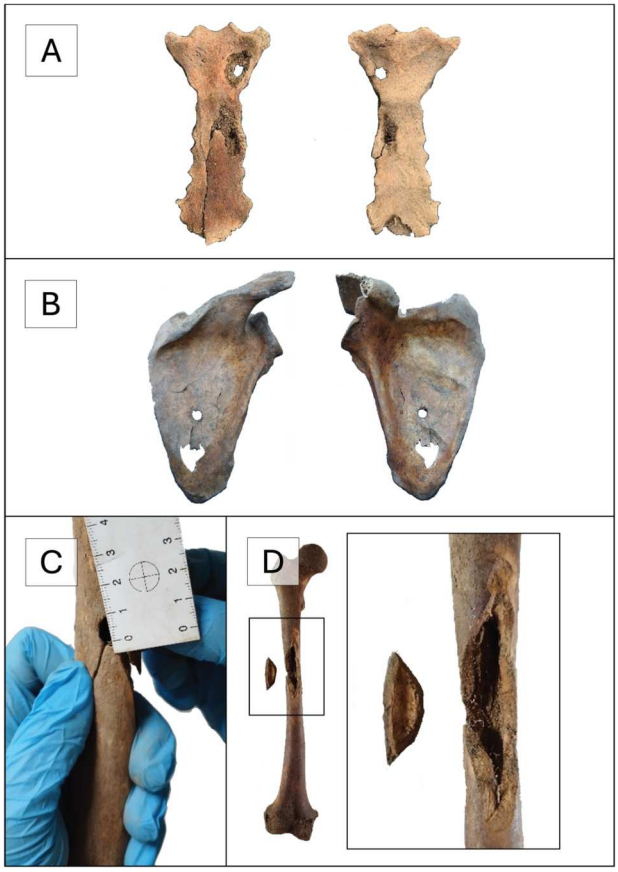

Figure 9. Victims. A) Sternum—gunshot wound, a hole in the manubrium with a diameter of 8 mm; in addition, a hole in the body and a longitudinal fracture. B) Right scapula, posterior and anterior surface—subscapular fossa gunshot hole, diameter 8 mm. C–D) Right femur—fractures and a gunshot hole with a diameter of 9 mm in the center of the shaft (by J. Rogóż)

As previously mentioned, in 1945, an exhumation was carried out in Death Valley, and 61 skulls were recovered. Therefore, a thorough and extensive analysis of the skulls and their fragments preserved in the grave was conducted. Neither the skull nor the mandible was found in 40 of the skeletons; skull bones were also missing from one of the smaller assemblages. The presence of skulls with mandibles (cranium) was recorded in 49 cases, the presence of a skull without a mandible (calvarium) in 11 cases, and the presence of a mandible without a skull (two from isolated skeletons, the rest from bone assemblages) in 46 cases, as well as fragments.

The MNI was determined to be 132, based on the number of right humeri. The remains all belonged to males. It was estimated that most of them died in the *adultus* age class (young adults), with some being assigned a borderline *adultus/maturus* age or a broader *adultus-maturus* or *maturus-senililis* age category. In some cases, particular bones (clavicles and sacra) showed incomplete development, indicating death in young adult age, not in the *iuvenile* class (before the age of 18). In one case, the epiphyses of long bones were incompletely fused to the shafts (visible epiphyseal lines), suggesting that this was the youngest individual buried. There was also a case in which a humerus was matched to an incomplete skeleton from numerous loose humeri (from clusters) based on the stage of development and general morphological similarity.

Figure 10. 2 September 2024 in Chojnice. State burial of the remains of the victims found murdered in Death Valley (by R. Jochar; source: the Institute of National Remembrance).

Bone pathology was noted across a range of different categories, including healed fractures, dental caries, and missing teeth, degenerative changes in various skeletal regions, and bone fusions. One skeleton was remarkable for its multiple cranial and postcranial lesions of unclear etiology; in addition, a gunshot exit hole was located on the skull (Figures 8, 9). At least one gunshot hole was noted on 27 skulls, and eight skulls were fragmented without a visible gunshot hole. Furthermore, 37 mandibles or mandible fragments showed signs of perimortem trauma. In most cases, no bullets were found within the skulls—two metal elements were found in one skull, and two bullets in another. The injuries manifested themselves as fractures, fragmentation, and holes that should be interpreted as gunshot, entry, and exit holes. These holes varied in location, so no uniform pattern was observed. They were accompanied by radial fractures, minor or major skull fragmentation, and bone loss. Matching the individual elements led to the location of some of the holes, enabling the determination of a potential bullet trajectory. There were also 39 traces of trauma noted in the postcranial skeletons. These mainly appeared (sometimes with bullet holes, as well) in the form of characteristic fractures on left (two) and right (three) clavicles, ribs (in one case, a bullet was attached to the inner side of the left rib; green area), left scapulae (three; gunshot holes), bones I–III of the right metacarpal (also with a stuck bullet), left (four) and right (five) humeri and three fragments, left ulna and fragment, left radii (four), left pelvic bones (two; bullet holes) and one right, right femurs (three; one with a bullet hole) and fragment, left and right tibia, and two unmarked fragments of long bones.

Conclusion

The Second World War is one of the darkest chapters in human history. Its key element was the mass atrocities that led to genocide (Lemkin 1944). Although more than 80 years have passed since the end of the conflict, there are still topics and issues that have not been fully described and researched. Archaeology may hold the key to explaining them more fully. A matter little known in the academic and international community is the mass murders in Gdańsk Pomerania during the initial period of the Second World War (Ceran 2024; Kobiałka 2026). It was there that over 30,000 citizens of the Second Polish Republic (along with others) were murdered in just a few months, constituting the first example of German genocide committed between 1939 and 1945. The historical significance of these events is difficult to overstate. Among the murdered, as embodiments of the Nazi ideology of "life unworthy of life," were the mentally ill, some from Pomeranian hospitals or brought there for "evacuation," as it was called. The least is known about them. The victims' bodies were buried, and the files were destroyed as early as the autumn of 1939 and at the end of the war. Moreover, in most of the places where the sick were murdered, operations were carried out to erase the traces of mass crimes. One of the places where people with mental disorders or disabilities were murdered, but which was not destroyed at the end of the war, was a mass grave near Chojnice.

The discovery, documentation, and examination of the mass grave of the Chojnice patients is a discovery of historic significance. It is the first example of such a grave being fully scientifically located, documented using modern techniques, and examined. The research demonstrates the fundamental role of forensic archaeology, which possesses the tools, methods, experience, and unique understanding of the materiality of the landscape to reveal what was never meant to see the light of day. Such archaeology has equally important social, cultural, and humanitarian dimensions. It is a voice of conscience, a call for the proper place and respect of all social, religious, and national groups excluded for one reason or another. The fact that their remains lay in an unmarked military trench "somewhere" in a farm field for over 80 years was, in our profound belief, unacceptable.

Moreover, the research conducted had tangible social and humanitarian consequences. It contributed, on the one hand, to the establishment of 22 September as the Day of Remembrance for the Victims of the Extermination of Persons with Mental Disorders in occupied Poland during the Second World War.[11] Additionally, the discovered human remains were buried during an honorary and state ceremony at the Cemetery for the Victims of Nazi Crimes in Chojnice (Figure 10). This took place on 2 September 2024 and was the largest ceremony of its kind in post-war Poland (and beyond). The remains of the patients, along with several hundred other victims, were not buried in a corner of the cemetery—as was done with the 61 skulls excavated on 1–2 December 1945. Their grave is the central point of the current necropolis.

Endnotes

1. Janusz Korczak was the principal of a Jewish orphanage in Warsaw who refused to abandon his charges and died with them

when they were deported from the ghetto of Warsaw to the extermination camp at Treblinka in August 1942.
2. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, Chojnice District Branch, 2437/03.
3. Institute of National Remembrance, Bydgoszcz Branch, Heinrich Mocek, and others suspected of numerous murders of Polish citizens committed from September to November 1939 in Chojnice County, S 5/71.
4. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, Chojnice District Branch, Protocols of interrogations of witnesses to Nazi crimes in Chojnice and Chojnice County, Case against Hildebrandt and his comrades for genocide, 2437/03, 7 February 1949, pp. 19–20.
5. District Commission for the Prosecution of Crimes against the Polish Nation in Gdańsk, Ko 187/73, Protocol of the interrogation of witness Franciszek Piaskowski, 11 May 1968, pages unnumbered.
6. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, District Branch in Chojnice, 2437/03, Protocol of the interrogation of witness Jan Krauze, 6 November 1945, pp. 47–48.
7. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, Chojnice District Branch, Concerning the finding of the resting places of our murdered compatriots, 2437/03, 16 June 26 1945, pp. 27–28.
8. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, Chojnice District Branch, Interrogation reports of witnesses to Nazi crimes in Chojnice and Chojnice County, Exhumation report of the bodies of Poles murdered by the Nazis from 24 October to 24 November 24 in the Igły Fields near Chojnice, 2437/03, 1 December 1945, pp. 47–52.
9. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, District Branch in Chojnice, Protocols of interrogations of witnesses to Nazi crimes in Chojnice and Chojnice County, Protocol of exhumation of the bodies of Poles murdered by the Nazis in October 1939 in the so-called "Witki" near Chojnice, 2437/03, 1 December 1945, p. 57.
10. State Archives in Bydgoszcz, District Commission for the Investigation of Nazi Crimes in Bydgoszcz, Chojnice District Branch, Protocols of the hearings of witnesses to Nazi crimes in Chojnice and Chojnice County. Protocol of the meeting of the District Committee for the Commemoration of the Victims of Nazi Crimes in Chojnice on 19 October 1945, at 5:00 PM, in the City Council Chamber of the Town Hall, 2437/03, 19 November 1945, p. 50.
11. https://www.sejm.gov.pl/sejm10.nsf/komunikat.xsp?documentId=AA0524DEB6769A0AC1258BA5003F0719, accessed 5 June 2026.

Acknowledgements

The project is funded by the National Science Centre, Poland (UMO-2025/58/E/HS3/00107).

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on Contributors

Dawid Kobiałka (Ph.D. 2014, Adam Mickiewicz University) is an Associate Professor at Lodz University with a focus on forensic archaeology, contemporary archaeology, and heritage studies.

Joanna Rogóż (Ph.D. 2013, Jagiellonian University in Krakow) is an Assistant Professor at University of Rzeszów in Rzeszów with a focus on physical anthropology and contemporary archaeology.

Michał Czarnik (M.A. 2019, University of Rzeszów) is a Ph.D. candidate at the Institute of Archaeology of the University of Rzeszów with an interest in archaeology of the recent past and the archaeology of the Great War.

Jakub Stępnik (M.A. 2023, Jagiellonian University) is a Ph.D. candidate at the University of Warsaw specializing in digital archaeology, documentation methodology, and 3D spatial analysis.

Izabela Mazanowska (Ph.D. 2012, Nicolaus Copernicus University) is a specialist in the Institute of National Remembrance in Bydgoszcz with a focus on the subject of German occupation in Pomerania.

Laura Muñoz-Encinar (Ph.D. 2016, University of Extremadura) is a senior researcher at the Institute of Heritage Sciences of the Spanish National Research Council with a focus on contemporary archaeology, forensic archaeology, and gender studies.

Tomasz Ceran (Dr. habil. 2025, Nicolaus Copernicus University in Toruń) is an adjunct at the Pilecki Institute in Warsaw with a focus on the German occupation of Poland during the Second World War.

ORCID

Dawid Kobiałka http://orcid.org/0000-0003-3806-4408

References

Angrick, A. 2018. *„Aktion 1005". Spurenbeseitigung von NZ-Massenverbrechen 1942–1945. Eine „Geheime Reichssache" im Spannungsfeld von Kriegswende und Propaganda*. Göttingen: Wallstein.

Bass, W. M. 2005. *Human Osteology: A Laboratory and Field Manual*. 5th ed. Columbia, MO: Missouri Archaeological Society.

Berendt, G. 2016. "Działalność Einsatzkomamando 1005 na Pomorzu Gdańskim." In *Kaszubi – Pomorze – Gdańsk. W Kręgu Pytań o Kulturę, Historię i Tożsamość. Księga Jubileuszowa Profesora Józefa Borzyszkowskiego z Okazji 70. Rocznicy Urodzin*, edited by C. Obracht-Prondzyński, T. Rembalski, and K. Lewalski, 331–353. Gdańsk: Instytut Kaszubski, Wydawnictwo Uniwersytetu Gdańskiego.

Bochenek, A., and M. Reicher. 1952. *Anatomia Człowieka. Anatomia Ogólna. Kości, Stawy i Więzadła*. Warszawa: PWZL.

Bojarska, B. 1972. *Eksterminacja Inteligencji Polskiej na Pomorzu Gdańskim (Wrzesień-Grudzień 1939)*. Poznań: Instytut Zachodni.

Bojarska, B. 2009. *Piaśnica. Miejsce Martyrologii i Pamięci. Z Badań nad Zbrodniami Hitlerowskimi na Pomorzu*. Wejherowo: Wydawnictwo BiT.

Buchholc, W. 1947. "Chojnice w Latach 1939–1945." In *Chojnice 1939–1945*, edited by M. Grochowski, 2–96. Chojnice: Powiatowy Komitet Uczczenia Ofiar Zbrodni Hitlerowskich w Chojnicach.

Buikstra, J. E., and D. H. Ubelaker. 1994. *Standards for Data Collection from Human Skeletal Remains. Proceedings of a Seminar at the Field Museum of Natural History*. Fayetteville, AR: Arkansas Archaeological Survey Research Series.

Ceran, T. 2024. *Zbrodnia Pomorska 1939. Początek Ludobójstwa Niemieckiego w Okupowanej Polsce*. Warszawa, Bydgoszcz: Instytut Pamięci Narodowej.

Chagowski, W., A. Smędra, and G. Teresiński. 2019. "Skutki Postrzałów z Broni Palnej." In *Medycyna Sądowa. Tanatologia i Traumatologia Sądowa*, edited by G. Teresiński, 588–598. Warszawa: PZWL.

Crossland, Z. 2013. "Evidential Regimes of Forensic Archaeology." *Annual Review of Anthropology* 42:121–137.

Gilead, I., Y. Haimi, and W. Mazurek. 2010. "Excavating Nazi Extermination Centres." *Present Pasts* 1:10–39.

Głosek, M., ed. 2004. *Katyń w Świetle Badań Terenowych 1994–1995*. Toruń: Dom Wydawniczy Duet.

González-Ruibal, A. 2020a. "Arqueología de la Desaparición." *Papeles del CEIC*, 2020(1), Art. 225. https://doi.org/10.1387/pceic.20920

González-Ruibal, A. 2020b. *The Archaeology of the Spanish Civil War*. London: Routledge.

Grochowski, M. 1947. "Ku Czci Męczenników." In *Chojnice 1939–1945*, edited by M. Grochowski, 3–11. Chojnice: Powiatowy Komitet Uczczenia Ofiar Zbrodni Hitlerowskich w Chojnicach.

Gupta, A., A. Kohli, N. K. Aggarwal, and K. K. Banerjee. 2008. "Study of Age of Fusion of Hyoid Bone." *Legal Medicine* 10 (5): 253–256.

Harjeet, K., S. Synghal, G. Kaur, A. Aggarwal, and P. Wahee. 2010. "Time of Fusion of Greater Cornu with Body of Hyoid Bone in Northwest Indians." *Legal Medicine* 12 (5): 223–227.

Hoffmann, J. 2008. *„Das Kann man Nicht Erzählen". Aktion 1005. Wie die Nazis die Spuren Ihrer Massenmorde in Osteuropa Beseitigen*. Hamburg: Konkret Literaturverlag.

Hunter, J. R., M. B. Brickley, J. Bourgeois, W. Bouts, L. Bourguignon, F. Hubrecht, J. De Winne, Van Haaster, H., Hakbul, T., De Jong, H., Smits, L., Van Wijngaarden, L.H., and M. Luschen. 2001. "Forensic Archaeology, Forensic Anthropology, and Human Rights in Europe." *Science Justice* 41:173–178.

Jastrzębski, W. 1974. *Terror i Zbrodnia. Eksterminacja Ludności Polskiej i Żydowskiej w Rejencji Bydgoskiej w Latach 1939–1945*. Warszawa: Interpress.

Karski, K., and D. Kobiałka. 2021. "Archaeology in the Shadow of Schindler's List: Discovering the Materiality of Plaszow Camp." *Journal of Contemporary Archaeology* 8 (1): 89–111. https://doi.org/10.1558/jca.43381.

Knüsel, C. J., and J. Robb. 2023. "Tafonomia Funeralna: Przegląd Celów i Metod." In *Ekshumacje Polityczne. Teoria i Praktyka*, edited by A. Staniewska, and E. Domańska, 93–156. Gdańsk-Lubin: Słowo obraz/terytoria.

Kobiałka, D. 2022. "The Devil Burns Gold There – The Heritage of Nazi Germany Crimes in Death Valley, Chojnice, Poland." *International Journal of Historical Archaeology* 26: 359–378. https://link.springer.com/article/10.1007s10761-021-00604-9

Kobiałka, D. 2023. "We Found People … – The Discovery, Research, Experiences and Artistic Documentation of Mass Graves from 1945 in Death Valley in Chojnice, Poland." *Journal of Contemporary Archaeology* 10 (2): 310–327. https://doi.org/10.1558/jca.26659.

Kobiałka, D. 2026. *The Archaeology of Mass Crimes: Nazi Extermination in Gdańsk Pomerania, Poland*. London-New York: Routledge.

Kobiałka, D., M. Kostyrko, F. Wałdoch, K. Kość-Ryżko, J. Rennwanz, M. Rychtarska, and D. Nita. 2021. "An Archaeology of Death Valley, Poland." *Antiquity* 95 (383): 1–8. https://doi.org/10.15184/aqy.2021.109.

Kola, A. 2000. *Hitlerowski Obóz Zagłady Żydów w Bełżcu w Świetle Źródeł Archeologicznych. Badania 1997-1999*. Warszawa-Waszyngton: Rada Ochrony Pamięci Walk i Męczeństwa, United States Holocaust Memorial Museum.

Kola, A. 2005. *Archeologia Zbrodni: Oficerowie Polscy na Cmentarzu Ofiar NKWD w Charkowie*. Toruń: Wydawnictwo.

Krogman, W.M. 1962. *The Human Skeleton in Forensic Medicine*. Springfield, IL: Charles C Thomas.

Kubicki, M. 2019a. *Zbrodnia w Lesie Szpęgawskim 1939-1940*. Gdańsk, Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Kubicki, M. 2019b. *Kapitan Ostatni Opuszcza Statek … Józef Władysław Bednarz (1879-1939)*. Gdańsk, Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Kubicki, M. 2023. *Las Zajączek 1939-1945. Niemiecka Zbrodnia na Pomorzu Gdańskim z Lat II Wojny Światowej*. Gdańsk, Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Kubicki, M. 2024. *Okupacja Niemiecka w Powiecie Starogardzkim 1939-1945*. Gdańsk, Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Kubicki, M. 2025. *Zbrodnie w Mniszku-Grupie 1939-1940*. Gdańsk, Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Kuta, T. 1966. *Ziemia Bydgoska w Cieniu Swastyki*. Bydgoszcz: Związek Bojowników o Wolność i Demokrację.

Lemkin, R. 1944. *Axis Rule in Occupied Europe: Laws of Occupation, Analysis of Government, Proposals for Redress*. Washington, DC: Carnegie Endowment for International Peace – Division of International Law.

Lorbiecki, A. 2017. *Trzy Cmentarze, Trzy Tablice*. Chojnice: Urząd Miasta Chojnice.

Lorbiecki, A., and M. Wałdoch. 2014. *Chojnice 1939*. Warszawa: Bellona.

Malinowski, A., and W. Bożiłow. 1997. *Podstawy Antropometrii. Metody, Techniki, Normy*. Łódź: PWN.

Mazanowska, I., T. Ceran, and M. Przegiętka. eds. 2021. *W Cieniu Einsatzgruppen. Volksdeutscher Selbstschutz w Okupowanej Polsce 1939–1940*. Warszawa: Instytut Pamięci Narodowej – Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu.

Muñoz-Encinar, L. 2019. "Unearthing Gendered Repression: An Analysis of the Violence Suffered by Women During the Civil War and Franco's Dictatorship in Southwestern Spain." *World Archaeology* 51 (5): 759–777. https://doi.org/10.1080/00438243.2020.1740775.

Myers, A., and G. Moshenska, eds. 2011. *The Archaeology of Internment*. New York: Springer.

Nita, D. 2024. *Raport z Identyfikacji Artefaktów z Badań Doliny Śmierci w Chojnicach 2024*. Unpublished report: Institute of Archaeology, University of Łódź.

Ortner, D. J. 2003. *Identification of Pathological Conditions in Human Skeletal Remains*. London: London Academic Press.

Pawlicka-Nowak, Ł. 2015. "Badania Archeologiczne Terenie Byłego Niemieckiego Ośrodka Zagłady w Chełmnie nad Nerem." In *Archeologia Totalitaryzmu. Ślady Represji 1939–1956*, edited by O. Ławrynowicz, and J. Żelazko, 135–168. Łódź: Instytut Archeologii Uniwersytetu Łódzkiego, Instytut Pamięci Narodowej Komisja Ścigania Zbrodni przeciwko Narodowi Polskiemu, Oddział w Łodzi.

Piontek, J. 1999. *Biologia Populacji Pradziejowych*. Poznań: Wydawnictwo Naukowe Uniwersytetu im. Adama Mickiewicza.

Scheuer, L., and S. Black. 2004. *The Juvenile Skeleton*. London, San Diego: Elsevier Academic Press.

Steyer, D. 1967. *Eksterminacja Ludności Polskiej na Pomorzu Gdańskim w Latach 1939-1945*. Gdynia: Wydawnictwo Morskie.

Sturdy Colls, C. 2015. *Holocaust Archaeologies: Approaches and Future Directions*. New York: Springer.

Szwagrzyk, K. 2021. *Cmentarz Osobowicki we Wrocławiu. Pola Ofiar Komunizmu*. Warszawa: Wydawnictwo IPN.

Theune, C. 2010. "Historical Archaeology in National Socialist Concentration Camps in Central Europe." *Historische Archäologie* 3:1–14.

Theune, C. 2018. "Clothes as Expression of Action in Former Concentration Camps." *International Journal of Historical Archaeology* 22:492–510. https://doi.org/10.1007/s10761-017-0440-3.

Tomkiewicz, M. 2017. *Przewodnik Piaśnica. Miejsce Niemieckich Zbrodni na Pomorzu w 1939 Roku. Przewodnik*. Wejherowo: Muzeum Piaśnickie.

Tomkiewicz, M. 2019. "Zbrodnia w Lasach Piaśnickich Jako Element Zbrodni Pomorskiej 1939." *Rocznik Polsko-Niemiecki* 27:11–29. https://doi.org/10.35757/RPN.2019.27.1.01.

Weliczker, L. 2019. *Brygada Śmierci. Pamiętnik Więźnia Sonderkommando 1005*. Warszawa, Kraków: Wydawnictwa Żydowskiej Komisji Historycznej przy Centralnym Komitecie Żydów Polskich.

White, T. D., and P. A. Folkens. 2005. *The Human Bone Manual*. Amsterdam, Boston: Elsevier Academic Press.