



JOINT FACULTIES OF HUMANITIES AND THEOLOGY

Ancient massacres and contemporary genocides

An analysis and comparison of prehistoric massacres and contemporary genocide in modern-day
Poland.

Student Name: Alicja Björk

Supervisor: Mikael Fauvelle

ARKM34: Master's thesis in Archaeology

Lund University:

Department of Archaeology and Ancient History

Spring 2026

Abstract

The concept of '*genocide*' is rarely employed by prehistoric archaeologists within their research. The hesitation of scholars to use the term is argued to be due to its overall complexity and its supposed existence as a recent phenomenon of modernity, as well as its rash use in popular science outlets when reporting on prehistoric migration. Examining and comparing prehistoric massacres with a modern genocidal event, and understanding where the cases range on a spectrum of violence, will present similarities and differences that can be brought to light. However similarities between contemporary genocide and prehistoric massacres have been noted, and their advantages for scholarly discussions surrounding reconstructions of prehistoric violence will thus been emphasized. Furthermore, the similarities will be compared with definitions of *genocide* to determine whether the prehistoric case studies meet the criteria.

The assessment of whether or not violence may have contributed to the Steppe-related population turnover in Eneolithic/Early Bronze Age Europe which occurred in prehistoric Europe is analyzed by conducting a comparison between the prehistoric case studies - Koszyce and Sadowie - and a contemporary case study of a violent event - the Chojnice. The last case study falls within the present definitions of the term genocide. Deviant aspects from burial traditions as well as other abnormalities are analyzed to enable the detection of genocidal patterns. Additionally, the theoretical framework concerning emotions is applied to add further perspective regarding survivors and the care of the individuals who were killed during the mass killing as well as understanding the aggressive behavior that led up to the violent event.

The thesis concludes that different kinds of violence, as well as genocidal violence may be identified by archaeological data, material and contexts, and thus be a possible contribution to the rapid population turnover during the Late Neolithic and Early Bronze Age. A wide spectrum of violence has been identified within these examples, but similarities between the cases were detected. To complicate the analysis, it may be found that applying the present definition of genocide to the prehistoric case studies is challenging due to the lack of proven intent. The thesis concludes that some signs of deliberate execution by individuals were present in the case of Koszyce, thus arguing for intentional killing of targeted individuals.

Keywords: Emotion, Migration, Genocide, Mass graves, Corded ware culture, Globular Amphora culture, Massacre

"A genocide begins with the killing of one man – not for what he has done, but because of who he is."

— Kofi Annan, former UN Secretary-General

Acknowledgements

Dla Babci

I'm most grateful for the help, insights, and encouragement provided by my supervisor Mikael Fauvelle.

I also want to express my gratitude to all the people I have gotten to know during my time in Lund, and who have contributed to making these years wonderful.

Table of contents

1. Introduction.....	1
1.1 Aims & Research questions, Purpose.....	4
2. Research context.....	6
2.1 Ancient DNA in archaeology.....	6
2.1.1 Ancient DNA within prehistoric migration research.....	6
2.1.2 Criticism regarding the application of aDNA within migration studies.....	8
2.2 Population turnovers.....	9
2.2.1 The Yamnaya Culture and Steppe Ancestry.....	9
2.2.2 The emergence of the Corded Ware culture.....	11
2.2.3 Population turnover by Steppe-related ancestry in Poland.....	12
2.2.4 Population turnover as a genocidal event?.....	13
2.3 Spectrum of violence.....	13
2.3.1 Violence.....	14
2.3.2 Aggression and violence and their definitions.....	15
2.3.3 Human remains as evidence of violence.....	15
2.3.4 Presenting the Violence spectrum.....	17
Intentional/Organised violence.....	20
2.3.5 Conclusions formed from the violence spectrum.....	20
2.4 Genocide.....	21
2.4.1 Table of the mental and physical elements of the act of genocide (an example).....	21
2.4.2 The origin of the word genocide.....	22
2.4.3 Genocide or a massacre?.....	23
2.4.4 Prehistoric contexts.....	25
2.5 Conclusions.....	26
3. Theoretical framework.....	27
3.1 The introduction: Emotions as a theory in archaeology.....	27
3.1.1 Defining emotions as cultural and social constructs.....	28
3.2 Violence as a human behavior.....	29
3.2.1 Aggressive behavior.....	29
3.3 Emotions in times of violence and burial contexts.....	30
3.3.1 Rituals, mourning, and collective trauma.....	31
3.4 Emotions, death, and archaeology.....	32
4. Research design.....	33
4.1 Methodology.....	34

4.2 Case studies.....	35
5. Case studies.....	37
5.1 Violence spectrum and potential scenarios of the cases.....	37
5.2 A mass grave from 1945, Chojnice, Poland.....	37
5.2.1 The site of the massacre.....	37
5.2.2 Emotion in contemporary genocide research.....	39
5.2.3 Artifacts as proof.....	40
5.2.4 Mass graves and exhumations.....	40
5.2.5 Table 2, Chojnice.....	41
5.3 Near the Village of Koszyce.....	43
5.3.1 The mass grave.....	43
5.3.2 Kinship and the intentional (re)burial.....	44
5.3.3 Table 3, Koszyce.....	46
5.4 Grave 6 in Sadowie, Złota culture.....	47
5.4.1 Grave 6 and the discoveries within.....	48
5.4.2 Relatedness.....	49
5.4.3 Evidence of violence followed by care for the dead.....	50
5.4.4 Table 4, Sadowie.....	51
6. Discussion.....	54
6.1 A variety of different acts of violence.....	54
6.2 On the spectrum of violence.....	55
6.3 Genocide or a massacre?.....	56
6.3.1. Applying the three lines of reasoning to the two prehistoric case studies.....	57
6.4 Intent.....	58
6.5 Collective past traumatic events.....	59
6.5.1 Applying contemporary discourse regarding emotions.....	59
6.5.2 The central role of sadness in traumatic events.....	60
7. Conclusion.....	61
7.1 Genocide in prehistory?.....	61
7.1.1 Results from the case studies.....	61
7.2 Other violent events.....	62
7.3 The future of genocide research.....	63
Bibliography.....	65

1. Introduction

The Yamnaya complex spread over several Steppe groups. The groups were unified and shared technological advantages which assisted in the extension and spread of Steppe-related ancestry (Haak *et al.*, 2015, p. 26). According to traditional culture-historical approaches, cases in which artifacts differ markedly from preceding cultures form new cultures with a clear separation from local traditions, signalling a significant shift, potentially migration, and possibly diffusion (Haak *et al.*, 2015, p. 22). The expansion process has been divided into between two to four chronological phases, one of which is the rise of the Corded Ware culture (Linderholm *et al.*, 2020, p. 1; Lazaridi 2018, p. 24). The topic regarding migration and the surrounding theories fell out of favor following a general shift in the 1960s (Burmeister 2000, p. 539). The article “*The Retreat from Migrationism*” emphasizes the shift in the discipline and the rejection of migration research (Adams, Van Gerven, and Levy 1978). The subject of migration was considered unnecessary to explain and therefore not further researched because of its implicit nature (Burmeister 2000, p. 539). In the 2010s, advances in DNA technology made it possible to incorporate ancient DNA into archaeological research (Furholt 2019, p. 53). This novel approach created new possibilities for observing and reconstructing migration, and for analyzing major genetic changes, origins, and the spread of human cultural complexes (Kristiansen 2014, p. 21f.). This renewed interest in migration is driven by significant contributions from palaeogenomics, which in some cases confirm that major shifts in cultural traditions appear to have been coupled with the arrival of new populations. Many models and scenarios emerged from this patterning, but they are yet to be properly assessed.

During European prehistory, more specifically during the Late Neolithic and Early Bronze Age, major demographic changes occurred in Europe. These changes are suggested to have been a result of the expansion of Steppe-related ancestry. Although aDNA has helped identify the impact of Steppe-related ancestry during the proposed population turnover, the possible causes behind the rapid expansion are still debated (Allentoft *et al.*, 2024a, p. 305, 309, 335; Scorrano *et al.*, 2021, p. 223). While some scholars argue for the spread of disease being a primary cause of the major population replacement, others suggested the possibility for an agricultural crisis

(Seersholm *et al.*, 2024, p. 114). A third perspective has been presented in a popular science website article, *Ancient DNA Reveals a Tragic Genocide Hidden in Humanity's Past*, where as the title suggests mass violence is interpreted as genocide, being a possible cause of the extensive population replacement (Watson 2024).

The distinct genetical differences between Neolithic farmers and the expanding Corded Ware culture (Linderholm *et al.*, 2020, p. 2) provide an example which shows that genomic and cultural data could point to large-scale population replacements, which due to evidence relating to violence in burials, may also be interpreted (in some regions) as massacres, depending on the scale, or even genocidal events. On that note, this thesis will focus on the third perspective, that is the role of mass violence and the possibility genocide within the rapid expansion of Steppe-related ancestry. Therefore, this thesis aims to examine whether contemporary discourse and definitions of genocide can be applied purposefully to cases of population turnover in prehistory.

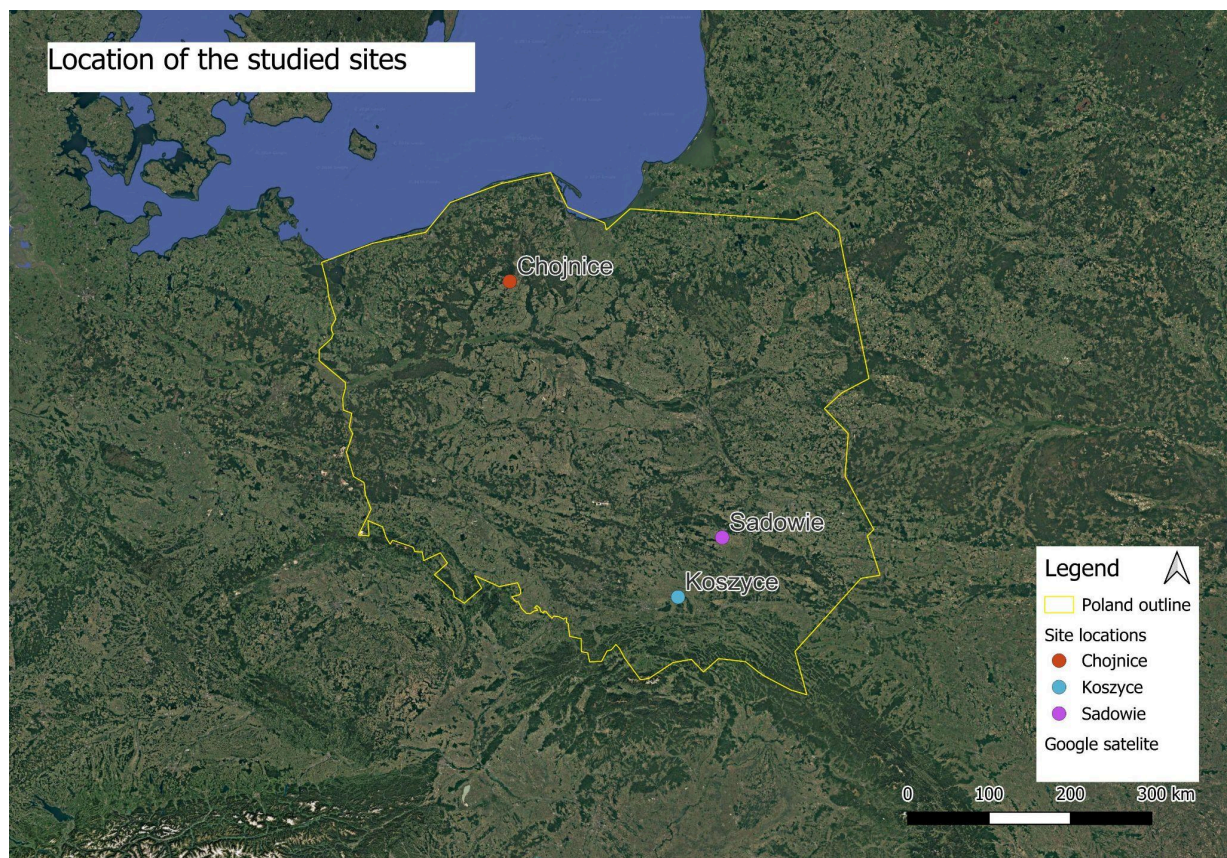


Figure 1. Map over present-day Poland with Chojnice, Sadowie, and Koszyce marked out

The analysis consists of three selected archaeological case studies, two of which are prehistoric cases of mass killing - Koszyce and Sadowie - as well as one contemporary case - Chojnice, which provides a foundation for examining whether the observed patterns of violence in the prehistoric cases can be interpreted as genocidal processes. If any of the cases falls outside of the scope of genocide, a spectrum of violence is applied to better understand the violent event that took place. The contemporary case study of Chojnice serves as a bridge between the present and the past, providing a deeper understanding of a genocidal event and demonstrating the similarities and differences among possible genocidal actions in prehistory. The Chojnice massacre in 1945 is within the scope of both the United Nations and the Oxford English Dictionary definition of the term Genocide. Both of which share characteristics regarding intent and mass killing targeting a specific group of individuals.

The analysis additionally contains a comparison between several definitions of genocide. Said definitions define genocide as a deliberate crime that targets a specific group of people. By presenting similar patterns across the three case studies, it will be possible to detect patterns of a genocidal act. It should be noted that the term genocide is seldom used in prehistoric contexts; the reasons behind the absence of the term genocide in prehistoric research are debated. To some, a romanticized depiction of prehistoric migration events in Europe contributes to the reluctance to apply the term itself (Furholt 2019, p. 54f.), while others argue that present-day definitions of the crime of genocide do not apply to prehistoric contexts (Bartrop 2002). The second statement will be tested in this thesis. Furthermore, the detection of genocidal events in prehistoric contexts, therefore, requires additional tools for identification, such as Vandkilde's description of the *three lines of reasoning* in the chapter "Genocide before the state?" in the book *The Cambridge world history of genocide*. As outlined above, the prehistoric massacres are compared with a contemporary genocidal event. All three case studies present massacres committed in present-day Poland; where abnormal, that is, mass graves, are compared and analyzed for patterns of genocidal events. In cases where genocide is confirmed, the thesis asks whether discourse on emotion and the senses adds interpretive depth to the ancient case studies. This thesis further aims to assess the contribution of applying an emotional theoretical framework to possible prehistoric genocidal acts, thereby emphasizing its importance for alternative interpretations of prehistoric contexts.

1.1 Aims & Research questions, Purpose

The thesis evaluates the analytical benefits and limitations of applying modern debates to prehistoric contexts. To fulfill this aim, the study conducts a comparative analysis of three cases. The first case study that took place in 1945 in Chojnice provides the foundation to examine potential correlations between the prehistoric massacres and a contemporary genocidal site. The two prehistoric case studies have been identified as massacres that correlate with the Steppe expansion leading up to the emergence of the Corded Ware complex and the population turnover during the third millennium BCE. The importance of such a comparison, and therefore this Master's thesis, lies in its potential to deepen an understanding of prehistoric contexts by applying contemporary discourse and recognizing recurring patterns that may indicate genocidal events in both past and present. The comparative analysis will be tested in the following hypothesis:

- If the prehistoric case studies - Koszyce and Sadowie - that demonstrate mass killing events in prehistoric contexts also present similar patterns that are consistent with those that fall within the terminology *Genocide*, then theoretical frameworks from genocide studies can be applied to gain a greater understanding of these events in a prehistoric context. To test this hypothesis, the following aims were established and research questions formulated:

To summarize, in this thesis it is the aim to:

- Conduct a comparative analysis between:
 - One modern genocidal case from 1945.
 - Two prehistoric mass-killing cases linked to Steppe expansion and the emergence of the Corded Ware complex.
- Analyze archaeological case studies to determine whether patterns of prehistoric violence can be interpreted as genocidal processes.

- Explore possible correlations between prehistoric massacres and modern genocidal violence through a comparative analysis, and deepen the understanding of prehistoric massacres by comparing them with a modern genocidal event from 1945 in Chojnice.
- Identify shared patterns across three case studies that may support interpretations of genocidal acts.
- Investigate whether theories of emotion and senses add interpretive depth to prehistoric cases of mass violence.

This thesis applies a comparative approach and is guided by the following research questions:

1. How applicable are contemporary discourses surrounding genocide to instances of population turnover and replacement in prehistory? Specifically, how can this contemporary literature help us understand the expansion of Steppe ancestry into Central Europe, including modern-day Poland, and the replacement of Funnel Beaker and Globular Amphora-related populations with Corded Ware peoples?
2. What kind of indications of genocide are evident in the Steppe ancestry population turnover in the case of Koszyce and Sadowie? In what ways and in which concepts does genocide manifest in the diverse contexts of population turnover?
3. What additional perspectives are provided when applying contemporary discourses regarding genocide in prehistoric contexts, as presented in the thesis? To what extent does the theory of emotions and senses deepen interpretations of past genocidal acts?

Lastly, the purpose of this thesis is to assess whether the concept of genocide can be applied meaningfully to prehistoric events of mass killings, as well as demonstrate how the theory of emotions can provide a greater understanding of prehistoric acts of violence. With a particular focus on the emotional experiences of survivors and how these may contribute to modern interpretations of past societies.

2. Research context

This chapter contextualizes the research that plays a significant role when comparing the case studies of Chojnice, Koszyce, and Sadowie. This section is divided into five subchapters, each addressing specific aspects of understanding genocidal events in prehistoric contexts.

2.1 Ancient DNA in archaeology

The existence, development, and change of social processes in prehistoric Europe are difficult to identify. However, genomic analysis provides insight into population dynamics within cultural complexes, such as the Corded Ware complex (Linderholm *et al.*, 2020, p. 8). The ability to conduct a comparison of the genocide committed in Chojnice and the prehistoric case studies from Koszyce and Sadowie is made possible by factors such as developments within DNA studies. Therefore, this chapter will provide the research history of the incorporation of ancient DNA into prehistoric migration research.

2.1.1 Ancient DNA within prehistoric migration research

Scientific application of ancient DNA reached a breakthrough with the development of next-generation sequencing. This advancement enabled the production of genomic data, opening new avenues for research into previously out-of-reach questions. The introduction of haplogroups revealed previously unknown information about human origins and expansions (Kristiansen, 2014, p. 13).

Within DNA studies, advances in generating genomic data have offered new insights and can therefore serve as a tool to bridge the gap between materiality approaches and ongoing scientific developments (Kristiansen 2014, pp. 13, 19). As a result, the incorporation of ancient DNA into archaeological research provides new perspectives and opens the possibility of asking new questions within the field of archaeology (Furholt 2019, p. 53). The rise of novel possibilities,

such as presenting data on major genetic changes, creates the opportunity to explain genetic diversity, including changes in populations, which could be further compared with historical evidence or the archaeological record. Next-generation sequencing of aDNA therefore contributes to the modern depiction of the origins and spread of human cultural complexes. In the cases of research with migration as a focal point, incorporating aDNA can help reconstruct migration patterns in prehistory, including those that occurred during the Late Neolithic and Early Bronze Age in western Eurasia. As a result, scientific development reveals genetic compositions and major changes that occurred during prehistoric times (Kristiansen 2014, pp. 13, 21f., 24), e.g., population turnovers (Allentoft *et al.*, 2024a, p. 335). This does not necessarily imply turnover or change through violent means, but does impress further discussion and analysis surrounding potential violence as a relevant factor and driving force.

While the benefits and potential of aDNA have provided additional insights, flaws regarding the application of aDNA within prehistoric research have been highlighted by researchers (e.g., Furholt, 2019; Frieman and Hofmann, 2019). Since the emergence of aDNA in archaeological research, it has remained relevant in the field for over the last few years when discussing genetic data. The method's potential is highly regarded and is thought to alter and enhance previous knowledge on certain aspects of prehistoric research (Furholt 2019, p. 54). This newly available method is argued to have the potential of providing previously out-of-reach information. Nonetheless, some scholars argue that despite the possibilities that come with the development of aDNA, the application of the method should be criticized for failing to address other potential inquiries. Instead, aDNA results have been used to reinforce old narratives. For example, in the article *"De-contaminating the aDNA-Archaeology Dialogue on Mobility and Migration,"* Furholt (2019) argues that aDNA has not yet contributed meaningfully to prehistoric research. Thus, the method is, in ways, controversial (Furholt 2019, p. 53). Others argue that combining aDNA results with other methods, e.g., osteological analysis of potential skeletal trauma, could provide a reconstruction of specific historical events, such as population turnovers, including the effects of the Corded Ware expansion on neighboring Neolithic groups, during the 3rd millennium BCE (Kristiansen 2014, p. 24).

2.1.2 Criticism regarding the application of aDNA within migration studies

Despite the flaws, the incorporation of genetics into archaeological research has enriched the field by providing new avenues for investigating prehistoric migration. Yet, the questions surrounding prehistoric migration have, according to some scholars (e.g., Furholt 2019), monopolized researchers' attention; other research questions, for instance, inquiries into kinship and its relation to statues, burial sites, and individual mobility, are less frequently addressed (Frieman and Hofmann 2019, p. 538). Thus, research models that rely heavily on new aDNA evidence from prehistoric periods tend to lean on a romanticized image of a large migration of coherent groups of people. In discussions of the application of aDNA to research on third-millennium Steppe-peoples migration, the method has not generated new knowledge about social processes, like those of kinship and individual mobility, despite developments in the discourse. In this light, the focus on applying aDNA to simplified questions, such as those related to migration, must be understood (Furholt 2019, p. 54f.).

Another point of contention is the process of equating cultural practices with a unified representation of specific social groups, thereby giving them a shared agency. Although the practice of putting cultures in specific boxes and letting them represent specific social groups is challenged by some scholars, it is, to this day, a common practice and still dominant in cultural history in Central and Eastern Europe, and used by some in Northern and Western Europe (Furholt 2019, pp. 54ff.). However, the prehistoric demographic changes that prospered on large parts of the European continent have, in recent years, been analyzed in several archaeogenomic studies. Research on prehistoric migration provides insight into the genetic ancestry of individuals from different time periods and geographical contexts. The information provided by archaeogenomic analyses helps scholars understand the various cultural complexes and the social practices and cultural expressions associated with them, in material form (Linderholm *et al.*, 2020, p. 1). In addition, aDNA offers the prospect of analyzing and comparing genomic data in a prehistoric context, thereby providing researchers with a new dimension for understanding prehistoric diversity and a tool for reconstructing previously transpired events (Kristiansen 2014, p. 13; Lazaridis 2018, p. 24).

2.2 Population turnovers

Throughout history, there have been three recorded major shifts of population turnover in Europe (Allentoft *et al.*, 2024b, p. 301), phenomena identified due to the incorporation of aDNA (Kristianssen 2014, p. 21f.). The first of these relating to the Western hunter-gatherers (Allentoft *et al.*, 2024b, p. 301). At the beginning of the 2010s, the spread of Western European hunter-gatherers was considered confined to three sites in Western Europe (Lazaridi 2018, p. 22; Lazaridi *et al.* 2014; Olalde *et al.* 2014), a theory later disproven due to findings confirming traces of life in Southeastern Europe. However, the dominance of Western hunter-gatherers was diminished by the expansion of Anatolian farmers (Lazaridi 2018, p. 22). This resulted in the expansion of farming and the Neolithic transformation, which spread from the Middle East.

The third and last are the peoples from Pontic-Caspian-Ural Steppes, which are argued to originate in Ukraine and Southwestern Russia (Allentoft *et al.*, 2024b, p. 301; Furholt 2023, p. 57). This population turnover has, at times, been described as a genocide, due to the rapid and violent expansion of Steppe-related ancestry (Watson, 2024). Despite its rapid expansion, the origin of the ancestry associated with Yamnaya (“Steppe ancestry”) has yet to be precisely pinpointed. However, theories and discourses on the topic have proposed that said ancestry stems from the admixture of at least two populations, namely Eastern Hunter-Gatherers and Caucasian Hunter-Gatherers (Allentoft *et al.*, 2024b, p. 302; Lazaridi 2018, p. 24).

2.2.1 The Yamnaya Culture and Steppe Ancestry

At the beginning of 3300 BCE, the Yamnaya spread across the entire Pontic-Caspian-Ural Steppes, becoming the first recorded cultural complex to do so. This culture is defined by a unifying attribute, which fundamentally influenced its expansion: the use and spread of wheeled technology, which also enabled a mobile economy through horseback-riding herders (Haak *et.al.*, 2015, p. 26). This expansion process is divided into approximately six regional groups and between two and four chronological phases. Despite the differences, both regional and chronological, one of these phases of significant demographic transition is associated with the

emergence of the Corded Ware culture and traces back to Steppe-related ancestry in Eastern Europe (Linderholm *et al.*, 2020, p. 1; Lazaridi 2018, p. 24).

Said expansion marked a new wave of migration across Europe, as well as a cultural, social, and linguistic shift that impacted Central and Northern Europe (Linderholm *et al.*, 2020, p. 1; Lazaridi 2018, p. 24). The material evidence for these changes is apparent in burial rituals, recognizable by individual burials that are argued to stem from heterogeneous Yamnya burials in Ukraine and Southwestern Russia. The expansion took root in the Northern, Central, and Western parts of Europe, thus supposedly serving as a building block in the creation of the Corded Ware culture, later the Bell Beaker culture. Archaeological data and aDNA records assisted with documentation and the development of the changes that occurred alongside the migration (Furholt 2023, p. 57). Of note, before the expansion of the Corded Ware culture, individuals in Europe did not exhibit Steppe-related ancestry. With the spread of Corded Ware culture, a simultaneous population turnover occurred, resulting in a genetic change that is still measurable today (Allentoft *et al.*, 2024a, p. 335). Advances in material culture, burial rituals, and settlement-structure coincide with genetic changes, suggesting increased human mobility (Furholt 2023, p. 57).

The expansion of Steppe-related ancestry, which occurred around 3100-3000 BCE in Southern Europe, and around 2900-2800 BCE in the north, roughly accompanies the rise of the Corded Ware culture (Linderholm *et al.*, 2020, p. 2). The mobility of the Steppe, is thought to be partly as a result of technological advances, such as the development of wagon and wheel technology, as well as the domestication of horses. This combination of factors would have generated an increased movement in all directions, including the Northern, Central, and Western parts of Europe (Anthony 2007, pp. 459-462)

Archaeogenetic analysis of individuals associated with the Corded Ware culture has demonstrated that they exhibit Steppe-related ancestry, a component not found in individuals associated with the Globular Amphora cultural complex. However, despite growing understanding of prehistoric demography in Europe, regional data and resolution remain inadequate, resulting in a knowledge gap regarding the social processes during periods of

population turnover. Thus, the transition to the Corded Ware culture and the dynamics between populations are the subject of ongoing debate, such as is discussed within this thesis (Linderholm *et al.*, 2020, p. 2).

2.2.2 The emergence of the Corded Ware culture

It is at the end of the Eneolithic that the Corded Ware culture emerged. This cultural complex expanded across large parts of Europe and is closely associated with the Steppe-related ancestry and the subsequent genetic transformation, coinciding with the rapid expansion of the Pontic-Caspian Steppe (Allentoft *et al.*, 2024a, p. 334; Linderholm *et al.*, 2020, p. 1). Thus, the expansion of Steppe-related ancestry is associated with the spread and development of the Corded Ware culture and its manifestation across Europe. Individuals associated with the Corded Ware culture have a genetic composition mixed with Steppe-related ancestry and Neolithic farmers (Allentoft *et al.*, 2024b, p. 306). The admixture is characterized by a cultural and genetic fusion, as evidenced by a mixed economy, stylistic similarities between artifacts of the Globular Amphora Culture and the Corded Ware culture, and ecological and climatic adaptation strategies (Allentoft *et al.*, 2024b, pp. 306, 309). Research on aDNA has been conducted to study ancestry, origin, and admixture, demonstrating that pastoralists from the Yamnaya culture replaced certain haplogroups, including the (G2a) haplogroup with the Y-chromosome (R1a), as well as the (R1b) haplogroup. Individuals associated with the Yamnaya culture contributed U2 and W haplogroups to those of the Corded Ware culture, as evidenced by mtDNA. Thus, the impact of Yamnaya and Steppe-related ancestry has been detected in analyzed individuals associated with the Corded Ware culture (Linderholm *et al.*, 2020, pp. 2, 8). Kristiansen *et al.* (2017) argue that larger subgroups of primarily male individuals of the Steppe population departed. This subset of male Steppe individuals later intermarried with local women, thereby creating new material culture and burial rituals (Kristiansen *et al.*, 2017).

The article “*Population genomics of post-glacial western Euroasia*” Allentoft (2024) provides evidence supporting the argument that the ancestry of Neolithic farmers derived exclusively from the ancestry associated with the Globular Amphora culture cluster. This, along with data

suggesting that Steppe-related ancestry expanded within groups already admixed with individuals associated with the Globular Amphora culture in Eastern Europe, plays a key role in understanding the rise of the Corded Ware culture (Allentoft *et al.*, 2024b, p. 306). However, there is a distinct genetic contrast between the Globular Amphora culture and the Corded Ware complex, evident in the Steppe-related ancestry of individuals from Poland associated with the Corded Ware complex, from the Eastern Yamnaya Steppe, which is lacking in the ancestry of individuals belonging to the Globular Amphora culture (Linderholm *et al.*, 2020, p. 2).

2.2.3 Population turnover by Steppe-related ancestry in Poland

The understanding of the genetic history of Europe, regarding ancestry and relations among the Neolithic, Eneolithic, and Bronze Age and their various populations, cultures, and communities, is continually evolving due to the incorporation of aDNA, which helps depict regional differences and changes (Fernandes *et al.*, 2018, p. 1). For the region of modern-day Central Poland, the Early Neolithic period - around 5.400 BCE - was defined by the introduction of farming and coincided with the expansion of the Linear Pottery culture. However, this development did not lead to changes in lifestyle among Hunter-Gatherer groups in nearby areas. Archaeogenetics has demonstrated that an admixture between the Linear Pottery culture and hunter-gatherers occurred, thus merging both populations (Linderholm *et al.*, 2020, p. 2).

During other cultural developments, such as the emergence of the Funnel Beaker culture, admixtures, including those from hunter-gatherers, remain evident in genetic analyses. By ca. 3.400/3.100-2800 BCE, the Baben Culture and the Globular Amphora culture emerged in Poland, replacing earlier Funnelbeaker cultural developments across large parts of modern-day Poland, leading to a decline in hunter-gatherer groups (Linderholm *et al.*, 2020, p. 2). This transition resulted in an economic development based on farming and pastoralism (Fernandes 2018, p. 2). Nevertheless, the Globular Amphora culture persisted only briefly before the rapid expansion of the Corded Ware complex, which afterwards became dominant in the area (Linderholm *et al.*, 2020, p. 2). Genetic research indicates that the Globular amphora culture

does not contain any Steppe-related ancestry, in contrast to the Corded Ware culture (Fernandes 2018, p. 2).

2.2.4 Population turnover as a genocidal event?

Research on demographic change has identified the importance of migration processes and developments associated with demographic events, such as the expansion of Steppe-related ancestry. In the Late Neolithic period, a second population turnover took place. In Denmark, the Funnelbeaker culture, the Pitted Ware culture, and the Single Grave culture were competing culture complexes; yet only the latter carried Steppe-related ancestry, which can be traced even in modern-day individuals. The archaeological record provides evidence of the violence that occurred in Denmark and elsewhere at this time of competing cultures (Allentoft *et al.*, 2024a, p. 335). As a result of this revelation, the event has been described as a genocide, due to the rapid shift in population, on the news site *Science Alert* (Watson 2024). The term genocide is used sparingly in prehistoric cases of mass violence (Kiernan and Vandkilde 2023, p. 59). Still, in other regions, acts have yet to be identified as genocidal acts.

Archaeogenetics provides insight into how prehistoric population turnover has led to major changes in ways of life (Linderholm *et al.*, 2020, p. 1). Individuals belonging to the Danish mesolithic cultures: Maglemose, Kognemose, and Ertebølle, belonged to a similar genetic group, signifying homogeneity, regardless of the difference in material culture. Still, a genetic change emerged when Neolithic farmers migrated north. The arrival of Anatolian-derived ancestry reduced the local hunter-gatherer genetic contribution in the area, leading to a population turnover. A second population turnover occurred with the arrival of eastern Steppe ancestry, an immigration that led to the development of the Corded Ware complex, which shows genetic similarities to modern-day Danes (Allentoft *et al.*, 2024a, p. 329).

2.3 Spectrum of violence

In order to isolate the mechanism in which we may identify large scale violence versus individualized violence we need to locate the archaeological material that provides evidence that helps build a full spectrum of which violence exists.

2.3.1 Violence

While violence has been described as a physical force intended to inflict injuries or even be the cause of death, the targets that are exposed to the force vary. Physical power can be aimed towards oneself, another person or even large-scale violence, targeting a group (Erdal and Erdal, 2012, p. 78). Different aspects and reasons have been identified as underlying factors for the outburst of violent acts. Among humans, violence can occur after an accumulation of stress from social aspects, ecological problems or other sources of resource constraint. In addition, factors regarding political and/or economical instability or structure as well as during conflicts regarding resource sharing can be of relevance (Torres-Rouff and Junqueira, 2006). Violent actions are thus interpreted as a behavior that derives from intra- and intergroup tensions (Meyer 2019, p. 45).

Recognizing trauma from physical violence on human skeletal remains is at times a complicated matter, due to the role of interpretation. While in some scenarios fetal skeletal trauma can be interpreted as a consequence of an accident, thus cases of violent acts can be disregarded. Yet, other, lesser forms of trauma and abnormalities can provide important insight into the events of the deceased individual's life (Jackes, 2004, p. 23).

Research regarding violence within prestate groups is limited due to lack of lasting archaeological material. This limited amount of information surrounding prestate groups and their material traces hinders the analysis of the intention and cultural justification for acts of violence. In addition, the mere presence of trauma does not give further information regarding the motivations behind the occurrence of violence. However, the application of ethnographic analogy provides additional perspectives that could approve or decline hypotheses (Harrod,

Linéard and Martin 2013, p. 63ff.). Lastly, the archaeological evidence of violence presented in human skeletal remains is in need of a context for the interpretation. Distinguishing between trauma from a violent event or if it stems from an accident is complicated. Applying emotional components can be an important aspect to understand the material and give further perspectives to the context that imposed the skeletal trauma (Mitrovic and Mitrovic 2026, p. 8).

2.3.2 Aggression and violence and their definitions

How violence is defined is heavily dependent on the research area and focus. The differences between the definitions lie within the details (Mitrovic and Mitrovic 2026, p. 2). On the one hand aggression can be defined as a milder form of violence, while violent behavior is viewed upon as an extreme vision which includes the aim to physically injure someone (Huesmann 2017, p. 3). The World Health Organization (WHO) provides the following definition:

“intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in, or has a high likelihood of, resulting in injury, death, psychological harm, maldevelopment or deprivation”

However, the definition that will be used within this thesis is that both aggressive and violent acts that caused physical harm are a result of aggressive behavior. By understanding such aggressive and violent behavior it could provide a foundation for archaeologists and their interpretations regarding certain violent events. This broad definition of violence provides a foundation for a wider range of interpretation which includes considerations on a social and individual level (Mitrovic and Mitrovic 2026, p. 2).

2.3.3 Human remains as evidence of violence

Artefacts such as weapons and defence systems, alongside other archaeological evidence, that is, burnt layers and iconographic data provide some information regarding violence in prehistory. Still, direct evidence of any type of violence within the archaeological record can be found directly on human remains, since the trauma identified on said remains reveals if they have been a target of violence (Erdal and Erdal, 2012, p. 78). Such evidence depicts the consequences that follow physical violence, and combining this with archaeological site data is therefore a reliable method for identifying the existence of violence in general in the human past (Harrod, Linéard and Martin 2013, p. 64).

Large-scale violence due to feuding, warfare, homicide or intragroup (within the group) and intergroup (outside of the group) violence is a complex matter. Understanding if external forces have participated in the acts of violence is not resolved easily solely by archaeological means (Erdal and Erdal, 2012, p. 78). A deep understanding can be gained by the combination of perimortem weapon wounds and archaeological evidence. Evidence such as burial customs, fortifications and weapons can provide important additional data (Erdal and Erdal, 2012, p. 89). Alongside the evidence, how bodies have been disposed of or cared for after the individuals have passed can give additional insight (Vandkilde 2023, p. 60). The contrast presented by differences in burial costumes and thus burial features, can play an important role in categorizing abnormal graves. If aspects such as a grave's layout, size or appearance as well as the amount of individuals buried deviant from typical burial customs are identified, it would fall within the category of an "abnormal" grave (Meyer 2019, p. 31f.). For that reason, the application of the theory of emotions can provide a perspective of the treatment of the bodies which may have an important role of identifying a context resulting from intra or intergroup violence (Vandkilde 2023, p. 60; Tarlow 2000, p. 713; Kobiałka 2023, p. 310).

In this thesis, an additional factor will be considered while comparing the three mass graves, that is if the bodies seem to have been buried simultaneously. If the grave has signs of reuse then it would fall under the category of a collective grave (Meyer 2019, p. 32).

2.3.4 Presenting the Violence spectrum

An increasing focus on prestate violence, with a focal point on interpersonal, collective, and organized violent acts has provided a foundation for this spectrum of violence. To gain a deeper understanding of the origin of the injuries and how they may have been inflicted on the skeletal material, aspects and information gathered from analyzing the skeletal remains in combination with contextual data from the site creates one line of evidence. Additional perspectives are accumulated when applying ethnographic analogy (Harrod, Liénard and Martin 2013, pp. 63,65)

The following spectrum is an example of how to categorize human remains when it comes to death, caused by violence, in the historical record. The categorization is separated into distinctions between an individual victim, and more than one individual victim, being a group. Alongside the number of victims, an estimation of a level of authorized violence, such as execution, and a number of victimises may provide a spectrum in which to determine what can be defined as genocide.

Presence of violence - Interpersonal violence - Group violence- Warfare - Intentional organised violence¹ - Genocide

The following five categories will briefly be explained below. However, the last category will be presented in a separate subsequent chapter.

Presence of violence

Interpreting and confirming violence in skeletal remains from prehistory is faced with several difficulties. Nonetheless, by comparing sites that may contain traces of violence, it is possible to provide archaeological contrasts which confirm or deny the possibility of violence. On the other

¹ This categorization is briefly touched upon on page 79 in the article *Organized violence in Anatolia: A retrospective research on the injuries from the Neolithic to Early Bronze Age* written by Erdal and Erdal 2012

hand, clear depictions of violence do exist in the archaeological record. Cases that contain skeletal remains with random cuts and fractures or embedded weapons represent clear evidence for disputes and therefore physical violence. However, not all sites possess clear indications of violent acts. In such cases, the identification of patterns of violence can act as a helping hand in the final interpretation. Such patterns are created by excluding skeletal trauma from accidents, specific activities or settings (Jackes 2004, p. 34f.). However, a commonly observed pattern in the archaeological record is the existence of lethal blunt force trauma to the head, which was used as an intentional execution method on a wide range of archaeological sites and during different periods. Thus, when an individual was intended to die, the head as the primary aim was often targeted for the violent use of force (Meyer 2019, p. 69).

Interpersonal violence

Embedded weapons are a clear sign of interpersonal violence. For example, projectile points that are stuck within bones are directly interpreted as evidence of violence in prehistoric times. Cases with findings such as embedded projectile points in skeleton remains are reoccurring and range over several prehistoric cultures. Still, embedded weapons are regarded as a relatively rare discovery (Meyer 2019, p. 69). Other signs of interpersonal violence are nonlethal skeletal trauma, such as the presence of a forearm fracture, which is an indication of self defence and therefore considered to be a direct indication of a violent act if dislocation and displacement are unnoticed (Jackes 2004 p. 23; Pasterkiewicz *et al.*, 2025, p. 6). Violence within small-scale communities has different emotional driving forces, in comparison with large-scale violence such as warfare. In smaller societies emotions such as anger is a probable explanation for the cause of rising competition which could evolve to aggression and conflict (Mitrovic and Mitrovic 2026, p. 10).

Group violence

Within group violence, nonlethal violence and lethal violence are understood to have been inflicted following similar motivations, that is the intent of confrontation to gain resources or

status. This recurring pattern of domination with violence is a successful strategy for seizing and maintaining control. In the case of analyzing nonlethal skeletal trauma, the ability of understanding and analyzing healed injuries is well established within osteological research. The interpretation of such injuries is dependent on several factors. Complications with the interpretation of healed trauma stems from the possible origin of those nonlethal injuries. Violent actions can be indicated by different types of physical force on the skeleton, that is both lethal and nonlethal trauma. For that reason multiple lines of evidence should be tested and thereafter approved or declined as the origin of the nonlethal injury. On that note, individuals within certain groups could have been exposed to small-scale and nonlethal violence repeatedly throughout their lifetime (Harrod, Linéard and Martin 2013, p. 64f.).

Warfare

In archaeology the term warfare is applied in a broad sense, and refers to collective and organised violence among at least two groups, i.e., not a single event of aggression. There could be various types of reasoning behind the beginning of warfare. For example, some underlying causes may be demographic or environmental pressure (Mitrovic and Mitrovic 2026, p. 3).

Patterns of prehistoric warfare are evident due to repeated occurrences of massacres performed aimlessly. Other indications of warfare in prehistory are different forms of mutilation, torture as well as the disposal of the individuals without any signs of care. Thus, the recognition of warfare lies within the detection of an abnormal treatment of the murdered individuals in cases of extreme violence (Meyer 2019, p. 110). It should be noted that evidence of extensive violence should not be directly concluded to be a result of warfare without exceptional conclusive proof. In cases where warfare between groups is inconclusive, the historical context is important for an interpretation of what form of violent happenings the individuals have been subjected to (Jackes 2004 p. 27). Other forms of violence should therefore be excluded before confirming the act of warfare.

Intentional/Organised violence

Violence which indicates organised or intentional characteristics are injuries such as cranial trauma in combination with parry fractures, weapons imbedded in the human remains, perimortem injuries as well as a high frequency of cranial fractures and perimortem traumas that are found in mass graves (Erdal and Erdal, 2012, p. 79). As mentioned above in subchapter 2.4.3, when a victim is intended to die, physical force would be aimed towards the head. Thus, a mass grave containing several individuals, the presence of wounds inflicted by projectile points and lethal cranial trauma can altogether indicate a large-scale violent act carried out by multiple attackers (Meyer 2019, p. 69).

2.3.5 Conclusions formed from the violence spectrum

The spectrum is defined by and dependent on factors within the grave, that is the number of buried individuals, the apparent burial practice and the location of the burial site (Vandkilde 2023, p.59). To determine which category is suitable for different archaeological cases is a challenging task when purely assessing archaeological contexts. Nevertheless, ethnographical analogy provides a bridge between the past and present, and allows for the creation of a framework for actions by understanding the human emotions and therefore the reasoning behind the actions of violence, altogether providing a helping hand when interpreting the past (Pearson, 1999, p. 44; Mitrovic and Mitrovic 2026, p. 10). Though the previous characteristics may act as a fundamental distinctive spectrum, the identification of genocidal traits may prove complex, if not controversial. Alongside this, the scope in which violence may present itself can be dependent on a number of elements outside of the number of victims. The full range of characteristics and elements that determine genocide requires a much more thorough analysis of the interconnected nature of all attributes of the crime. The potential spectrum of violence may build the foundation in which the following genocidal characteristics may be distinguished.

2.4 Genocide

Determining what characteristics are needed to define genocide requires separate factors that are used to categorize modern definitions of the term genocide versus group murder. Doing so provides the ability to create a model to apply to the case studies within this thesis.

2.4.1 Table of the mental and physical elements of the act of genocide (an example)

The table below presents the different physical and mental elements of the crime of *genocide*, which are defined by the United Nations, as well as other elements that are of importance for understanding the violent act behind the event. It is an example which may demonstrate the possible archaeological correlations which will be shown in following chapters in this thesis. Each respective site will be highlighted. The table considers each element of genocide and tests it against the selected case studies. Possible archaeological correlations could be: *Mass graves and evidence of trauma; archaeologically ambiguous; difficult to prove*, as demonstrated in the example table below. Data will be presented and thus demonstrated in the tables in chapter 5.

Considered elements:	Chojnice	Koszyce	Sadowie
Number of Individuals:			
Perimortem cranial trauma			
Other Injuries:			
Embedded weapons:			
Spectrum of violence:			
Physical and Mental Elements of Genocide			
Archaeological correlation:			

Supporting Evidence:			
----------------------	--	--	--

Table 1. *An example of the different defined elements of genocide and their possible archaeological correlation, as well as other factors deemed important for the analysis*

2.4.2 The origin of the word genocide

In 1944, the term *Genocide* was first defined by Raphael Lemkin in his book *Axis Rule in Occupied Europe*. Lemkin developed the terminology and established a foundation for understanding genocide (Shaw 2007; Lemkin 1944) by stating:

By “genocide” we mean the destruction of a nation or of an ethnic group

The term is a blend of Greek and Latin and consists of the Greek *genos*, meaning "race, nation, or tribe," and the Latin suffix *cide*, which translates as "killing" in English (Rubinstein 2004, p. 1).

In recent debates, the Holocaust has been the primary example of the crime of genocide (Rubinstein 2004, p. 2). Its association with the Second World War stems from the intentional extermination due to ideology, as well as creating a boundary between the in-groups and out-groups, creating a space for dehumanization (Vandkilde 2023, p. 60). To some, the Nazi Holocaust of the European Jews is unique due to the lack of other examples that are comparable when it comes to the dedication to pursue a purposeful extinction of an entire people, a purpose not fulfilled by the Nazis in the aftermath of their loss in the war. To others, there are other examples of where the number of deaths exceeds the Holocaust, e.g., the killing of Indigenous people in South and North America (Rubinstein 2004, p. 2). When researching mass killings in prehistoric contexts, the term "Genocide" rarely appears. However, terms such as trauma, war, and destruction are among the terminology commonly used in contexts within prehistoric research. Despite working with terms in close adjudication to the word Genocide, Genocide per se is avoided (Kiernan and Vandkilde 2023, p. 59).

Throughout history, acts of violence and destruction of cultural heritage have been a recurring phenomenon (Nagaoka 2020, p. 4). Cultural heritage represents the link between the ancestral

past and the present-day lives of people and is no stranger to acts of destruction during warfare, revolutions, and times of repression (Lenzerini 2017, p. 70; Nagaoka 2020, p. 4). Despite the fact that mass killings as a phenomenon are assumed to recur throughout human existence, some argue that during the twentieth century, mass murders increased in commonality to a unique degree that it has become a significant part of world history. This is argued by some to be the primary reason for the development of the terminology for genocide (Rubinstein 2004, p. 1). To provide an example and a comparison, the article “*The relationship between war and genocide in the twentieth century: a consideration*” refers to the twentieth century as the age of genocide, with destructive characteristics that shaped the entire period (Bartrop 2002). Thus, researchers argue that in modern-day warfare, developments in the arms industry have contributed to greater damage to cultural heritage during armed conflict, leading to a new wave of intentional destruction (Brosché *et al.* 2017, p. 16; Elcheikh 2022, p. 163f.). International destruction includes the crime of genocide and its violent acts, which can be either physical or biological (Lenzerini 2017, p. 70), where destruction is considered an inevitable consequence of acts of violence (Luke and Meskell, 2019).

Yet, the substantial similarities between certain mass graves of the modern era and those of the past still exist. It is these comparisons that are a gateway to finding traces of genocides in prehistoric contexts (Komar, 2008). Research points to socially acceptable forms of warfare and violence (Kiernan and Vandkilde 2023, p. 61f.), and emphasizes the contribution from the archaeological record that presents mass murders in prehistoric contexts. In addition, the research provides information on the occurrence of mass killings, pressing on the matter that the act of mass murder is persistent throughout history, and is not isolated to a single society. It is probable that the number of mass murders exceeds that of modern societies (Rubinstein 2004, p. 6f.).

2.4.3 Genocide or a massacre?

Ongoing debates regarding the differences between genocide and massacres may complicate the study of genocide in prehistory; the difference is said to be that genocide is dispassionate, merely

soldiers following orders, while a massacre is seen to be a mass killing led by passion. This distinction complicated the study of genocide in past societies due to a lack of material traces, thereby emphasizing the underlying intentions (Vandkilde 2023, p. 60). On the other hand, some researchers state that the term massacre can be defined as an event containing purposeful violence responsible for the death of a substantial portion of a group (Willey 2018). Thus, providing a definition applicable to prehistoric contexts.

Professionals tackling the task of defining the term genocide face difficulties in defining it in a way that is universally acceptable (Rubinstein 2004, p. 1). This difficulty stems partly from the complexity of crime, which makes it possible to describe genocide in a multitude of ways. Other contributing factors include emotional, moral, and political interests (Shaw 2007). Despite the efforts, definitional differences persist (Rubinstein 2004, p. 1). Shaw (2007) states that despite the different definitions, there is still a consensus at the time of publication, which is that genocide is a large-scale crime and a violent event. However, each event differs, thereby adding complexity (Shaw 2007). Other definitions are as follows:

The Oxford English Dictionary describes genocide as a phenomenon that, on the one hand, is a deliberate, systematic killing, as well as the ill-treatment of people from a specific group. The group, per se, differs from the perpetrators due to their separate ethnic backgrounds, national origins, etc. The oppression is intended to destroy the group, partially or completely (Oxford English Dictionary, 2023). Genocide is defined as:

“The deliberate killing of a very large number of people from a particular ethnic group or nation”

A similar definition is provided by the United Nations (UN), which states:

"intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such"

However, the UN depicts two elements of the crime, one mental and the other physical. The mental one, as mentioned above, is followed by five acts. The physical elements are presented as follows:

1. Killing members of the group;
2. Causing serious bodily or mental harm to members of the group;
3. Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
4. Imposing measures intended to prevent births within the group;
5. Forcibly transferring children of the group to another group.

Any of the five physical acts in combination with the intent to destroy is classified as genocide. However, this definition is restricted, thus excluding aspects of the phenomenon of cultural genocide. The cultural aspect of people's identity stems mainly from the ancestral past. The inherited past, in conjunction with the present-day descendant, creates the distinctiveness of *heritage*. With heritage, several aspects are connected from the past, present, and future (Lenzerini 2017, p. 71).

The requirement of the intent to destroy is often interpreted as purpose-based. However, the purpose-based interpretation has been questioned for disregarding approaches such as knowledge-based and structure-based complexities. The focal point of intent in genocide still leaves questions about the degree of intent (Ambos 2009, pp. 833, 836). A literal and historical interpretation of the intent behind the genocidal act is not conclusive, and as such, a particular intent is irrelevant due to the difficulty of confirming specific intentions (Triffterer 2001, p. 403ff.). Therefore, the historical literal interpretation of the intent behind the crime of genocide is inconclusive, resulting in several interpretations. Therefore, intent could be extended to a knowledge-based approach, including those who understand the destructive nature of the violent act (Greenawalt 1999, p. 2265ff.).

2.4.4 Prehistoric contexts

The field of bioarchaeological and archaeological data provides the foundation for analyzing Genocide in prehistoric contexts. Thus, data within the fields present information regarding warfare and burials in conjunction, both of which could contribute to clues if certain groups of people fell victim to genocide in prehistory. Therefore, there is no viable reason to bypass the term genocide. However, challenges arise when applying the term Genocide due to the lack of such archaeological data, including resolution information regarding scale, systematics, intent, logic, and, lastly, the driving force behind the maltreatment of “*Other*” groups (Kiernan and Vandkilde 2023, p. 59f.). Nevertheless, the aspect of intent is difficult to conclude whether or not it played a part in the crime (United Nations).

Identifying early forms of pre-state genocide requires other methods of recognition. Three lines of reasoning are therefore fundamental: warfare, abnormal graves, and genetics within “tribal” societies. Yet, the term “*tribal*” encompasses several societal forms, such as household-based agriculturists, e.g., the Globular Amphora complex and the Złota Culture (Vandkilde 2023, p. 59; Vai *et al.*, 2021, p. 4; Pasterkiewicz *et al.*, 2025, p. 9f.). Within prehistoric mass graves, which are considered to have resulted from a potential genocidal event, a clear distinction must exist between in- and out-groups. The distinction is based on several aspects, such as consideration of the buried individuals and the burial being performed by the associated community, whereas the out-group would not take these into consideration (Vandkilde 2023, p. 61).

2.5 Conclusions

This leads to the issue of whether genocidal acts were involved when Steppe-related pastoralists expanded into Europe. Thus, the key issue is whether an archaeological site that presents itself as a massacre can be argued to be a possible genocidal act and what theories and methods we can utilize to show these distinctions.

3. Theoretical framework

The theory of emotions and senses adds an additional dimension to the discussion of applying the term genocide to prehistoric contexts. With this additional perspective, emotions and the subsequent actions of the perpetrators and the survivors from the targeted group can be analyzed and discussed. Because of this, this thesis will apply theories of emotion and senses to better understand the emotions that arise after a violent event such as genocide. So if acts of genocide are confirmed, to what extent can we use the theory of emotions and senses to interpret them? To understand certain phenomena, e.g., reburial and others that may occur after acts of violence, such as genocide, the theoretical framework concerning emotions is applied. This dedicated chapter aims to contextualize emotions within the three chosen case studies.

3.1 The introduction: Emotions as a theory in archaeology

Emotions play an important role in the human experience, and despite the topic being hard to theorize, their importance should be recognized within the field of archaeology. Depriving emotions of their central role in archaeological research deprives us of a significant aspect of the human past. The emotional aspect has been an established part of several research disciplines (Tarlow 2000, p. 713). Incorporating theorizing emotions within archaeology would entail an interdisciplinary approach that considers their diversity and connections to human biology. Involving the field of archaeology in the scholarly debate on emotions had little impact when the article “*Emotions in Archaeology*” was published, a circumstance the paper aimed to change, and the possible contributions archaeology could provide should not be disregarded (Tarlow, 2000, p. 713). The publication (Tarlow 2000) argues for the importance of researching and understanding emotions in the past, and how this can provide archaeologists with a rationale for their work, as well as presenting the possibility of applying theories of emotions and senses within archaeological research, due to the inability to separate emotion from cultural and social meaning. Tarlow (2000) presents various aspects of emotion and how some of them can add

layers to the study of past societies, and also argues that theorizing emotions is both necessary and possible within the field of archaeology to provide a nuanced depiction of the human experience (Tarlow 2000, p. 713).

3.1.1 Defining emotions as cultural and social constructs

Depending on the discipline, the term "emotion" varies in its definition, and describing or defining an emotion in literature is often simplified, reducing the complexity which the term carries (Tarlow 2000, p. 713). One way around defining the term emotion is to examine the social definition of "we" in contemporary society, thereby gaining an understanding of how emotions are recognized in a collective cultural setting (Leavitt 1996, p. 516). Nonetheless, emotions are not always considered to be purely social and cultural expressions; voices disagreeing with this definition would argue that emotions are physical and individual experiences, grounded in disciplines such as psychology, psychotherapy, and neurology. Furthermore, the term and concept of "emotions" are not necessarily universally recognized (Tarlow 2000, p. 713f.). Several researchers agree that emotions carry cultural significance (e.g., Tarlow 2000, Grima 1992) and are depicted in cultural settings in various forms, shaped by social practices (Tarlow 2000, p. 716). In "*The performance of emotions among Paxtun women*," Grima (1992) states that emotions are a social construct and therefore a performative act, a trait that is learned and meant to serve social relationships, laying the groundwork for social agency. However, Tarlow (2000) disagrees with the suggestion that both absolute discipline over emotion and the display of emotion are intentional, arguing that complete control over emotions simplifies the complexity of human social and personal life (Tarlow 2000, p. 717). A recurring critique of theorizing about and applying emotions to history and past societies is the tendency towards change: morals develop, change, and/or disappear, and emotions follow the same pattern. These changes are shaped by social expectations, signifying that emotions are constituted by the cultural landscape. A unified approach to theorizing emotions has not been reached in archaeology; still, a critical understanding of past emotions is preferred to dismissal (Tarlow 2000, p. 718f.).

3.2 Violence as a human behavior

Violence has been a recurring phenomenon throughout human history, and has been identified from the earliest to the most present time period (Harrod, Martin and Linéard 2013, p. 63). This is evident due to the trauma shown on human skeletal remains from the archaeological record. This stands as proof of violence having been a part of prehistory. The violence depicts the actions which have caused serious harm directed towards each individual. However, analyzing the affected remains provides insight into intentions and behaviors. Understanding the emotions behind the behaviors is important due to their contribution to the context in which the aggression stems from. The information which reveals said violence is not only a physical action but also a social and emotional act (Mitrovic and Mitrovic 2026, p. 1).

Context is vital for grasping the full capacity of human and material remains (Tarlow 2000; Hodder 2012). It can provide significant information that accommodates the understanding of circumstances that lead up to a violent act. Violent behavior is exhibited differently, and is portrayed physically, verbally and emotionally. Understanding the different manifestations of aggression and violence would help researchers create more nuanced conclusions of the past (Mitrovic and Mitrovic 2026, p. 2).

3.2.1 Aggressive behavior

Emotional regulation, cognition, and social context all form and regulate aggressive behavior (Mitrovic and Mitrovic 2026, p. 7). Such behaviors are not unmanageable. Research has shown that regulation of emotions is pivotal in preventing social detachment and is therefore a preventative tool for violence. With that said, despite human regulation of emotions, human history has had a recurrence of aggressive behaviors, and it is clear that violence has played a fundamental part of the human experience (Harrod, Linéard and Martin 2013, p. 63; Mitrovic and Mitrovic 2026, p. 7). Human aggression is therefore understood to be a social behavior (Warburton and Anderson 2015, p. 373). Analysing the correlation between aggressive and

violent behavior and their triggers could provide further insight into the social norms during ancient times and which emotions were acceptable in different social and cultural groups (Mitrovic and Mitrovic 2026, p. 7).

Emotions connected to prehistoric violence can be further understood by analyzing them as a motivation of violence as well as how the aggression is experienced emotionally both by aggressors and those who were targeted (Mitrovic and Mitrovic 2026, p. 7). After a violent act transpired, the perpetrators may experience a variety of different emotions; the individuals may feel satisfaction, regret and/or guilt, while the victims emotionally experience shame, fear and/or anger. When certain emotions are felt, for example hatred, it may be used to justify aggressive and violent behavior without the emotional consequences of experiencing guilt (Garaigordobil 2012). Individual emotions that stem from fear and hatred can be the catalyst for intergroup violence, where hatred within a group has the ability to change social norms, and therefore create institutionalized hostility (Mitrovic and Mitrovic 2026, p. 8).

3.3 Emotions in times of violence and burial contexts

Victims of violence often experience fear, anxiety, depression, and anger, yet emotional expressions such as hatred and anger are often overlooked in research on prehistoric violence. Emotions related to burials in prehistoric times can be analyzed in two stages: those felt prior to death, such as compassion, empathy, and fear, and those experienced after death, such as sadness, sorrow, fear, and anxiety. The treatment of the deceased provides insight into past emotions, and placement in mass graves may indicate intimate relationships among individuals. The loss of a loved one generates grief-related emotions such as sadness, fear, and anger, recognized as basic emotions with meaning in prehistoric contexts. Funeral practices help survivors process grief, create spaces for emotional expression, and foster a sense of belonging, which is crucial for healing (Mitrovic 2024, pp. 731, 737ff., 743f.). While cultural perceptions of death vary (Beristain, Paez & González, 2000, p. 118), basic emotions such as sadness, fear, and anger remain significant across cultures (Mitrovic 2024, p. 745). This perspective adds to the analysis and interpretation of for example mass graves by providing a deepened understanding of

emotions and thus actions after a violent event, such as genocide. This also contributes to an insight into how emotions can manifest in burial rites.

3.3.1 Rituals, mourning, and collective trauma

Within archaeology, emotions of past individuals are sometimes treated as “commonsense,” based on universal and biological understandings, allowing empathy-based interpretations (Tarlow 2000, p. 719). Burials may carry respectful or commemorative meanings or serve to reassure survivors. In cases of mass loss without the possibility of mourning rituals, chronic grief may occur, though its significance varies across cultures (Beristain, Paez, and González 2000, p. 119). Some research suggests that collective mourning and commemoration have positive effects, though gaps remain in the literature. In contexts such as the Guatemalan genocide, loss is followed by mourning rituals, commemorations, and funerals that create socially acceptable spaces for grief expression (Levav *et al.*, 1988; Beristain, Paez, and González 2000, p. 118f.), whereas lack of such outlets increases the risk of problematic grief (Worden 1991). Collective remembrance and rituals serve social functions by reaffirming continuity, fostering solidarity, and strengthening social integration through shared emotional experiences (Beristain, Paez, and González 2000, p. 119). While hindering emotions can negatively affect individuals, social sharing through mourning rituals helps process trauma, though emotional expression and its effects vary across cultures (Beristain, Paez, and González 2000, p. 119). This emphasizes the fact that in contemporary cases of genocide, the mourning ritual and/or burial of the dead play a significant role for the surviving community. Thus, the care for the dead is a symbolic act that helps process the trauma. These aspects, thus, and the care for deceased individuals, should be considered when analyzing potential prehistoric genocidal events.

3.4 Emotions, death, and archaeology

Researching the process and experience of significant loss, followed by grief, provides insight into the personal experience of losing someone and contributes to data regarding emotional connections to death and mourning (Mitrović 2024, p. 725). This is particularly evident in burial studies, especially in prehistoric research, where human remains are scarce and cultural contexts uncertain. Burials are often studied as testimony to past rituals and religion and used to demonstrate social relations, economic conditions, and hierarchy (Mitrović 2024, p. 725). More broadly, the loss of a loved one is among the most stressful experiences in life (e.g., Lazarus and Folkman, 1984; Monroe, 2008; Cohen, Murphy, and Prather, 2019), and similar conclusions apply to prehistoric times, affecting both individuals and communities, although responses vary culturally and individually (Mitrović 2024, p. 726). Emotions stem partly from biological factors and are therefore innate, but are also shaped by cultural aspects and social norms, and can manifest collectively (Mitrović 2024, p. 727). Spikins (2015) notes that compassion, tenderness, trust, and morality have played important roles in human development and survival (Spikins 2015). Evolutionary psychology has explored basic emotions experienced across cultures, though their number is debated, ranging from a few (happiness-sadness, pain-pleasure) to as many as eighteen (Mitrović 2024, p. 732), each differing in behavioral responses, intensity, and evolutionary function, and developing over time (Sroufe 1996).

Emotions are not only individual but also collective. When members of a group share strong emotions and interact, they collectively display them and reinforce group identity. There is a distinction between individual and collective emotions, as well as between collective and group emotions (Mitrović 2024, p. 734). Collective emotions are shared societal responses (Von Scheve and Ismer, 2013) that require participation in the same event, whereas group emotions require strong identification with and belonging to a group (Mitrović 2024, p. 744).

4. Research design

This thesis explored the possibility of applying contemporary discourses regarding genocide to prehistoric cases. The chosen sites were considered with regards to the “spectrum of violence” presented in Chapter 2, subchapter 2.4.1. In this way, by following the UN’s definitions of genocide and a broad understanding of different shades of prehistoric violence.

By performing a comparative study that consists of three case studies, two of which involve prehistoric massacres, which were compared to a contemporary massacre that falls within the definition of genocide. Nonetheless, the contrasts and similarities were put on display and compared with the UN’s definition of genocide and with the definition provided by The Oxford English Dictionary (UN; Oxford English Dictionary, 2023). This chapter presents the chosen material, which was selected to answer the research questions within this thesis.

The definition, as seen above (see chapter 2) provides a framework in which the term genocide is identified as a structured violence which targets a specific group, a term that additionally includes other forms of destruction as well (UN). An in depth understanding of the intentions of individuals in the past is a highly complex matter. The remains from past societies give an insight into individuals’ wants and motivations, still each material and prehistoric remains are a part of interpretation made by archaeologists and/or other researchers. Yet, the diversity within human intention makes intended violence and other human motivation difficult to interpret (Currie 2016, p. 87ff.). Thus indicators of genocidal violence may be detected through a comparative analysis, and the observation of aspects such as trauma and burial practices.

All three case studies were geographically limited to the region of present-day Poland to focus on a single, coherent region. It must be noted that by including studies from other countries and regions may have provided a broader understanding and possible application of the findings. However, other geographic areas may exhibit regional differences in patterns of prehistoric violence. Regardless, the ability to incorporate additional publications with more limited access (such as those solely in Polish) helps broaden the understanding and strengthen the body of

knowledge surrounding the topic and solidify the chosen region with a full body of research. Further incorporation of additional perspectives would deepen understanding about this topic, and this thesis aims to do so. This may also support the introduction of broader geographic scopes beyond those found herein and, with proper research, will only strengthen the conclusions regarding the identification of potential prehistoric genocide. Despite the geographical restriction, we have sufficient examples to analyze genocide, with the potential for further analysis as the geographic scope expands.

4.1 Methodology

This thesis adopted a qualitative approach, providing the foundation for a comparative analysis of the three chosen case studies. A qualitative approach was considered appropriate for this thesis because it could identify similarities and differences among prehistoric genocidal cases, enabling the identification of recurring patterns that may indicate genocidal events across both prehistoric and modern contexts. In addition, the comparative analysis is deemed suitable for interpreting the archaeological evidence, given the complexity of applying the term "genocide" in prehistoric contexts. The thesis' usage of comparative methodology provided a tool for analyzing patterns of violence across the three selected case studies - Chojnice, Koszyce, and Sadowie - all of which are massacres that took place in modern-day Poland, thus in the same regional context. Each case study underwent a comprehensive analysis. The similarities that consisted of contemporary genocidal acts - such as patterns of trauma and reburial rituals - were systematically compared to emphasize the recurring patterns of the selected prehistoric cases of mass violence and contemporary genocidal practices.

The recurring patterns, that were identified were then analyzed in relation to the present-day definitions of the term genocide, such as those established by the United Nations (UN) as well as with the theory of emotions. That is because the treatment of bodies is fundamental for understanding the intimate relationship between the living and the dead, the bodies of the departed represent the most direct connection. Hence, the manner in which the living treat said corpses can elicit aspects of the emotional gravity which these interactions hold (Pearson 1999,

p. 45). It should be noted that when applying ethnographic analogy to studies involving conflict and thus violence caused by aggression, it should not be used as a direct interpretive implement but as a way to reject or approve possible scenarios. This is done by comparing different possibilities against archaeological context and material (Mitrovic and Mitrovic 2026, p. 1)

4.2 Case studies

Ethnographic analogy acts as the comparative method between the material remains and human culture. It acts as a cornerstone in archaeological hypothesis (Currie 2016, p. 93), and provides an additional layer to the thesis. Therefore the comparison consists of three case studies drawn from the modern territory of Poland.

- The opening example is ethnohistoric - a contemporary genocidal event in Chojnice, Poland, where Poles were subjected to a massacre in the so-called Death Valley. This case study assesses material correlates and evaluates an emotional approach.
- The two other case studies are Koszyce and Sadowie, which are prehistoric massacres, and both correlate with the Steppe-ancestry expansion. Both case studies will be included in a comparison with the aforementioned genocidal event. Thus answering the research questions that guide this thesis. The mass grave found in Koszyce belongs to the Globular Amphora culture, whereas Grave 6 in Sadowie belongs to the Złota culture and is distinguished by its unique burials. Both case studies will be included in a comparison with the contemporary example.

In this thesis, the modern day example of Chojnice was used as a stepping stone for additional archaeological interpretation, and to approach death, in these cases, with additional perspectives which can provide a framework of human actions that may have transpired and help us explain the past and those actions (Pearson 1999, p. 44). The comparative analysis permits both comparisons between the prehistoric cases and between prehistoric and modern cases of mass killing, as well as an observation of specific behaviors. This approach provided the basis for assessing whether criteria associated with the term and definition of genocide would be

meaningfully applied to prehistoric contexts. Thus, the 1945 case study operated as a bridging argument, used to test or refute the hypothesis that genocidal acts occurred in prehistory as mentioned above. The parallels provided by ethnographic analogies contributed to additional perspectives, and therefore helped to assist in the interpretation of past societies, and therefore provide a bridge between present and past societies (Pearson 1999, p. 20f.). Meaning that ethnography applies modern examples and thus an accumulation of information onto prehistoric cases, the method can help test claims regarding if the evidence originates from systematic, structural or random causes (Harrod, Liénard and Martin 2013, p 65).

The incorporation ethnographical analogies into this thesis, provides a comparative approach that was selected to emphasize the contrast between a massacre that falls within the framework of a genocidal act, and two prehistoric cases that may or may not also be suitable for the terminology of genocide. Examining the contrasts and similarities among the selected prehistoric massacres may therefore deepen the understanding of each case. The number of selected case studies has been restricted due to the availability of cases covering prehistoric mass graves with acts of violence as a distinct feature, the comprehensive analysis performed, and the location of the massacre. Nonetheless, these three case studies were selected because, despite differences in cultural group or time period, similarities were apparent. These cases provide a fitting scope for the interpretation to address the research questions and to test the hypothesis that formed the basis of this thesis.

5. Case studies

5.1 Violence spectrum and potential scenarios of the cases

Identified characteristics related to the definitional placement of Chojnice, Koszyce and Sadowie into the sphere of genocide may also create examples of potential scenarios of violence for each. The previously discussed spectrum of violence provides a range of possible scenarios related to violence, beginning with the presence of violence and ending with genocide. The violence spectrum contains a range based on aspects such as number of victims, the type of violence the victims were exposed to, kinship among the victims, perceived care and presence of the victims' cultural traits. The extent of each and their relative alignment within the spectrum of violence is interpreted, and the analysis of the combination of traits may provide an estimation of where on the spectrum it may fall in the individual cases.

5.2 A mass grave from 1945, Chojnice, Poland

In recent years, the most important archaeological undertaking in Poland has been the research conducted in Death Valley, Chojnice (Kobiałka 2023, p. 314), which reflects a massacre that took place during the Second World War. In this chapter, the three case studies will be presented. Each case study documents a massacre; two of which occurred during the Late Neolithic in Poland and correlate with the expansion of the Corded Ware culture, which includes Steppe-related ancestry.

5.2.1 The site of the massacre

Within the first months of the Second World War, several mass killings transpired at approximately 400 execution sites, including the site at Chojnice. It is estimated that 25.000 -

30.000 individuals lost their lives during this set period of time in Gdansk, Pomerania (Ceran, Mazanowska and Tomkiewicz 2018). This estimate indicates that the killings were twice as high in Gdansk Pomerania as in the rest of the country (Kobiałka 2023, p. 312). Shortly after the Second World War, in June 1945, the area of Death Valley underwent an examination by the Country Committee for Commemorating the Victims of Nazi Crimes. Inspection reports indicate that evidence of burning was found in Death Valley (Kobiałka *et al.*, 2021). Despite this, further initiatives were not undertaken, and the site of Death Valley was cleared of additional investigation, such as exhumations. With time, the memories of the mass killings became myths of the war (Kobiałka 2023, p. 311). The loss of recognition was not the case for all mass crimes that occurred contemporaneously: the knowledge of burning bodies as a method of covering up the traces is documented in several other cases. Due to the lack of time to dig mass graves - January and March 1945 - the chosen method to get rid of evidence of the crimes committed was therefore burying the bodies of the victims (Kobiałka 2023, p. 312).

Records show that the ethnic German officers working under the Third Reich killed hundreds of Poles in Death Valley. The officers committed the mass killing on the outskirts of Chojnice, and after the execution of each individual, their bodies were burned, in order to cover up the crimes (Kobiałka 2023, p. 310). As of May 2020, a combination of disciplines has come together to research the mass killings and the traces left on the site. Simultaneously, a state prosecutor conducted an investigation into the war crimes at the site of the murders (Kobiałka 2023, p. 311).

Just after the war ended, an investigation into the happenings at the site was conducted. The observation confirmed that the perpetrators primarily belonged to an organization with roots in the local pre-war German community, a subgroup of the parapolice *Selbstschutz Westpreussen* (Buchholz 1947). This infamous group was overseen by and operated under members of the SS. The current estimation indicates that several hundred Poles had their life taken away within the time period of the second half of October until the end of November 1939 (Kobiałka 2023, p. 311). Therefore, the mass crimes that occurred in Chojnice were neither a single isolated incident nor a sudden act of aggression (Kobiałka 2023, p. 312). Despite this estimate, only 168 individuals were found and identified after the war (Buchholz 1947).

5.2.2 Emotion in contemporary genocide research

The case of the mass graves in Death Valley, Chojnice, has been depicted in a photo essay; the pictures illustrate the discovery of evidence for the mass killing that occurred in the same place in late January 1945. The purpose of the document “*We Found People...*” - *The Discovery, Research, Experiences and Artistic Documentation of Mass Graves from 1945 in Death Valley in Chojnice, Poland*, is to demonstrate that human remains act as evidence for crimes committed, thus representing evidence too strong to deny. Even if the human remains have been exposed to cover-up attempts, as in the case of Death Valley in Chojnice. Aspects that would be visually presented through photo documentation are an essential part of recording archaeological sites, which, in this case, predominantly involved the exhumation of innocent victims (Kobińska 2023, p. 310). A creative choice that points towards the researchers wanting to emphasize the emotional experience of excavating victims from contemporary contexts.

Informing the families of the victims that their relatives were subjected to horrible crimes caused double-sided emotional reactions; the information brought back pain and sorrow, as well as feelings of relief and the possibility of closure (Kobińska 2023, p. 316). The death of a loved one due to violent acts causes a bundle of emotions to coexist. Grief-related emotions like sadness, are consistent with the emotions the victims’ family felt. As well as the feeling of relief that followed by the knowledge of what happened (Mitrovic 2024, pp. 731, 737ff., 743f.). The victims’ families were committed to the ongoing research and investigation, showing eagerness to provide researchers with DNA samples and documentation that would help advance the case (Kobińska 2023, p. 316). The archaeologist Dawid Kobińska emphasizes that it is their duty to respect the various religious beliefs while uncovering sites of mass crimes. As well as pressing on topics of privilege and honor, to exhume the victims and thus reclaim evidence of crimes committed, and to provide the victims with a dignified burial, one that they deserve (Kobińska 2023, p. 315). Even if the human skeletal remains do not depict the trauma each individual went through, the burning of the bodies as a cover up attempt presents the context needed for an archaeological interpretation. Both Tarlow (2000) and Hodder (2012) emphasize the importance of context when interpreting human and material remains.

5.2.3 Artifacts as proof

During the first day of fieldwork at the site, several artifacts were found, many of which representing evidence of the crimes committed. Metal objects such as bullets, castings belonging to pistols, as well as coins and buttons were found alongside the burnt human remains (Kobiałka, 2022). At a later stage of the excavations, nearly a ton of burnt human remains was exhumed. It became clear that the perpetrators from the *Selbstschutz Westpreussen* burnt the human remains as a deliberate act to cover up the crimes committed (Kobiałka 2023, p. 311). Violent behavior is demonstrated in a variety of ways depending on the case (Mitrovic and Mitrovic 2026, p. 1). In this case, the violence is presented by the direct harm that was caused by the execution identified by the historical context in conjunction with the material evidence of bullets and bullet castings.

Evidence of burnt human remains was found in 2020, but examinations did not proceed. Instead, the area was explored later, during fieldwork in 2021, followed by the exhumation of nearly a ton of human remains that had been burned. Only on rare occasions were bones found without any evidence of exposure to high temperatures. Other finds included artifacts totaling 4000 objects, all excavated from the mass graves and adjacent areas. The objects found vary in value and are items of everyday use, that is, wedding rings of gold, coins, and pocket and wristwatches. Often, the objects were among the bones in the grave, and the fact that valuable items were left behind rather than looted points to crimes committed in haste (Kobiałka 2023, p. 314). Despite the absence of identifiable trauma to the skeletal material itself, other signs of violence exist. As mentioned above, material such as bullets and bullet castings were present among the human remains. However, the absence of identifiable skeletal trauma does not exclude perimortem trauma on soft tissue, injuries which would not be possible for an osteologist to distinguish.

5.2.4 Mass graves and exhumations

At the time of excavations in 2021, the burnt human remains of the individuals from the massacre in 1945 were brought to light. It was clear that the individuals found were people of Polish nationality who were incarcerated by the end of the war. A number of the victims were

associated with Polish Underground organizations and arrested by the Nazis in or near the surrounding area of Bydgoszcz, Toruń, and Grudziądz. The crimes committed by the Nazis in Death Valley were intended to eliminate each victim not only from existence but from history and memory as well (Kobiałka 2023, p. 314ff.). This indicates purposeful intent, with the motivation to abolish each individual. Yet, the actions were not only purposeful but also intended to be deliberately destructive, when understood in the light of motives rooted in Nazi ideology (Ambos, 2009, pp. 833, 836; Kobiałka 2023, p. 314ff.; Vandkilde 2023, p. 60). The purpose- and instruction-based intent resulted in the mass graves found on the outskirts of Chojnice, and the death of 400-500 individuals who lost their lives in one night. For an additional 3 days, the traces of the crimes were covered up. While Poles testified against the crimes committed in Death Valley, over time, the actions had developed into a “war myth”. However, the extended and significant research conducted at Death Valley during 2021 confirmed that the stories about the site were true, with the exhumed bones acting as supporting evidence for the committed crimes (Kobiałka 2023, p. 314ff.).

5.2.5 Table 2, Chojnice

	Chojnice	Koszyce	Sadowie
Number of Individuals:	400-500 individuals	15 Individuals	6 Individuals
Perimortem cranial trauma	<i>Unspecified</i>	All 15 individuals	2 of the individuals
Other Injuries:	<i>Absent</i>	<i>Absent</i>	Heald blunt force trauma, fractures, Arrowhead embedded in the left radius of the forearm,
Embedded weapons:	Bullets and bullet casings	<i>Absent</i>	The arrowhead penetrated the backside of the upper left hipbone,
Spectrum of violence:	Intentional/ Organised Violence Genocide	Intentional/ Organised Violence Possible Genocide	Interpersonal/ Group violence

Physical and Mental Elements of Genocide:	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent
Archaeological correlation:	Mass graves and evidence of trauma,	Mass graves and evidence of trauma,	Mass graves and evidence of trauma, Archaeologically ambiguous
Supporting Evidence:	Mass grave with containing burnt bones, Mass execution and the attempt to cover up the crime	15 individuals all with perimortem cranial injuries, Signs of execution, due to the absence of defence wounds	Mass grave containing six individuals, five of which exhibited signs of trauma due to violence, A majority of the injuries found were perimortem on the individuals, Theories and evidence supporting a reopening of the grave.

Note. 1: Other physical elements of genocide were deemed difficult to prove and are therefore excluded from the tables.

Table 2. The different defined elements of genocide and their possible archaeological correlation applied to the case of Chojnice

To conclude, the table presents several indications of genocide. First and foremost, the mass grave contains a large number of individuals. Therefore, the element regarding *killing members of the group* as well as *causing serious bodily or mental harm to members of the group* is met. Inversely, the physical elements of *deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part, imposing measures intended to prevent births within the group, and forcibly transferring children of the group to another group* have no supporting archaeological evidence and are ultimately unproven. Lastly, the requirement of intent has supporting evidence such as archaeological material, e.g., bullets and casings, which also testifies for the violent acts committed. The historical context in combination with archaeological material provides information that helps illustrate the event that occurred in 1945. The violent acts that transpired are undeniable despite the Nazis' attempt to cover up the crimes committed. These acts stemmed from both purpose based and structural intent, which fulfil the criteria of intent. Within this case, emotions were emphasized by the

archaeologists excavating the site, which was expressed in their work locating the victims' families and documenting the emotions the families expressed after receiving the information.

5.3 Near the Village of Koszyce

In much of Central and Eastern Europe, the Globular Amphora culture (3300-2700 BCE) manifested itself. The interactions between the Globular Amphora culture and the bordering Corded Ware groups and Steppe communities has for long been an unexplored research field. However, the article “*Unraveling ancestry, kinship, and violence in a late Neolithic mass grave*” provides a case study that sheds light on possible interactions between neighboring groups—interactions tinged with violence (Schroeder *et al.*, 2019, p. 10705). Adjacent to the village of Koszyce in Southern Poland, archaeologists uncovered a mass grave dating to the late Neolithic during an excavation in 2011. The detailed study mentioned above presents an analysis of the ca. 5000-year-old mass grave associated with the Globular Amphora culture, which provides an insight into the possible interaction, as well as a foundation to study the possible violent interaction between the group.

5.3.1 The mass grave

The mass grave, per se, contained the remains of 15 individuals, children, women, and men buried with rich burial goods. The nature and location of the inflicted injuries indicate intentional bodily harm (Przybyła, Szczepanek, and Włodarczyk 2013, p. 254). Each individual within this mass grave had been exposed to acts of violence, i.e., all individuals buried had been killed by blows to the head, causing perimortem cranial trauma, being an indicator of a large-scale violent act (Schroeder *et al.*, 2019, p.10705, 10708; Meyer 2019, p. 69). In addition to the violence exhibited on the skeletal remains the grave also shows atypical traits for Globular Amphora graves, such as the absence of stone constructions (Przybyła, Szczepanek, and Włodarczyk, 2013, p. 254). In addition, the buried individuals exhibit an absence of injuries on the upper limbs, thus pointing towards the fact that the individuals were executed after being captured,

rather than involved in a physical altercation with the attacking force (Schroeder *et al.*, 2019, p. 10708).

Furthermore, 16 radiocarbon dates were obtained, narrowing the date of the massacre to 2880-2776 BC. Even though it is impossible to pinpoint the aggressor(s) responsible for the massacre, it is important to note that the killings occurred around the time of the rapid expansion of the Corded Ware complex in Europe. Therefore, it is reasonable to hypothesize that they were victims of a conflict related to territorial expansion (Schroeder *et al.*, 2019, p. 10705). The high frequency of cranial trauma among the victims points towards an aim to deliberately kill the targeted individuals, which is evident in a similar pattern represented in the archaeological record on other sites. A pattern which throughout different time periods has shown the head to be the primary target for intentional killing (Meyer 2019, p. 69).

The interaction between the Globular Amphora culture and bordering Steppe communities may generally have been hostile, an argument that would explain the lack of Steppe DNA in Globular Amphora individuals, as well as the extensive reduction of Neolithic genomic ancestry during that period. Thus, the evidence presented in Koszyce fits the pattern of recurring, extensive violence during specific periods in European prehistory. The reason for the brutal killings is unknown; however, there are theories suggesting that the expansion of groups related to the Corded Ware complex may have resulted in a violent conflict. Thus unknown, the killings have been interpreted by some scholars as a violent consequence of a settlement raid (Schroeder *et al.*, 2019, pp.10705, 10708f.). Violence as an act of confrontation due to resources is a recurrently observed motivation throughout history, and has been used as a way to demonstrate domination with aggression followed by violent acts (Harrod, Linéard and Martin 2013, p. 65).

5.3.2 Kinship and the intentional (re)burial

Schroeder *et al.* (2019) analyzed aDNA to perform kinship analyses of the individuals buried in the mass grave. The genetic ancestry was investigated by merging the 15 Koszyce genomes with 168 previously published ancient genomes, the Human Origins dataset, and nine individuals from the Globular Amphora culture and the related Złota complex subgroup from adjacent sites in modern-day Southern Poland. The sequencing of individuals' genomes demonstrated both

close and extended family connections. As well as a clear distinction from adjacent Corded Ware groups due to the lack of Steppe DNA found when performing an admixture analysis between Early Neolithic farmers, Western European hunter-gatherers, and Early Bronze Age Steppe groups, indicating that the Globular Amphora/Złota group maintained ca. 70% Anatolian Neolithic farmer ancestry and 30% Western European hunter-gatherer DNA (Schroeder *et al.*, 2019, p. 10705f.).

The placement of the bodies, which were positioned with care and intent of kin relationship, has therefore been interpreted as evidence supporting the theory that the deceased individuals have been laid down in the grave beside someone who knew them (Schroeder *et al.*, 2019, p. 10705). The grave was divided into two parts; the southern one contained predominantly female individuals, while the northern one contained males as the majority (Przybyła, Szczepanek, and Włodarczyk 2013, p. 254). The conducted Mitochondrial DNA (mtDNA) analysis showed that the mass grave contained an extended family, revealing various first- and second-degree relatives. First-degree relationships were buried next to or in proximity to each other - a mother holding their child and siblings put to rest side-by-side. The acknowledgment of the individual's family relations suggests that each person was buried by someone who knew them, thereby situating the individual within kinship and highlighting the significance of reproductive relationships within the Globular Amphora culture (Schroeder *et al.*, 2019, p. 10706f.). The placement of each individual was done with care for the deceased, which is depicted by the intentful position of all the victims. The treatment of the people that were killed, indicates the intimate relationship between the buried and the one/ones performing the inhumation. It also indicates a care for the individuals that have demonstrated the emotions expressed through care (Mitrovic 2024, pp. 731, 737ff., 743f.; Schroeder *et al.*, 2019, p. 10706f.).

5.3.3 Table 3, Koszyce

Chojnice	Koszyce	Sadowie
----------	---------	---------

Number of Individuals:	<i>Unspecified</i>	15 Individuals	6 Individuals
Perimortem cranial trauma	<i>Unspecified</i>	All 15 individuals	2 of the individuals
Other Injuries:	<i>Absent</i>	<i>Absent</i>	Heald blunt force trauma, fractures, Arrowhead embedded in the left radius of the forearm, The arrowhead penetrated the backside of the upper left hipbone,
Embedded weapons:	Bullets and bullet castings	<i>Absent</i>	
Spectrum of violence:	Intentional/ Organised Violence Genocide	Intentional/ Organised Violence Possible Genocide	Interpersonal/ Group violence
Physical and Mental Elements of Genocide:	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent
Archaeological correlation:	Mass graves and evidence of trauma,	Mass graves and evidence of trauma,	Mass graves and evidence of trauma, Archaeologically ambiguous Mass grave containing six individuals, five of which exhibited signs of trauma due to violence,
Supporting Evidence:	Mass grave with containing burnt bones, Mass execution and the attempt to cover up the crime	15 individuals all with perimortem cranial injuries, Signs of execution, due to the absence of defence wounds	A majority of the injuries found were perimortem on the individuals, Theories and evidence supporting a reopening of the grave.

Table 3. *Equal to table 2.*

In conclusion, the criteria regarding *deliberate intent* are met by the supporting archaeological evidence of a mass grave containing 15 individuals without any defensive wounds, which entails that the individuals have been captured and thereafter executed. There are other abnormalities, one of which being the atypical traits of the grave, that is the lack of stone constructions

(Przybyła, Szczepanek, and Włodarczyk, 2013, p. 254). An abnormality which could be an indication of rushed work. While intra- and intergroup violence is recognized by the combination of nonlethal and lethal violence (Harrod, Linéard and Martin 2013, p. 64), within this case the lack of defence injuries excludes the theory of the mass grave being a consequence of intragroup violence. As the individuals' heads were deliberately targeted, the killings can be interpreted as executions. Additionally, all individuals in the grave portray perimortem injuries, and most were connected by kin, which meets two of the criteria, that is *killing members of the group* and *causing serious bodily or mental harm to members of the group*.

5.4 Grave 6 in Sadowie, Złota culture

Within the district of Opatów in the northeastern part of Sandomierz Upland, Poland, lies the village of Sadowie. Between 2015 and 2022, archaeological excavations were conducted. The excavations covered a large area and yielded the discovery of 31 graves associated with the Globular Amphora culture, as well as three grave complexes associated with the Złota culture (Pasterkiewicz *et al.*, 2025, p. 1f.).

The Złota culture emerged in the middle of the early 3rd millennium BCE. The phenomenon of the Złota culture is a local occurrence taking place during the Late Eneolithic in the eastern part of the Malopolska Upland. The Złota culture is believed to have emerged from various cultural influences, creating a syncretic phenomenon that drew on the Corded Ware culture, the Globular Amphora Culture, and possibly features of the Baden culture. This time-period was characterized by funerary practices that included key features such as collective burials, which are associated with both the Złota and Globular Amphora cultures. The Złota culture and its burial practices are distinguished by niche graves with vertical shafts and a chamber on one side; in many cases, the graves include a paved floor. Research has shown that individuals in graves with multiple inhumations are interred with close kin or family groups (Pasterkiewicz *et al.*, 2025, p. 1). Examining the burial features provides the necessary background knowledge to pinpoint abnormalities (Meyer 2019, p. 31f.). Those abnormalities can be interpreted as archaeological evidence. Combining the evidence with information gathered from other findings such as

perimortem injuries and weapons provides a deeper understanding of or if a violent event has transpired (Erdal and Erdal, 2012, pp. 78, 89).

One of the graves at Sadowie, grave 6, contained several well-preserved skeletal remains within a chambered construction, allowing for the individualization of the discovered remains. All individuals interred in the mass grave underwent procedures to assess the ante- and perimortem trauma. Five of the six individuals show wounds with an absence of healing, indicating that they were inflicted at the time of death (Pasterkiewicz *et al.*, 2025, p.1-4). The discovery of a mass grave, in combination with the findings of skeletal remains displays characteristics of a violent event. The human remains and the trauma demonstrated is direct evidence thereof (Harrod, Linéard and Martin 2013, p. 64).

5.4.1 Grave 6 and the discoveries within

The osteological analysis performed revealed that the individuals exhibit blunt force trauma on multiple crania, as well as other injuries such as penetrating wounds and cuts. It is suggested that the wounds on the remains were caused by flint axes and other tools commonly found in graves associated with the Late Eneolithic (Pasterkiewicz *et al.*, 2025, p. 11). The analysis revealed direct evidence of a transpired violent event (Erdal and Erdal, 2012, p. 78). One of the individuals, the female, had an arrowhead embedded in the left radius of the forearm. Some researchers advocate that such a placement of an arrowhead is the result of the victim shielding herself to protect her head during an attack. An alternative argument is that the arrowhead became embedded in the left radius during an escape attempt, leaving the extended arm exposed. However, the heart-shaped arrowhead embedded in the left radius is associated with the Złota culture (Pasterkiewicz *et al.*, 2025, pp. 6, 11). The embedded weapons in conjunction with defensive wounds are all signs of interpersonal violence in ancient times (Meyer 2019, p. 69).

Another individual from the grave showcased an arrow embedded in its skeleton. The arrowhead penetrated the backside of the upper left hipbone. An interpretation was drawn from the arrowhead's position as an attack during an escape attempt. In contrast to the embedded arrowhead on the female's arm, this arrow is not associated with the Złota culture and is

considered unusual. The flake arrowhead stuck in the Ilium is a rare occurrence in Neolithic contexts, yet it has been found in funeral complexes of the Funnel Beaker culture (Pasterkiewicz *et al.*, 2025, p. 7, 11). When found in Funnel Beaker culture burials, the arrowheads have been interpreted as the cause of death of the victims (Libera and Zakościelna 2006).

It should be noted that occurrences including skeletal remains with embedded arrows are not a common find (Meyer 2019, p. 69), and that a violent impact may often occur only on the soft tissue, leaving no trace on the skeletal remains. Therefore, the third arrowhead found in close proximity to the vertebrae of one individual can be argued to have only affected the soft tissue and might still have been the cause of death. This arrowhead was created from materials and with craftsmanship uncommon in the area and the Złota culture complex. By virtue of the arrows' distinctiveness, they are interpreted as proof of perpetrators (Pasterkiewicz *et al.*, 2025, p. 12).

5.4.2 Relatedness

The evaluation of genetic relatedness identified four males who shared the same Y-chromosome haplogroup. Four out of five men from grave 6 share a haplogroup commonly found among individuals buried at other Late Eneolithic sites, e.g., Koszyce. In addition, all individuals, with the exception of one, belonged to the same mitochondrial haplogroup. When analyzing the relatedness among the individuals in the mass grave, it was found that three of them were first-degree relatives. However, the determination of their relationship, whether sibling or parent-child-based, could not be distinguished. It should be noted that the data excluded the likelihood of first- or second-degree relatives between the four males and the two remaining individuals, nor if they were related to each other (Pasterkiewicz *et al.*, 2025, p.8f.). Among the six buried individuals, one was female. Furthermore, strontium isotope analysis demonstrated that the female had a foreign origin. While three of the males were of local origin, the same men shared both Y-chromosome and mitochondrial haplogroups. All of which support the hypothesis regarding a family burial (Pasterkiewicz *et al.*, 2025, p. 11).

Previous research on well-documented collective Eneolithic graves has evidently shown that they were reused following the secondary interment of new bodies. Therefore, the suggestion that the grave was a family burial and later reused to bury other individuals is plausible. However, the possibility of special circumstances - such as an outburst of violence - resulting in additional interment in existing graves is not an excluded hypothesis, due to the cranial trauma found on five of the six buried individuals (Pasterkiewicz *et al.*, 2025, p. 11). The identification of deviant burial customs could help pinpoint oddities and provide context to the intent behind the violent event (Meyer 2019, p. 31f; Vandkilde 2023, p. 60).

The lower jawbone of almost all individuals was positioned far from the cranial bone, an occurrence interpreted as indicative of post-mortem skeletalization. The scenario involves two separate burials, one of which would include 4 individuals: the female, one male exhibiting mobility, and two men related genetically. The reopening of the grave would therefore be supplementary to the burial of two local men. The first and the second inhumation display evidence of trauma, thus a testimony of violent events. Even if this scenario depicts a primary and a secondary burial without genetic relatedness, it does not preclude a relationship, a close bond, or other social connections between the individuals who shared a grave (Pasterkiewicz *et al.*, 2025, p. 14). Signs of reuse would categorize this grave as a collective grave (Meyer 2019, p. 32), instead of the earlier interpretation, that is a mass grave.

5.4.3 Evidence of violence followed by care for the dead

The remains found in grave 6 are seen as a representation of the violent conflicts of the Late Neolithic. The individuals buried in the Sadowie cemetery showcase interpersonal conflict or even execution. The nature of the injuries and trauma found on the victims is evidence of a violent event, presumably involving multiple attackers. Furthermore, other documented graves associated with the Złota culture also show evidence of violence, as do graves belonging to the Globular Amphora culture, such as in Koszyce. Considering that the chamber was constructed with care and that data from genetic and isotopic analyses provide information on relatedness

and migration, this suggests that members of the affected local community buried the victims (Pasterkiewicz *et al.*, 2025, pp. 12, 14).

However, it should be noted that an alternative explanation exists: the occurrence of two separate violent events. A plausible assumption due to the violent nature of the Neolithic in Central Europe (Meyer 2019). Although the skeletal remains were commingled, the victims' skeletons were nearly intact, with small skeletal fragments preserved from the hands and feet. The analysis of the grave and the remains suggests that the bodies were buried before the decomposition process, and the crania were intentionally placed facing the inmost section of the niche. Still, the disorganization of the skeletal remains is thought to have resulted from a disturbance of the natural decomposition process. Vessels and potsherds within the entrance pit of the grave were all destroyed, providing additional evidence of a reopening of the grave, which would be a possible explanation for the commingling of the skeletal remains (Pasterkiewicz *et al.*, 2025, p. 12f.). This period - the Late Eneolithic/ Early Bronze Age - is marked by a genetic shift in the population linked to the expansion of Steppe ancestry (Haak *et al.*, 2015; Scorrano *et al.*, 2021). For that reason, the individuals in grave 6 at Sadowie and similar cases may have fallen victim to the Steppe invasions and could have even been incorporated into other communities (Pasterkiewicz *et al.*, 2025, p. 14).

5.4.4 Table 4, Sadowie

	Chojnice	Koszyce	Sadowie
Number of Individuals:	<i>Unspecified</i>	15 Individuals	6 individuals
Perimortem cranial trauma	<i>Unspecified</i>	All 15 individuals	2 of the individuals
Other Injuries:	<i>Absent</i>	<i>Absent</i>	Head blunt force trauma, fractures, Arrowhead embedded in the left radius of the forearm,
Embedded weapons:	Bullets and bullet castings	<i>Absent</i>	The arrowhead penetrated the backside of the upper left hipbone,

Spectrum of violence:	Intentional/ Organised Violence Genocide	Intentional/ Organised Violence Possible Genocide	Interpersonal/ Group violence
Physical and Mental Elements of Genocide:	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent	Killing members of the group, Causing serious bodily or mental harm to members of the group, Deliberate intent
Archaeological correlation:	Mass graves and evidence of trauma,	Mass graves and evidence of trauma,	Mass graves and evidence of trauma, Archaeologically ambiguous
Supporting Evidence:	Mass grave with containing burnt bones, Mass execution and the attempt to cover up the crime	15 individuals all with perimortem cranial injuries, Signs of execution, due to the absence of defence wounds	Mass grave containing six individuals, five of which exhibited signs of trauma due to violence, A majority of the injuries found were perimortem on the individuals, Theories and evidence supporting a reopening of the grave.

Table 4. *Equal to table 2 and 3*

The first two criteria demonstrated in the table above are met, due to the majority of injuries being fatal. Almost all buried individuals displayed signs of violence. However, the last criterion, that is *deliberate intent*, is difficult to determine. On the one hand, the perimortem injuries could point towards a deliberate act of violence. Yet, evidence supporting a reopening of the grave and thus a reuse of the burial indicates two separate events. For that reason, this case is concluded to be too archaeologically ambiguous for it to be deemed a genocidal event. In regards to the conclusions about the violence, projectile points and the nonlethal skeletal trauma are an

indication of interpersonal violence. Whether the grave is interpreted as a mass grave or a collective grave changes the archaeological context, and thus the analysis of the violent event.

6. Discussion

Here, the case studies will be compared and discussed, highlighting their similarities and differences. The prehistoric case studies, that is, Koczyce and Sadowie.

6.1 A variety of different acts of violence

While all cases share some similar traits, the circumstances leading up to the final acts of violence differ. Grave 6 in Sadowie contained six buried individuals, five of whom had perimortem injuries, that is, predominantly blunt trauma to the head. The only female individual in the grave displays a debated defensive injury (Pasterkiewicz *et al.*, 2025, pp. 6f., 11). Koszyce displayed similar patterns of violence in accordance with the spread of Steppe-related ancestry. All fifteen individuals interred in the mass grave had been killed by head trauma, similar to the majority of individuals from grave 6 in Sadowie (Schroeder *et al.*, 2019, p. 10705; Pasterkiewicz *et al.*, 2025, p. 11).

Still, there are significant differences between the cases, including the occurrence of defensive wounds and a disputed escape attempt at the site of Sadowie (Schroeder *et al.*, 2019). An aspect that is not prevalent in the mass grave found at the site close to Koszyce. The third case study - the mass grave in Death Valley - contained burnt human remains as well as material evidence of the committed crime, which was found at the site, that is, bullets and casings from pistols. The burning of the human remains acted as an attempt to cover up the events that had transpired (Kobiałka 2022; Kobiałka 2023, p. 311). All three cases demonstrate examples of violent acts, although the events that transpired are all unique. However, some variations between the prehistoric violent events exist.

6.2 On the spectrum of violence

Different types of violent behavior are portrayed within the case studies. To gain a deep understanding of what has transpired, each case is compared to the different categories presented in the spectrum. The spectrum used assisted in the recognition of other possible violent acts, if the case did not fit into the category of genocide. On that note, regarding the case of Chojnice, due to historical sources and thus knowledge about the intent of the Nazis, the mass grave found in Chojnice has clear indications of falling within the spectrum of genocide. Still, not all cases can be direct evidence of *genocide*.

The prehistoric violent event that occurred in Koszyce demonstrates a case of organised violence with intentional physical harm (Schroeder *et al.*, 2019, p. 10705; Przybyła, Szczepanek, and Włodarczyk 2013, p. 254). Taking into the account that 15 individuals were targeted and killed with a deadly blow to the head in combination with the absence of defense wounds suggests that the individuals were executed (Meyer 2019, p. 69; Schroeder *et al.*, 2019, p. 10705, 10708). The high frequency of blunt force trauma has correlations with similar patterns of violence, to which set the foundation for interpreting the site as an organised violent event. Targeting the head of an individual point is considered to be with the motivation to kill the individual (Meyer 2019, p. 69), thus emphasizing the word intent. Which would correlate with the category of *Intentional/organised violence* on the spectrum.

Lastly, in the case of Sadowie, the archaeological material provides direct evidence of an armed attack (Meyer 2019, p. 69; Pasterkiewicz *et al.*, 2025, pp. 6, 11). Defense fractures and projectile points embedded in the human skeletal remains prove intentional bodily harm that has occurred at the site (Pasterkiewicz *et al.*, 2025, p. 11). All these elements match with the descriptions of *interpersonal violence and the category of group violence*. However, oddities defined within the grave have led to there being two different interpretations of grave 6 that complicates the matter of further understanding the events that have transpired (Meyer 2019, p.31f.; Vandkilde 2023, p. 60). The signs that point towards a reuse of the grave, would also indicate that it would have been two events that took place. Small-scale violence would signify interpersonal violence or

violent behavior that has occurred in smaller groups (Harrod, Linéard and Martin 2013, p. 64f.; Meyer 2019, p. 69).

6.3 Genocide or a massacre?

The three presented case studies demonstrate a spectrum of violent acts. Determining what would fall within the terminology of genocide and what is classified as a massacre is a complicated matter when analyzing possible genocidal events in prehistoric contexts. Some lines of reasoning emphasize the difference between genocide being a dispassionate act of violence, while a massacre is the opposite, that is, mass murder led by passion (Keirnan and Vandkilde 2023, p. 60). Whether the killings were committed during an act of passion or not is difficult to prove or disprove in both prehistoric cases. The massacre that occurred in Chojnice in 1945 correlated with the present definitions of genocide and will therefore not be discussed in this chapter.

On the other hand, in instances when the term massacre is defined as an event involving violence performed with a purpose resulting in the death of a significant number of people of a group, a definition that shares certain aspects with some definitions of the term genocide. Where genocide stands out due to the **requirement of intent** (Willey 2018; United Nations; The Oxford English Dictionary 2023). While the concept of intent is difficult to detect in prehistoric contexts due to the absence of written documentation, other methods of recognition could be applied to such cases to identify early forms of pre-state genocide. Previously, in chapter 2, subchapter 2.1.2 *Prehistoric context* three lines of reasoning for the detection of prehistoric genocidal events were defined. The three aspects are the following: Warfare, abnormal graves, and genetics associated with “tribal societies” (Vandkilde 2023, p. 59).

6.3.1. Applying the three lines of reasoning to the two prehistoric case studies

The rapid spread of Steppe genetics is debated to have been driven by technological developments. The innovation of wheeled vehicles, combined with horseback riding, generated a mobile economy. Hence, the invention of chariot warfare laid the foundation for a fast-paced expansion and migration (Allentoft *et al.*, 2024b, pp. 305, 309). This factor would entail an aspect of warfare that is problematic in both prehistoric cases, due to the brutal killings (Schroeder *et al.*, 2019, p. 10705; Pasterkiewicz *et al.*, 2025, pp. 1, 8).

There are indicators of grave abnormalities within the case of Sadowie. For example, five out of six individuals buried exhibit fatal injuries, as well as other injury types such as penetrating wounds and embedded arrowheads. All of which are indicators of violence. Additionally, one of the arrowheads demonstrates foreign craftsmanship, a probable indicator of the perpetrator's violence (Pasterkiewicz *et al.*, 2025, pp. 4, 7f., 11). A common configuration of a grave - a three-person grave - is associated with the Złota culture, in which the individuals inferred are predominantly buried together with close kin or family groups, as is partly the case with grave 6 in Sadowie. However, the nature of grave 6 in Sadowie is ambiguous. Several features characteristic of the Złota and Globular Amphora cultures are apparent in grave 6, including multiple inhumations in a single grave - most typically a three-person grave. Ancient DNA analysis has shown that, in most cases, they were buried together within family groups (Pasterkiewicz *et al.*, 2025, pp. 1, 9).

Whether the mass grave is a result of one singular violent event or rather two separate occurrences of violent acts is currently under debate (Meyer 2019). Since evidence of grave disturbances and reopening is debated, and a possible cause for the destroyed vessels and potsherds found in the grave (Pasterkiewicz *et al.*, 2025, p. 12f.), the Złota culture grave is complex while analyzing the violent events and the possible reuse of the grave.

The case study that presented the mass grave near Koszyce distinguishes itself by several atypical features. First and foremost, the fifteen individuals found within the grave exhibited perimortem injuries, more specifically, blunt force trauma to the head. This signifies one singular

violent event. The lack of defensive injuries suggests that the victims were likely restrained and executed, indicating systematic violence (Schroeder *et al.*, 2019, pp. 10705, 10708). In addition, stone constructions commonly found in Globular Amphora burials are missing in this particular mass grave (Przybyła 2013, p. 254). Yet, the care the individuals received after their passing signifies a concern and respect from the surviving members of the group (Schroeder *et al.*, 2019, p. 10706f.).

6.4 Intent

While the intention of the violent acts in the cases of Koszyce and Sadowie are unknown, the intentions of the Nazis are well known and documented in the case of Death Valley (Kobiałka 2023, p. 314ff.). However, the UN defines genocide as a crime with two elements. As mentioned in chapter 2.1, *Genocide in prehistory*, the physical element of the crime is followed by five acts. Act No. 1: *Killing members of the group* (UN). In both prehistoric cases, the individuals portrayed perimortem trauma, thus bodily harm was inflicted at the time of death (Schroeder *et al.*, 2019; Pasterkiewicz *et al.*, 2025).

In the case of Koszyce, the individuals lack defensive injuries, which are often portrayed in the upper limbs. The absence of wounds, which would indicate an act of defense, signifies that the individuals were executed (Schroeder *et al.*, 2019, p. 10708). If the act of violence was intended, the purpose of the killings is unknown. Still, some researchers interpret the violent events as a consequence of conflict (Schroeder *et al.*, 2019, p. 10705). The interpretation that an execution transpired at the site in Koszyce is based on the absence of defensive wounds on all fifteen individuals (Schroeder *et al.*, 2019, p. 10708). The location of each cranial trauma indicates an intention to harm all individuals who were killed (Przybyła 2013, p. 254). The purpose-based intention behind the execution is unknown; however, could it be argued that the perpetrators understood the damage they caused when committing the act? If so, would this entail that it would fall under a knowledge-based intent?

6.5 Collective past traumatic events

Collective traumatic events of the past carry an abundance of emotions that remain alive and acute within the affected society. The commemoration rituals create an environment to reactualize these emotions. Centralizing the bond with the deceased individual is a way to reproduce the past and, at the same time, to acknowledge a person's social identity. Some scholars (e.g., Halbwachs 1968; Frijda 1997; Pennebaker, Paez and Rimé 1997) argue that rituals following a past traumatic collective event are an effort to obtain a moral lesson from the past (Beristain, Paez, and González, 2000, p. 119).

The collective memory of tragic events is partly constructed by the group through mourning rituals; thus, social sharing intensifies social integration. Tragic events may challenge survivors' belief systems; however, social sharing helps restore self-concept and provides a social space accepting of emotional expression and processing (Beristain, Paez, and González, 2000, p. 119).

6.5.1 Applying contemporary discourse regarding emotions

During threatening situations, such as genocide, emotions are repressed, and silence and emotional inhibition serve as coping mechanisms. The silencing of emotions has a practical aspect: it is a strategy to avoid exposure. After the disaster occurs, the ability to seek emotional relief and the capacity to reflect on past trauma are fostered through the concept of social sharing (Beristain, Paez, and González, 2000, p. 119). The ritual of funerals strengthens emotions and actions that indirectly progress collective memory (Beristain, Paez, and González, 2000, p. 129).

Commemorations and other related rituals have been argued to fall under the umbrella of collective remembrance and therefore support moral self-definition and help consolidate memories of significant events (Beristain, Paez, and González, 2000, p. 119).

It is impossible for us to know how the Globular Amphora culture recognized death within their society. The mass grave indicates care for the deceased, with each individual placed next to or in close proximity to a first-degree relative (Schroeder *et al.*, 2019, p. 10705). However, the death of an individual who belongs to a group entails funerary rituals. The rituals, per se, bring the community together, contributing to the effervescence of emotions through the shared experience of sadness.

6.5.2 The central role of sadness in traumatic events

Certain types of traumatic and violent events, such as genocide, increase the need for mourning rituals. Dangers and repression that affect societies as a whole cause additional social disruption, provoking emotional reactions. Depending on the social function, specific emotions are reinforced to support collective remembering. In grief, sadness is the dominant emotion and a stepping stone to acceptance of loss. Sadness reinforces social bonds and social unity. While the emotion fear also has a leading role within the social climate of a group affected by violence. A strong sense of fear may provoke self-protective behaviors such as flight or flee in the victim of violence (Beristain, Paez and González, 2000, p. 120). Reappropriation of the past is closely linked to emotions such as grief, sadness, and fear (Beristain, Paez and González, 2000, p. 128). Others state that combining aDNA results with other methods, e.g., osteological analysis of potential skeletal trauma, could provide a reconstruction of specific historical events, including the Corded ware expansion and its effects on neighboring Neolithic groups, during the 3rd millennium (Kristiansen 2014, p. 24).

7. Conclusion

7.1 Genocide in prehistory?

Addressing the question regarding population turnover and their potential violent characteristics is central to the discussion of this thesis. The prehistoric cases of Koszyce and Sadowie have met some of the criteria for genocidal characteristics. If the basis granted by the archaeological evidence proves to allow for a strong enough foundation, these tools may prove vital in lending credibility to the development of an application of the term genocide to prehistory.

7.1.1 Results from the case studies

The three case studies presented in this thesis demonstrate how archaeological material, such as human remains, can serve as evidence of mass killings and possible genocide. All case studies presented in this thesis press on the fact that human remains tell the story of the transpired violence. This makes it possible to reconstruct past events and reveal the victims' stories, giving them a voice. The comparative study presented a spectrum of violent acts across all case studies in both prehistoric and modern contexts.

To touch upon the topic of whether each case falls within the framework of a genocidal act or if the term massacre is better suited, the answer is that two of the cases fall within the boundaries of genocide. The most recent case that took place in Chojnice in 1945 is consistent with the modern definition of genocide given by the United Nations (UN) and the Oxford English Dictionary (Oxford English Dictionary, 2023). To apply the contemporary terminology of genocide to the prehistoric mass killings is challenging due to the lack of proven intent. Nevertheless, the case of Koszyce indicates the presence of systematic violence, where the human remains exhibit perimortem trauma, such as the presence of defensive wounds, which points towards an intentional killing. All of which act as evidence of the crimes committed.

Other indicators, such as abnormal burial practices, may result from warfare associated with the expansion of Steppe-related ancestry. To conclude, the case of Koszyce falls within the definition of genocide. Therefore, genocide should be considered to be a possible explanation for the rapid expansion of the Steppe-related ancestry.

The observable practices of reburial and signs of grief in the prehistoric cases of Koszyce and Sadowie can be further understood with the application of contemporary discourse from the theory of emotions and senses. Topics and aspects such as collective trauma, grief, burial rituals, and the collective care shown to the deceased individuals, and the further understanding provided by contemporary research, can provide new insights into the prehistoric cases with genocide-like traits. Within the contemporary case of Chojnice, the planned memorial and reburial of the individuals found in the mass grave emphasize the grief still present in the surviving party and their ancestry. Therefore, the future reburial may serve as a step towards healing the still existing collective wounds.

The surviving party's reburial of the deceased reflects the relationship between the living and the dead. This is particularly apparent in the careful and intentional placement of the dead within the Koszyce mass grave, placing the individuals together in family groups, as well as placing a mother and child in an embrace for their final rest. The theoretical framework provides an understanding of the mass grave in Koszyce. The intentional placement of each individual demonstrates an intimate relationship between the deceased and the surviving party.

7.2 Other violent events

To better understand grave 6 at Sadowie, and where it would be placed if not under the category genocide, a spectrum of violence was presented. The mass grave found in Sadowie is archaeologically ambiguous to fall within the concept of genocide, hence the evidence of violence. The hypothesis regarding the potential reuse of the grave would indicate two violent events and not one mass murder. This would provide a weak case for arguing the possibility of a prehistoric genocidal act. However, both the case of Chojnice and Koszyce meet the criteria for

genocidal events. This spectrum presented two different interpretations depending on if the grave is considered to be a mass grave or if it has been reused and therefore fall under the category of a collective grave. Even if this particular case study did not meet the criteria of a genocide, other important information was extracted.

Violence is demonstrated in different forms and therefore is the interpretation of the site, material and other archaeological context of importance. Details such as if 3 individuals were buried instead of 6 changes the explanation of the site. A spectrum of violence is in cases like these useful to exclude other possible scenarios which helps narrowing the range of interpretations that may exist, and led to the scholars revealing what event may have occurred at the site.

7.3 The future of genocide research

A deeper understanding of migration and violence in prehistory has been extended due to developments through advances in scientific research of DNA and modern day comparisons. The overall aims of this thesis were developed to attempt the creation of a comparative analysis between a historical archaeological example of identified genocidal mass killing and prehistoric sites of mass killings. Doing so would explore the viability of a contemporary comparison with prehistory, including the application of archaeological evidence and science as the cornerstone for the identification for defining characteristics of genocide.

This thesis found that most of the identifying characteristics held by leading institutions which have defined the term genocide were applicable to the prehistoric case study of Koszyce and Sadowie to create a comparison. Still, exceptions on proving “intent” persisted. This exploration of intent proves to be the largest factor of unpredictability for the discourse. However, the extent of mass murder within prehistory still provides a basis for the identification of genocidal characteristics with prehistoric case studies surrounding migration and population replacement. As the research within this topic further advances and the discourse surrounding the identification of genocide grows along with it, additional comparisons between prehistoric mass killing cases and modern cases will most likely increase. How archaeological evidence can form

a basis for a comparison is shown here, and will continue to grow as the scientific advances proceed.

Bibliography

Allentoft, M.E., Sikora, M., Fischer, A., *et al.* (2024a) "100 ancient genomes show repeated population turnovers in Neolithic Denmark", *Nature*, 625(7994), p. 329–337. Available at: <https://doi.org/10.1038/s41586-023-06862-3>.

Allentoft, M.E., Sikora, M., Refoyo-Martínez, A., *et al.* (2024b) "Population genomics of post-glacial western Eurasia", *Nature*, 625(7994), p. 301–311. Available at: <https://doi.org/10.1038/s41586-023-06865-0>.

Ambos, K. (2009) "What does 'intent to destroy' in genocide mean?", *International Review of the Red Cross*, 91(876), p. 833–858. Available at: <https://doi.org/10.1017/S1816383110000056>.

Anderson, C.P., Martin, D.L., and Larsen, C.S. (red.) (2018) *Massacres: bioarchaeology and forensic anthropology approaches*. Gainesville: University of Florida Press (Bioarchaeological interpretations of the human past: local, regional, and global perspectives).

Anthony, D.W. (2007). *The horse, the wheel and language: how Bronze-Age riders from the Eurasian Steppes shaped the modern world*. Princeton, N.J. Woodstock: Princeton University Press.

Bartrop, P. (2002) "The relationship between war and genocide in the twentieth century: A consideration", *Journal of Genocide Research*, 4(4), p. 519–532. Available at: <https://doi.org/10.1080/146235022000000445>.

Beristain, C.M., Paez, D., and González, J.L. (2000) "Rituals, social sharing, silence, emotions and collective memory claims in the case of the Guatemalan genocide", p. 117–130.

Buchholc, W. 1947. "Chojnice w latach 1939–1945." In *Chojnice 1939–1945*, edited by Powiatowy Komitet Uczczenia Ofiar Zbrodni Hitlerowskich w Chojnicach, pp. 12–96. Chojnice, Poland: Powiatowy Komitet Uczczenia Ofiar Zbrodni Hitlerowskich w Chojnicach.

Ceran, T., Mazanowska, I. och Tomkiewicz, M. (2018) "The Pomeranian Crime of 1939". Warsaw: Institute of National Remembrance.

Cohen, S., Murphy, M.L.M., and Prather, A.A. (2019) "Ten Surprising Facts About Stressful Life Events and Disease Risk", *Annual Review of Psychology*, 70(1), p. 577–597. Available at: <https://doi.org/10.1146/annurev-psych-010418-102857>.

Currie, A. (2016). Ethnographic analogy, the comparative method, and archaeological special pleading. *Studies in History and Philosophy of Science Part A*, 55, pp.84–94.
doi:10.1016/j.shpsa.2015.08.010.

Erdal, Y.S. and Erdal, Ö.D. (2012). Organized violence in Anatolia: A retrospective research on the injuries from the Neolithic to Early Bronze Age. *International Journal of Paleopathology*, 2(2–3), pp.78–92. doi:10.1016/j.ijpp.2012.09.014.

Fernandes, D.M. *et al.* (2018) "A genomic Neolithic time transect of hunter-farmer admixture in central Poland", *Scientific Reports*, 8(1), s. 14879. Available at: <https://doi.org/10.1038/s41598-018-33067-w>.

Frieman, C.J., and Hofmann, D. (2019) "Present pasts in the archaeology of genetics, identity, and migration in Europe: a critical essay", *World Archaeology*, 51(4), p. 528–545. Available at: <https://doi.org/10.1080/00438243.2019.1627907>.

Furholt, M. (2019) "De-contaminating the aDNA – archaeology dialogue on mobility and migration: discussing the culture-historical legacy", *Current Swedish Archaeology*, 27(27), p. 53–68. Available at: <https://doi.org/10.37718/CSA.2019.03>.

Furholt, M. (2023). Negotiating power in Neolithic communities: The politics of cohabitation. In: M. Furholt, ed., *Rethinking Neolithic Societies*. Leiden: Sidestone Press, pp.9–291.

Garaigordobil, M. (2012). Psychology of hatred and violence: Definition, explanatory theories, Cognitive-emotional factors, and prevention strategies. In H. R. Cunningham, & W. F. Berry (Eds.), *Handbook on the psychology of violence* (pp. 99–121). New York: Nova Publishing.

Greenawalt, A.K.A. (1999) "Rethinking Genocidal Intent: The Case for a Knowledge-Based Interpretation", *Columbia Law Review*, 99(8), p. 2259. Available at: <https://doi.org/10.2307/1123611>.

Grima, B. (1992). *The performance of emotion among Paxtun women: "the misfortunes which have befallen me"*. 1st ed. Austin: University of Texas Press (Modern Middle East series, no. 17).

Haak, W. *et al.* (2015) "Massive migration from the Steppe was a source for Indo-European languages in Europe", *Nature*, 522(7555), p. 207–211. Available at: <https://doi.org/10.1038/nature14317>.

Heusmann, L. R. (2017) "An integrative theoretical understanding of aggression. In B. J. Bushman (Ed.), *Aggression and violence: A social psychological perspective* (pp. 3–21). London: Routledge. Available at: <https://doi.org/10.4324/9781315524696>.

Hodder, I. (2012) "Entangled: An archaeology of the relationship between humans and things". Wiley. Available at: <https://doi.org/10.1002/9781118241912>

Jackes, M.K. (2004) "Osteological evidence for Mesolithic and Neolithic Violence: Problems of interpretation". p. 23-39. Available at: https://www.researchgate.net/publication/252362826_Osteological_Evidence_for_Mesolithic_and_Neolithic_Violence_Problems_of_Interpretation

Vandkilde, H. (2023) "Genocide before the state?" Kiernan, B. and Vandkilde, H (red). *The Cambridge world history of genocide*. Cambridge, United Kingdom: Cambridge University Press.

Kobińska, D. *et al.* (2021) "An archaeology of 'Death Valley', Poland", *Antiquity*, 95(383), p. 29. Available at: <https://doi.org/10.15184/aqy.2021.109>.

Kobińska, D. (2022) "The Devil Burns Gold There: The Heritage of Nazi Germany Crimes in Death Valley, Chojnice, Poland", *International Journal of Historical Archaeology*, 26(2), p. 359–378. Available at: <https://doi.org/10.1007/s10761-021-00604-9>.

Kobialka, 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), p. 310–327. Available at: <https://doi.org/10.1558/jca.26659>.

Komar, D. (2008) "Patterns of Mortuary Practice Associated with Genocide: Implications for Archaeological Research", *Current Anthropology*, 49(1), p. 123–133. Available at: <https://doi.org/10.1086/524761>.

Kristiansen, K. (2014) "Towards a New Paradigm? The Third Science Revolution and its Possible Consequences in Archaeology", *Current Swedish Archaeology*, 22(1), p. 11–34. Available at: <https://doi.org/10.37718/CSA.2014.01>.

Kristiansen, K. *et al* (2017) "Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe", *Antiquity*, 91(356), p. 334–347. Available at: <https://doi.org/10.15184/aqy.2017.17>.

Lazaridis, I. (2018) "The evolutionary history of human populations in Europe", *Current Opinion in Genetics & Development*, 53, p. 21–27. Available at: <https://doi.org/10.1016/j.gde.2018.06.007>.

Lazarus, R.S. och Folkman, S. (1984) "Stress, appraisal, and coping". New York: Springer.

Leavitt, J. (1996) "meaning and feeling in the anthropology of emotions", *American Ethnologist*, 23(3), p. 514–539. Available at: <https://doi.org/10.1525/ae.1996.23.3.02a00040>.

Lemkin, R. (1944) *Axis rule in occupied Europe: laws of occupation, analysis of government, proposals for redress*. Clark, N.J: Lawbook Exchange, Ltd (Foundations of the laws of war).

Lenzerini, F. (2017) "Intentional Destruction of Cultural Heritage, Crimes Against Humanity and Genocide: Towards an Evolutionary Interpretation of International Criminal Law", *europa ethnica*, 74(3–4), p. 66–72. Available at: <https://doi.org/10.24989/0014-2492-2017-34-66>.

Levav, I. *et al*. (1988) "An Epidemiologic Study of Mortality among Bereaved Parents", *New England Journal of Medicine*, 319(8), p. 457–461. Available at: <https://doi.org/10.1056/NEJM198808253190801>.

Libera, J. and Zakościelna, A. (2006) "Inwentarze krzemienne z grobów grupy południowo-wschodniej kultury pucharów lejkowatych" Libera, J., Sobejko, M. and Tunia, K. (red.) *Idea megalityczna w obrządku pogrzebowym kultury pucharów lejkowatych*. Kraków ; Lublin: Standruk.

Linderholm, A. *et al.* (2020) "Cord Ware cultural complexity uncovered using genomic and isotopic analysis from south-eastern Poland", *Scientific Reports*, 10(1), p. 6885. Available at: <https://doi.org/10.1038/s41598-020-63138-w>.

Harrod, Martin and Liénard, P. (2013). Deciphering Violence in Past Societies: Ethnography and the Interpretation of Archaeological Populations. In: *The Bioarchaeology of Violence*.

Meyer, C. (2019). *Collective Violence in the Neolithic of Central Europe. The Analysis of Human Skeletal Remains from Complex Burial Features*. Johannes Gutenberg-Universität Mainz. Available at: <https://doi.org/10.25358/OPENSOURCE-2010>.

Mitrović, M. (2024) "Beyond the Bones: Emotional Narratives in Archaeological Explorations of Death", *Etnoantropološki problemi / Issues in Ethnology and Anthropology*, 19(3). Available at: <https://doi.org/10.21301/eap.v19i3.1>.

Mitrović, M. and Mitrović, V. (2026) "Archaeology of aggression: Understanding prehistoric violence through material evidence and emotional contexts". *Aggression and Violent Behavior*, 87, p.102135. doi:10.1016/j.avb.2026.102135.

Monroe, S.M. (2008) "Modern Approaches to Conceptualizing and Measuring Human Life Stress", *Annual Review of Clinical Psychology*, 4(1), p. 33–52. Available at: <https://doi.org/10.1146/annurev.clinpsy.4.022007.141207>.

Nagaoka, M. (2020) "The Future of the Bamiyan Buddha Statues – Evolving Conservation Ethics and Principles concerning Intentionally Destructed Cultural Heritage", M. Nagaoka (red.) *The Future of the Bamiyan Buddha Statues*. Cham: Springer International Publishing, p. 3–15. Available at: https://doi.org/10.1007/978-3-030-51316-0_1.

United Nations. *Definitions of Genocide and Related Crimes, United Nations*. United Nations. Available at: <https://www.un.org/en/genocide-prevention/definition> Accessed [27 mars 2026].

Oxford English Dictionary (2023) "genocide, n., Etymology". Oxford University Press.
Available at: <https://doi.org/10.1093/OED/9498633176>.

Pasterkiewicz, W. *et al.* (2025) "Bioarchaeological insights into Late Eneolithic violence: Analysing a grave from the Sadowie cemetery, Poland", *Journal of Archaeological Science*, 177, p. 106185. Available at: <https://doi.org/10.1016/j.jas.2025.106185>.

Pearson, P. M. (1999). *The archaeology of death and burial*. Stroud: The History Press.

Przybyła, M.M., Szczepanek, A. and Włodarczyk, P. (red.) (2013) *Koszyce, stanowisko 3: przemoc i rytuał u schyłku neolitu*. Kraków : Pękowice : Wydawnictwo i Pracownia Archeologiczna Profil-Archeo: Stowarzyszenie Archeologów Terenowych "Starter" (Ocalone Dziedzictwo Archeologiczne = Saved Archeological Heritage, t. 4).

Rubinstein, W.D. (2004) "*Genocide*". Hoboken: Taylor and Francis.

Schroeder, H. *et al* (2019) "Unraveling ancestry, kinship, and violence in a Late Neolithic mass grave", *Proceedings of the National Academy of Sciences*, 116(22), p. 10705–10710. Available at: <https://doi.org/10.1073/pnas.1820210116>.

Scorrano, G. *et al* (2021) "The genetic and cultural impact of the Steppe migration into Europe", *Annals of Human Biology*, 48(3), p. 223–233. Available at: <https://doi.org/10.1080/03014460.2021.1942984>.

Shaw, M. (2007) "*What is genocide?*" Second edition. Cambridge, Malden, MA: Polity Press.

Spikins, P. (2015) "*How compassion made us human: the evolutionary origins of tenderness, trust and morality*". Barnsley, South Yorkshire: Pen & Sword Archaeology.

Sroufe, L.A. (1996) "*Emotional Development: The Organization of Emotional Life in the Early Years*". 1:a uppl. Cambridge University Press. Available at: <https://doi.org/10.1017/CBO9780511527661>.

Tarlow, S. (2000) "Emotion in Archaeology", *Current Anthropology*, 41(5), p. 713–746. Available at: <https://doi.org/10.1086/317404>.

Triffterer, O. (2001) "Genocide, Its Particular Intent to Destroy in Whole or in Part the Group as Such", *Leiden Journal of International Law*, 14(2), p. 399–408. Available at: <https://doi.org/10.1017/S0922156501000206>.

Torres-Rouff, C., Junqueira, M.A.C., 2006. Interpersonal violence in prehistoric San Pedro de Atacama, Chile: Behavioral implications of environmental stress. *American Journal of Physical Anthropology* 130, p. 60–70.

Vai, S. *et al* (2021) "How a Paleogenomic Approach Can Provide Details on Bioarchaeological Reconstruction: A Case Study from the Globular Amphorae Culture", *Genes*, 12(6), p. 910. Available at: <https://doi.org/10.3390/genes12060910>.

Von Scheve, C. and Ismer, S. (2013) "Towards a Theory of Collective Emotions", *Emotion Review*, 5(4), p. 406–413. Available at: <https://doi.org/10.1177/1754073913484170>.

Watson, C. (2024) "Ancient DNA Reveals a Tragic Genocide Hidden in Humanity's Past", *ScienceAlert*, 17 February. Available at: <https://www.sciencealert.com/ancient-dna-reveals-a-tragic-genocide-hidden-in-humanitys-past> Accessed [03 maj 2026].

Worden, J.W. (1991). *Grief counseling and grief therapy: a handbook for the mental health practitioner*. London: Routledge.

Warburton, W. A. and Anderson, C.A. (2015). "Aggression, Social Psychology of," *International Encyclopedia of the Social & Behavioral Sciences* (Second Edition), p.373-380. Available at: <https://doi.org/10.1016/B978-0-08-097086-8.24002-6>