TECHNOLOGY AND RISK – BRONZE AGE HOARDS AS A FORM OF RISK MANAGEMENT

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Bronze Age hoards have been a prominent feature of archaeological research for over one hundred years and as such a topic of different interpretations. Focus has been and is often put on the question whether profane or cultic reasons and intentions should be seen behind the depositions. This paper aims to show that the hoarding practice can also clearly be seen as a form of risk management and an expression of coping with risks, whether those are encountered on an everyday level or as selective actual threats. The range of potential risks spans from maybe predominantly "economic" to also significantly "metaphysical" ones. The paper touches on the role of bronze as a valuable material and a significant form of property. While the raw metal could be remelted and used for many purposes, artefacts in object form carried an individual and symbolic value and meaning. This paper is based on the preliminary analysis of the Late Bronze Age/Urnfield hoards Attersee I–IV excavated at Buchberg im Attergau in Austria as part of the BeLaVi – project in 2019. The deposition of these hoards likely represents a protection of goods connected to the experience of a "historical" threat. This paper will present the case study, the composition and nature of the hoards, and discusses and contextualises the ideas involved.

INTRODUCTION

New technologies typically create new risks, and the bronze technology that developed at the advent of the Bronze Age (BA) was no exception. As the technology and its potential evolved, the risks followed suit. The potential risks involved ranged from those on an everyday level to selective actual threats. Beyond the physical safety hazards of production (which logically played a role), the significant risks were probably seen as both "economic" and "metaphysical". Besides the emergent economic value of bronze as a material the bronze artefacts also carried significant symbolic and/or individual meaning, based on specific object biographies. This paper aims to discuss the role of bronze as a valuable material and property, and show, based on the case study of the Attersee hoards from Austria (Fig. 1; 2), found during the BeLaVi – project in 2019, how the intentionality behind the creation of BA hoards may be seen in terms of risk management.

The paper will discuss general and basic definitions of hoards with special reference to European research histories, and outline the current consensus understanding. Through this, potential problems or deficiencies within the terminology can be investigated and discussed. As with many discussions of archaeological phenomena, maintaining a separation between analytical terminology, used by us in a disciplinary setting to describe qualities, quantities, contexts and relationships, and an interpretive terminology, which aims to uncover original intentionalities, and therefore understand internal dynamic processes, is a significant challenge. Thus, the question of changes or improvements to terminology will be addressed. These questions include the issues whether we need new terms, and whether there are any alternatives.

In a next step the case study of the Attersee hoards I–IV will be presented, focusing on Attersee I (*Lane 2020*). The section will attempt to illustrate that the creation of bronze hoards can be a clear reaction to risks people encountered. It will be shown that the perceived risks were of different kinds and also reacted to in different forms or ways by the people, although within the same cultural practice, namely the

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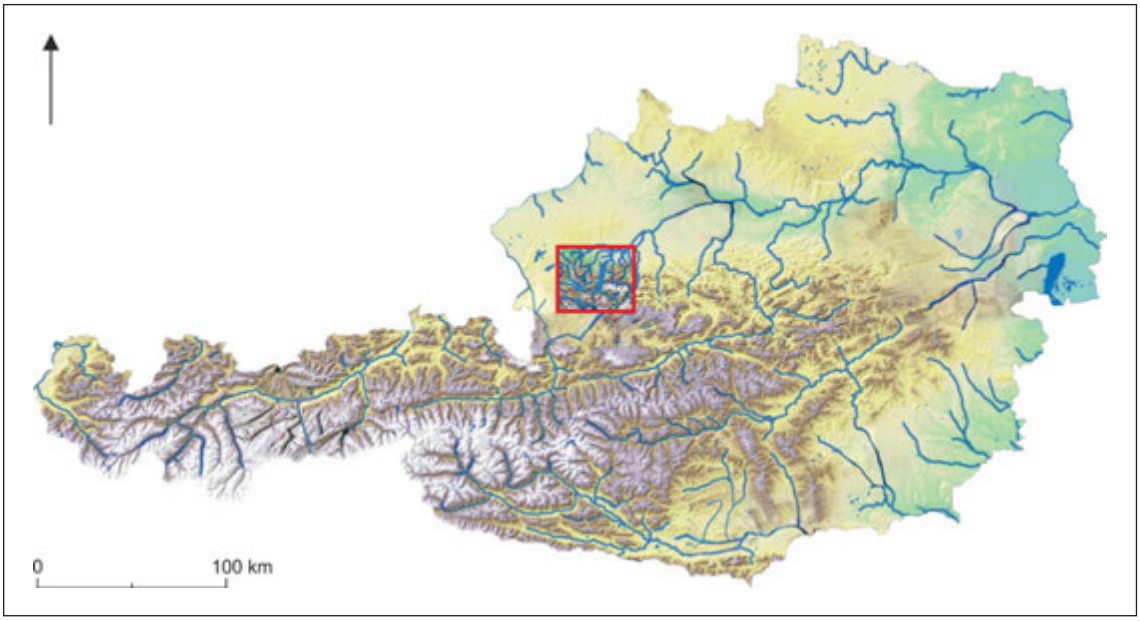

Fig. 1. Map of Austria, the region of Attergau highlighted within the square in southwestern Upper Austria federal state. Map compiled by J. Klammer (*Kowarik et al. 2020*).

practice of depositions. Additionally, the suggestion will be made that the Attersee hoards are examples of partly successful, but also partly failed, risk management.

The intentions and behaviour behind hoards have been a focus of Bronze Age research from the very onset of engagement with this find category. Originally hoards were interpreted in profane ways, one just has to think of common expressions like "smith's hoard" or "merchant's hoard" (*Brück 2016*, 76; *Eggers 2010*, 265, 266; *Eggert 2012*, 80–82; *Hansen 2002*). These cases would be seen as storages of raw material or wealth often connected to times of crisis. An alternative view that developed focused on the metaphysical dimension behind hoards, seeing the majority of the find category as offerings and votives, or sacrifices as part of rituals. These two views, over the course of research history and up until modern days, developed into positions that are no more alternative but can almost be seen as an opposition. And in many cases, there is a strict segregation of these two sides, which does not allow for a syncretism of both. An often underexploited area of hoard studies has been metrology. While artefact forms with perceived proto-monetary status (*Ialongo/Lago 2021*; *Sommerfeld 1994*) are often weighed, more variable material may often be left out of the analysis (*Taylor 1989*; *Vickers 1989*; *2016*).

Modern research not solely but heavily favours a ritual interpretation of hoards, seeing them at the centre of ritual behaviour and as a material expression of such. A very common aspect currently discussed is fragmentation and the presence of fragmented objects in hoards. In the past archaeologists tended to distinguish very clearly between hoards associated with dryland and wetland contexts (*Brück 2016*, 76). Fragmented objects were mostly found in dryland hoards and interpreted as material accumulated for recycling, which was stored until further use. On the other hand, exquisite objects like complete swords are often retrieved from wetland contexts like rivers, lakes and bogs and explained as offerings to the gods (*Brück 2016*, 76). The dichotomy between "profane/functional" and "ritual" as backgrounds for hoards could not be more obvious.

J. Brück (*2016*, 78, 79) demonstrated though that fragmentation of objects in hoards can also be connected to wetland situations, for example bogs. She presents an example of a hoard in Devon, England, which contains fragmented weaponry that was deliberately cut prior to deposition. She interprets these objects as having been ritually decommissioned and placed in a location they could not be retrieved from. She recognises the symbolism in this behaviour and suggests that this practice could be seen as a way of signifying the end of a certain phase in human life, such as the death of the original owner of the objects.

R. Bradley (*2017*, 23, 24) picks up on similar ideas and discusses and criticises the distinction between dryland and wetland hoards. Moreover, he focuses on the importance of the topography of depositions

Fig. 2. Attergau (Austria), topographic view of the area around Buchberg. Map compiled by J. Klammer (*Kowarik/Maurer/Taylor 2015*).

of offerings and them often being uncovered at "strange", "special" or "sacred" places (*Bradley 2017*, 160–179). The significance of water in all its forms – moving water, confluences, lakes, pools, springs, bogs, wet ground – is highlighted again as it often forms places of such special importance. Some features may even bring land and water together like ponds and wells, while other places of deposition may not actually be in or right next to water but could still be in close contact with it, for example a deposition on a mountain top from which the course of a river can be overlooked (*Bradley 2017*, 172–176).

Although these observations are obviously very important and useful, the way the word "ritual" is used in this context, and the whole profane versus ritual dichotomy, is problematic. It must be questionable whether, in most prehistoric communities, there have been strictly secular activities (as understood in our terms) without some degree of rituality and symbolism to them. Vice versa ritual behaviour would probably not have been purely spiritual, it also had practical aspects to it. *P. Budd* and *T. Taylor* (*1995*) showed that in their paper by highlighting the magical, ritual, and symbolic aspects of (early) metal-making besides the obvious economic dimension to it. They ascribe a "ritual" or "religious" role to the smith, which is incorporated into the secular activity of metal-making/metal-working, based on the fact that "in non-literate societies, complex procedures are necessarily ritualized" (*Budd/Taylor 1995*, 139).

The same argument can be made for and used to explain the frequent occurrence of fragmented objects, very often weaponry, in wetland hoards. We need not think of an obscure religious activity, however. That is a picture and problem the use of the term "ritual" creates because it transports and projects our modern values, preconceptions, and ideas onto the past. "Ritual" or "ritual behaviour" is an etic category we apply to describe what we think to be the intentions behind hoards, but the emic reality of things may have looked very different. The fragmentation of weaponry found in water bodies does

not necessarily have to be seen as the output of a religious "ritual", linked to for example the death of the owner of the objects – almost like some funerals are designed to be today.

Alternatively, it should be suggested that the weapons were deposited to take them out of use. They were bent or fragmented to make sure they could never be used again. Throwing them into a water body makes it very hard or almost impossible to retrieve them and potentially take them into use again. Let's just imagine a war band having defeated an enemy and looted the opponent's weaponry. They would have made sure that these weapons were never used against them again, therefore bending or breaking them and making sure they can almost not be gotten hold of again. Now this may very well have and most likely did involve a ritual component or act, just as P. Budd and T. Taylor (*Budd/Taylor 1995*) demonstrated for smiths and the making of metal. In fact, the deposition of the weapons is not only a way to make them dysfunctional but at the same time also a sacrifice to some kind of war deity. And this sacrifice acts as a device for the decommissioning, regarding what P. Budd and T. Taylor (*Budd/Taylor 1995*, 139) said about complex processes being ritualised. This is obviously not the sole explanation for all wetland hoards, alternatively it would be possible that war in the Bronze Age involved sacrificing the opponent chief's (and possibly his followers) weapons or only a part of the obtained material (*Randsborg 1995*, 47, 74).

An example for a case like that would be the Iron Age sacrifice of Hjortspring in Denmark, which was discussed by *K. Randsborg* (*1995*). This is not the occasion to go into too many details of the material, or of Randsborg's interpretation (which contains certain potential contradictions), but some information is necessary. The Hjortspring sacrifice consists of a wooden boat, 11 single edged swords (of which 8 are complete), 169 spearheads (138 of iron, 31 of antler/bone, many are much worn) and wooden shafts, several mail-coats, 64 wooden shields, and a number of other various items not as relevant for this paper (*Randsborg 1995*, 21–37). *K. Randsborg* (*1995*, 74, 75) sees the find as representing the enemy spoils from a battle, but also stresses that it is not possible to decide if this would be the whole equipment of the opponents or only a part of it. Randsborg draws a connection by using modern examples to highlight the theme that the winners could not reuse the enemy weapons. To further his point, he interprets the Hjortspring sacrifice as necessary gifts to a range of deities as part of war activities. In this example the syncretism between economic (destruction of opponent weapons) and ritual behaviour becomes wonderfully clear.

THE TERMINOLOGY OF HOARDS: IS THERE A PROBLEM?

Hoard finds are one of the basic find categories of Archaeology and therefore have been a central topic from early on, especially in Bronze Age research. In recent years they have come into focus again, concentrating primarily on interpretations and examining possible rules and structures behind the bigger picture of the act of deposition. Besides this aspect the search for appropriate definitions and terminology, describing and denominating the phenomenon in all its variants, has held a principal place in past research. This search for a consensus was marked by an obvious struggle to come to satisfying results, it led to the synonym usage of terms for one phenomenon – "Hortfund"/"hoard find" and "Depotfund"/"depot find" – and definitions that were seen as lacking. There are, indeed, other connected terms, such as "cache" (more familiar in discussions of Upper Palaeolithic contexts) and – less commonly – "trove" and even "treasure" (the Troy treasure). It can be argued that the specific contents of such varied terms are often rather hidden, and they are deployed more for reasons of familiarity than because their meaning has been clearly fixed following well-argued agreement. It is true that the objective term "structured deposition" is available, and hoards are recognized as belonging to that category, but the term is very general, and applied equally to grave contexts and many other deliberately organised deposits. However, although many feel displeased with our common definition and the terminological situation (maybe rightfully so), no alternatives are in sight. To understand why that is the case one must take a quick but deeper look at history and development of hoard research.

The first one to introduce the term "Depotfund" into archaeological terminology was *S. Müller* (*1897*) at the end of the 19th c. The differences to our modern and current definition – which will be laid out further down – are obvious. *S. Müller* (*1897*, 423, 424) clearly distinguishes between "Depotfund" and "Opfer- oder Votivfund" (*Eggert 2012*, 78). He bases this division on the character and the connected interpretation of the finds. Anything that was deposited with an intent to be retrieved again for him

qualifies as a "Depotfund", whereas depositions of sacrificial intent or character are termed "Opfer- oder Votivfund" (*Eggert 2012*, 78; *Hansen 2002*, 91, 92; *Müller 1897*, 423, 424).

O. Montelius (*1903*) touched on the topic as well. He was primarily concerned with his chronological studies but in his definition of a closed find, which is a cornerstone of archaeological theory, he mentions depot finds as one kind of closed find. Even though he is not focused on hoards per se he makes very important remarks. He makes it clear that hoards of a different age can be found close together but need to be examined individually (*Hansen 2002*, 91; *Montelius 1903*, 10, 11). Moreover, he states that not all hoards are necessarily closed finds.

The term "hoard" originated in English research but was introduced into German investigation as "Hort" or "Hortfund" by H. Seger in 1936 (*Hansen 2002*, 92; *Seger 1936*). He defined the new term based on Grimm's German dictionary and favours it over "Depot", which he sees as inadequate (*Eggert 2012*, 78, 79; *Hansen 2002*, 92; *Seger 1936*, 86). "Hort" then went on to be the most used term in German prehistoric archaeology on the matter.

H. J. Eggers (*2010*, 265–267) offers another definition of hoards, for which he closely leans on graves and settlement finds. He mentions that hoards (and graves) contain a positive selection of material types, meaning that the people chose the deposited objects with intent and reason – unlike settlement finds, which form a negative selection, because they are for example what has been left behind during/after abandonment. The reasons behind the deposition though are unknown – as opposed to graves or settlement finds, for which the reason is clear – and open for discussion and interpretation. *H. J. Eggers* (*2010*, 288) builds his definition on the fact that types found in hoards in one region, may be found in graves in other areas (*Hansen 2002*, 92).

Further well-known definitions were put forward by *B. Stjernquist* (*1962–1963*) and *H. Geißlinger* (*1984*). Both are of negative character as they do not (or only partly) tell what hoards are and rather exclude what they are not – grave and settlement finds (*Eggert 2012*, 78). The struggle to find a straightforward positive definition is rooted in the various possible intentions and interpretations behind the sum of hoards and the cultural practice of depositing them (*Eggert 2012*, 78). It becomes clear that better alternatives can only be found if these questions are to be addressed, rather than purely terminological ones.

M. K. H. Eggert (*2012*) and *N. Müller-Scheeßel* (*2002*) offer two of the most current definitions of hoards. *M. K. H. Eggert* (*2012*, 78–80) gives a positive one but does not address the question of single object depositions in it. He elaborates on that later and suggests the sub-groups of closed hoards, non-closed hoards, and single object depositions with hoard character. *N. Müller-Scheeßel* (*2002*, 482) includes single object depositions in his definition but also connects it to grave and settlement finds. The question of what to do with single object depositions will be addressed further below.

The most recent definitions just presented are mostly what we work with today. There are still people that are unhappy and unsatisfied with the status quo, whether the weaknesses they perceive are to be found in the terms used, the synonym usage, or the content of the definitions. The short excursion into research history clearly shows though that this perceived weakness is rooted in our insufficient understanding of the thought processes and intentions behind hoards as a widespread cultural phenomenon but also on the level of each individual hoard. And that means there is not going to be any better alternatives for the time being, we can only improve our definition and terminology if we keep gathering more data on hoards to investigate and improve our interpretations.

One slightly critical point towards the terminology should not be neglected though. The terms "hoard"/"Hort" and "depot" are clearly interpretive terms, they carry a meaning and evoke a certain picture or preconception in our mind, based on our training and personal experience. Per se that is not a problem when it comes to denominating a phenomenon. But it becomes problematic when it influences our initial interpretations of finds.

When encountering a find that in the end will be classified as a hoard there is a process of realisation as earth is removed and the amount of material is progressively revealed. The conception that this is a hoard takes mental form but one still does not know about the find context yet, how deep the pit is, how many objects are present exactly, what kind of objects are in there, or what else may appear. By that a mental preconception is created and the find has been interpreted, even though that was not an explicit intention. You have narrowed your vision and influenced your colleagues, fixing your mind on the idea of a hoard and blocking out at least some of the alternatives.

We are used to common everyday terms that can be found anywhere in archaeological research and literature but often do not even realise what they may be carrying with them as unwanted conceptual baggage. Instead of separating the analytical and interpretive levels we often skip the steps in between,

which can result in premature and suboptimal interpretations, if not to say bad or wrong ones. Therefore, we always must be aware of the terminology we use and what it transports, building our interpretations step by step starting on an analytical level and narrowing it down continuously.

Our terms "hoard" and "Hort" respectively are no exception. They put us on a path that skips a few steps. On an analytical level the find we encountered on excavation in our example is nothing more than a structured deposition of several bronze objects. That is a descriptive term, which sets us off on the analytical level and allows us to carefully work towards an interpretation. Could this be the coveted replacement for our common terminology? In theory it sounds like a perfect fit, and it would most certainly be helpful. But throughout the history of Bronze Age research on hoards we have seen various alternatives be suggested but ultimately fail because they either turned out to be mere synonymous terms and did not bring any improvement or were too unwieldy to be commonly used (*Hansen 2002*, 94, 95). In practice "hoard" and the German "Hort" have been used for many decades and taken hold in research and literature. Replacing them completely would be a long process and ultimately "structured deposition of bronze objects" is not as concise as "hoard".

The final point to be addressed in this section is the question of what to do with single object depositions, are they hoards or not? Well firstly there is the problem of identifying such depositions and distinguishing them from a classic single find like the rest of a grave disturbed by for example ploughing. On the analytical level that means such a find can either be a "curation failure" – something that could be described as a non-deliberate loss – or a single object in a structured deposition. In the past a clear attribution to either side was often circumvented by construction of terms like "eine Art Einstückhorte" or "Einzelfunde von Hortcharakter" (*Eggert 2012*, 79; *Hansen 2002*, 94, 95). But there was no clear definition of what a single find of hoard character actually is. Researchers turned to the find context for help, accepting that single finds in classic hoard contexts, for example in water bodies, bogs, caves or on pass crossings formed single object hoards (*Hansen 2002*, 95).

Today it is widely accepted that some single objects were deposited with the same intent as a hoard of multiple pieces and therefore are seen as, called, and attributed to the find category of hoards (*Eggert 2012*, 79). The judgement is still very much based on character and context of a find. And if the find context offers reasonable indications that a single artefact infact was deposited with intent, the usage of the term "hoard" makes sense, even if it means or meant to expand the definition. Moreover, if we encounter one object having been broken into several fragments and deposited, we call it a hoard without much hesitation, and this usage sounds reasonably natural.

CASE STUDY

The Attersee hoards I–IV from Buchberg im Attergau (Austria)

The region of Attergau is a geographical region located in the south-west of Upper Austria and the northern Alpine foreland (Fig. 1). It is situated on the northern part of the Eastern Alps and therefore part of the (Outer) Salzkammergut. The Attergau and its wide basin-shaped landscape are bordered by the "Hausruckwald" in the North, the mountains between Attersee and Traunsee and the "Redlbach" in the East, the southern shore of the Attersee in the South, and the "Landgraben" in the West (*Lane 2020*, 7). It thus includes most of the political district Vöcklabruck, only excluding the Mondsee area and the area around Schwanenstadt. Moreover, it connects the two major natural regions of the Alpine foreland in the North and the Limestone Alps in the South.

The Attergau can be split into three geological zones (*Längauer 2019*, 8). The most northern one will show the hilly landforms of the Alpine foreland and deeply incised river valleys. The middle zone contains the perialpine lake Attersee and the Flysch Mountains. The southernmost zone is characterised by the steep rock walls of the Limestone Alps. The Buchberg and the Attersee are situated in the Flyschzone, in an area with a Flysch-limestone ratio of around 55–60% to 40–45% (*Kowarik et al. 2020*, 236; *Sperl 1984*).

The Attersee, lying at roughly 470 m above sea level(asl), is the largest lake of Austria, measuring a length of 19.7 km and a maximal width of 3.48 km, therefore taking up an area of 46.7 km^2 (*Längauer 2019*, 8). The lake's tributary is the so-called Seeache, which comes in from the Mondsee, while the Ager acts as a natural outlet in the north-east between the towns Seewalchen and Kammer-Schörfling (*Längauer 2019*, 8; *Lechner 1999*, 16, 17); the limits of the water body were glacially formed after the last glacial maximum and the subsequent melting of the glacier (*Lane 2020*, 8; *Lechner 1999*, 23, 24). The At-

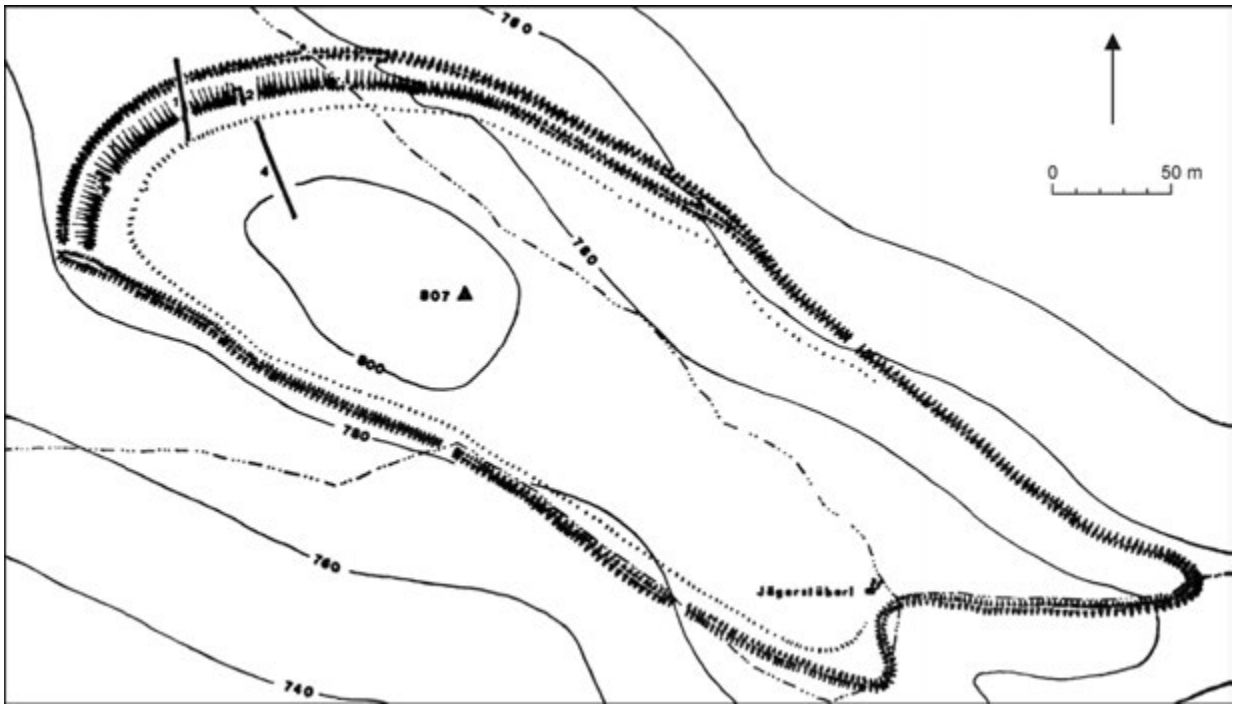

Fig. 3. Buchberg im Attergau, plan showing Clemens Eibner's excavation trenches relative to the site and rampart (*Eibner 1975*).

tersee's archaeological relevance lies in the many sites along its shorelines. Some of these are find spots of single finds and need more detailed examination, and some are settlement sites. Most of the sites are submerged today, which is most likely to be traced back to a much lower water level in prehistoric times and means that they probably have been lakeshore sites (*Ries 2014*, 61, 62).

The Buchberg sits directly on the northwestern shore of the Attersee and marks a distinctive spot in a rather flat landscape, standing tall at 808 m asl (Fig. 2). Occupying effectively the final outlying high point of the Alpine foreland before the Danube Basin, sight lines from the site and adjacent viewpoints span a distance south to the Dachstein massif and to the north allow visibility some 150 km, beyond to what is now the border of the Czech Republic. On top of Buchberg a 1.2 km long hilltop enclosure can be found, inside which a Late Bronze Age/Urnfield settlement has been identified. The enclosure and the settlement have been subject to research and excavations as part of the BeLaVi – Project under Prof. T. Taylor.

The natural location chosen for the settlement on Buchberg is a very favourable one. Being right by the lake shore – factually a crossing point of the most important trade routes of the area – possibly presented the community on Buchberg with the option to maintain a harbour for traders. In addition, the combination of geographical position and the impressive sightlines gives Buchberg control over the area and therefore it is not too far-fetched to believe that Buchberg possibly exerted pressure on other settlements or traders in the form of some kind of tribute for transport or support services. Given the position of Buchberg and Hallstatt in terms of a potential line of communication, it seems plausible that Buchberg could even have played a role within the so-called Hallstatt system.

The first time that Buchberg becomes relevant to archaeological research was in the years 1924–1926 when *W. Schmid* (*1926*, 83) conducted an on-site inspection and identified the enclosure as prehistoric. In 1974 C. Eibner excavated on the northwestern end of the rampart uncovering finds of the Middle Bronze Age, the Late Bronze Age, the Hallstatt period, the La Tène period and possibly of the 10th c. AD (Fig. 3; *Eibner 1975*; *Gamon et al. 2020*, D6606). Not long after the "Meßgruppe für kulturhistorische Angelegenheiten" (a section of the Upper Austrian Landesbaudirektion) measured the Buchberg and the 1974 excavation trenches in 1976/77 (*Gamon et al. 2020*, D6606). This work resulted in a short report and a detailed plan of Buchberg, which became an important historical document due to the rampart having been disturbed and mostly covered by a new road built soon after the measurements. From 2015–2017 and again in 2019 Buchberg was one focus of the BeLaVi research project, of which Prof. Timothy Taylor led the Austrian part.

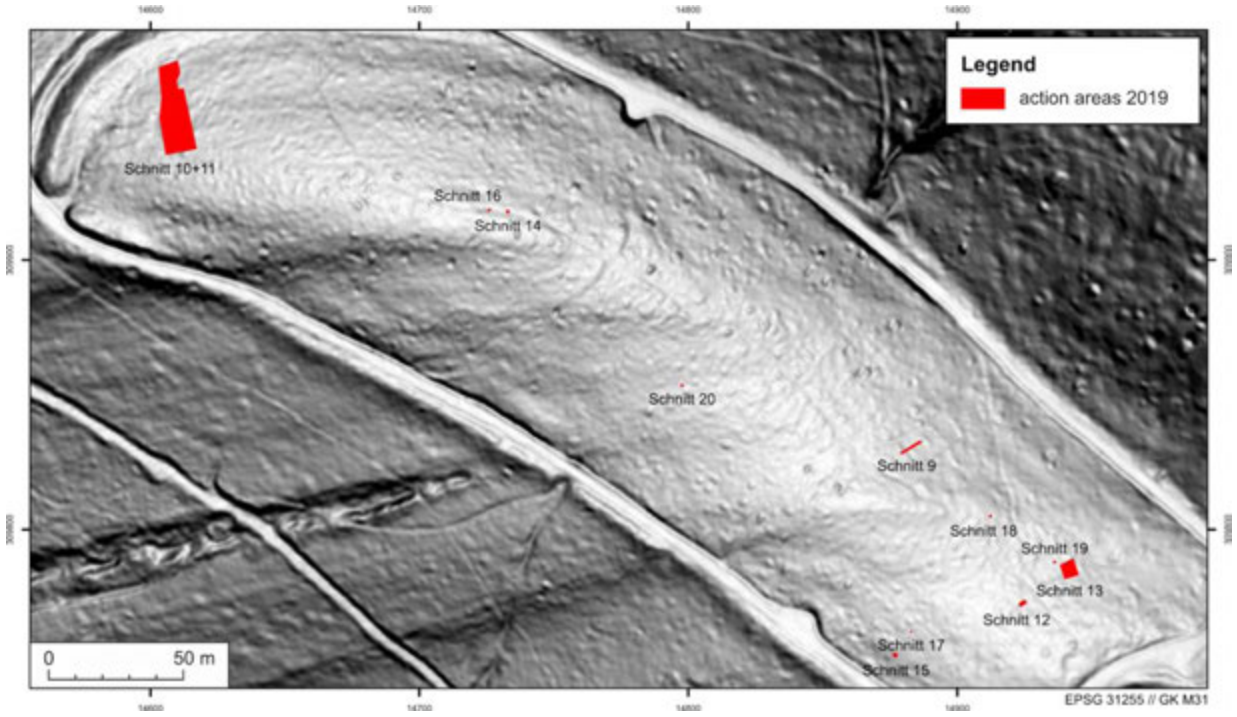

Fig. 4. Buchberg im Attergau, DTM showing the location of the excavation trenches of the 2019 season. © Mnr. 50002.19.01, Mbez. Buchberg im Attergau. KG Attersee, Gst. Nr. 153/1, KG Berg, Gst. Nr. 1/1, KG St. Georgen im Attergau, Gst. 4152. Plan compiled by C. Hascher, IUHA 2020. University of Vienna/excavation team BeLaVi.

Fig. 5. Buchberg im Attergau. Documentation of the stone layer in trench 12. Photo by excavation team BeLaVi.

Fig. 6. Buchberg im Attergau. *In situ* documentation of hoard Attersee I before extrication. Photo by excavation team BeLaVi.

The BeLaVi – project, an interdisciplinary initiative involving researchers and specialists from Austria, Germany, and Switzerland, studied the prehistoric lake village sites within the three countries, their hinterlands, and their wider regions (*Kowarik/Maurer/Taylor 2015*; *Kowarik et al. 2017*). The Austrian project part focused on the Attersee-Mondsee region. An interdisciplinary and diachronic approach was chosen to examine the last 8000 years, placing a special focus on the 4th millennium BC. Some of the research questions were centred upon land use dynamics (settling, cultivation and exploitation), the human impact on such and the relationship of people and their environment. This was examined via direct archaeology and also through the analysis of a 13 m lakebed core, for which an age depth model exists, and which has scope for further palynological, NPP, SedDNA, and core XRF analyses.

A multidisciplinary approach was chosen in order to generate high resolution palaeoecological and archaeological data (*Kowarik/Maurer/Taylor 2015*; *Kowarik et al. 2017*). Methods from landscape archaeology and environmental archaeology were used to identify climatic changes and evaluate the human impact on land use, which in turn enabled the researchers to construct an environmental and climatic history of the area within the chosen time frame. A combination of ALS-data (and the DTMs deriving from the data), and GIS analysis was used to investigate possible sight-line (visibility) connections between sites, the choice of settlement locations and also do predictive modelling for the region. In addition, systematic geophysical prospection, and excavations on land and under water made up another pillar of the project.

During the 2019 excavation season 4 hoard finds were discovered, three of which were bronze hoards and consisted of in total 72 kg of bronze (*Gamon et al. 2020*; *Lane 2020*, 25–38). The fourth hoard was made up of gold finds. In addition, there also were a few single object hoards found within the season. The original plan for the excavation was to examine two possible building structures, which were identified in the ALS-data, and the immediate inside area of the rampart. The trenches 9 and 13 were placed to examine the structures, trench 10 was meant to inspect the possible settlement or activity area right behind the rampart (Fig. 4). Trenches 9 and 10 will not be covered in this paper, as they have no relevance to the hoards (for more information see *Gamon et al. 2020*; *Lane 2020*).

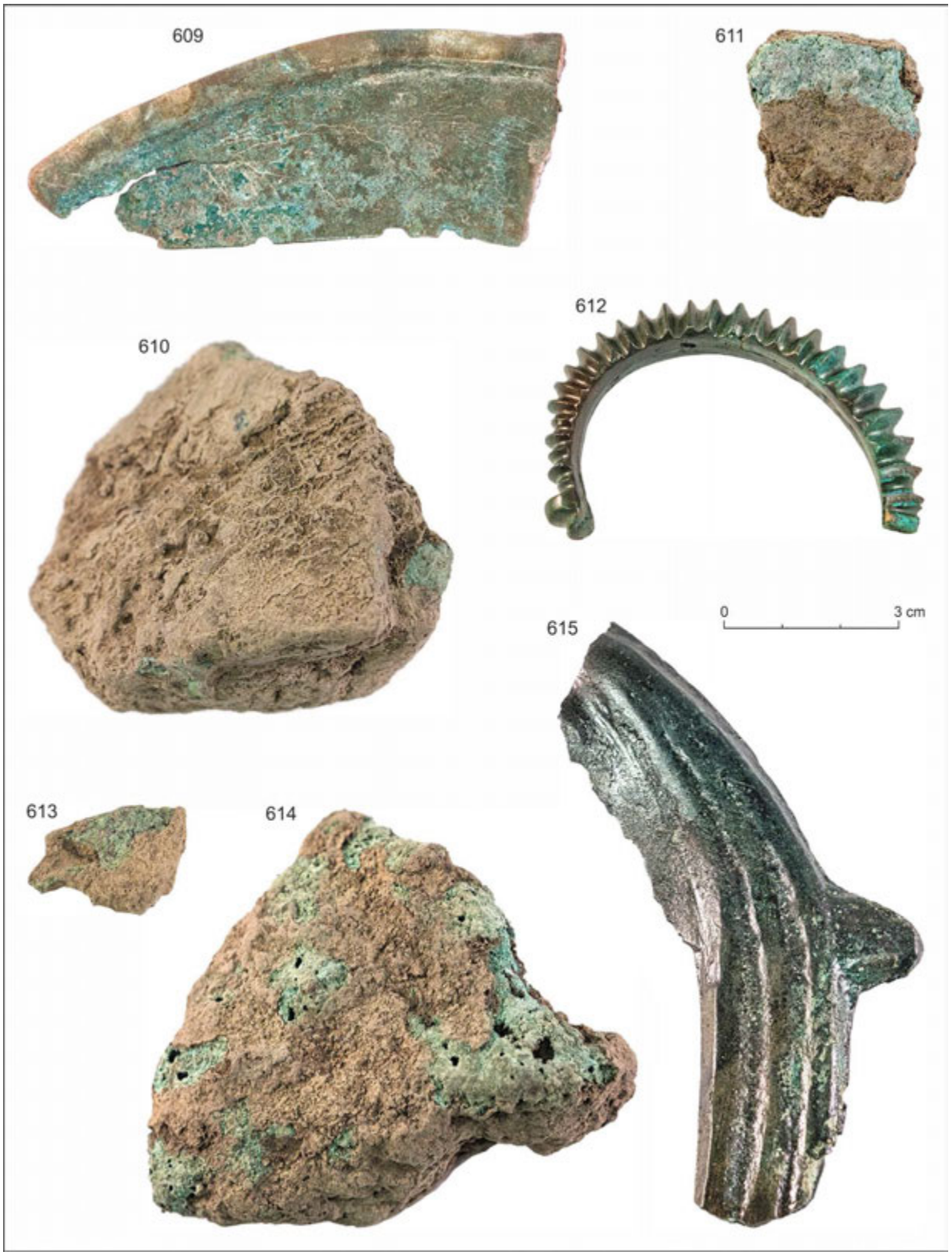

Fig. 7. Buchberg im Attergau. 609–615 – material from hoard Attersee I; 612 – arm ring, type regionally specific for Upper Austria, Lower Austria, Salzburg, Tyrol, Bavaria, Bohemia; 615 – sickle, Uioara type 4, Haidach. Photos by D. Lane.

Trench 13 measured 6.6 × 5.5 m and was designed to examine one of the structures visible in the ALS-data (*Gamon et al. 2020*, D6621, D6622; *Lane 2020*, 29). The structure was situated inside the rampart, of a size of 16 × 11 m, and oriented WSW – ENE. The trench was placed in the eastern corner of the structure in such a way that half of it was inside the structure, while the other half was outside. This was done to potentially record possible wall or foundation parts. It was not possible to fully excavate the trench within the 2019 season and unfortunately since then no excavation was possible due to Covid-19 and personal factors (for stratigraphic details see *Gamon et al. 2020*; *Lane 2020*). The current working hypothesis for this rectangular structure is that it represents of a very large building, such as a timber hall of "blockbau" or timber-frame construction, possibly of an elite residence.

Moreover, a cooperation with a metal detectorist was set up to let him survey the area in close cooperation with the excavation team (*Gamon et al. 2020*, D6611, D6612; *Lane 2020*, 29, 30). This survey was initially planned to be singular, extensive and unsystematic and was not expected to turn out many exciting results as Buchberg has fallen victim to illegal metal detectorists in the 1960s. The metal detector survey quickly proofed itself to be useful by uncovering the first hoard, which was named Attersee I. As the area directly inside the rampart (trench 10) turned out to be completely disturbed in its stratigraphy through intensive forest work with heavy machinery in the 1970s, the focus was shifted towards trench 13, the survey and the hoard. The uncovering of Attersee I made clear that a large-scale, intensive and systematic survey was necessary and would potentially be very fruitful. Therefore, more trustworthy metal detectorists were asked to search large parts of the area, working within a grid, in order to be able to spatially locate and reference possible finds (methodological details in *Gamon et al. 2020*, D6611, D6612). The survey uncovered three more hoards (Attersee II, III and IV) and several single finds. The hoards and their material are still work in progress: only Attersee I has gone through conservation and a more detailed analysis than only preliminary post-excavation evaluation as part of a Master's thesis. (*Lane 2020*).

Hoard Attersee I was the first hoard discovered (*Gamon et al. 2020*, D6619–D6621; *Lane 2020*, 39–49). After the initial extrication within a 1 × 1 m square, trench 12 was expanded to 3 × 1.5 m. Within the trench a stone layer, which was broken to deposit the objects, and a ring of stones around the deposits, were found (Fig. 5). This stone layer was interpreted by the chief excavator as a possible house floor. Hoard one is made up of 67 objects and a total weight of 9.514 kg (*Gamon et al. 2020*, D6633–D6637; *Lane 2020*, 50). It contains broken as well as some complete pieces and also some casting cake fragments (Fig. 6). The oldest object is a "palstave of Slovakian form" (after *Mayer 1977*), which falls into the phases of Br C2–Br D. Positioned on the other end of the chronological scale is an axe of type Haidach, which does not come into use before Ha A1 and can be found till Ha B1. Overall, the ensemble is chronologically very homogenous and can be dated into the phases of Br D–Ha A1 (*Gamon et al. 2020*, D6633–D6637; *Lane 2020*, 91–94). Figures 7–12 show the entire material of the find in its current state of conservation.

The second hoard found was Attersee II, which again initially was extricated within a 1 × 1 m square (*Gamon et al. 2020*, D6626–D6629; *Lane 2020*, 32, 33). In turn trench 15 was set to 1.6 × 1.6 m (Fig. 13; 14). The hoard contained 632 objects making up for 55–60 kg of bronze (*Gamon et al. 2020*, D6638–D6640). Significant original air pockets existed in and around the objects with preserved leather fragments perhaps from a knife sheath or a bag which could have held all the objects which thus may have been buried as a unit, all at one time. Again, complete, and broken objects, some casting cake fragments but also three complete casting cakes of around 7 kg each, were encountered (Fig. 15). Hoard Attersee II has not been subject to analysis of the same level as Attersee I yet, but by a preliminary analysis of the diagnostic objects it was possible to date the hoard into the phase Br D, maybe running till Ha A1. Therefore, it perfectly aligns with hoard Attersee I.

Hoard Attersee III became known inside of trench 13 (*Gamon et al. 2020*, D6623; *Lane 2020*, 30, 31). The hoard ensemble was in the structure of the rear foundation wall and contained 34 objects, within which again complete and broken objects could be found (*Gamon et al. 2020*, D6641, D6642). It is remarkable though that no casting cake fragments were to be found and the fact that the metal work from Attersee III is the one of the highest quality of all hoards. Figure 16 shows two complete objects as representatives. The preliminary typochronological analysis of the ensemble showed that hoard Attersee III follows in line with the two other ones, dating into the phases Br D and maybe also Ha A1.

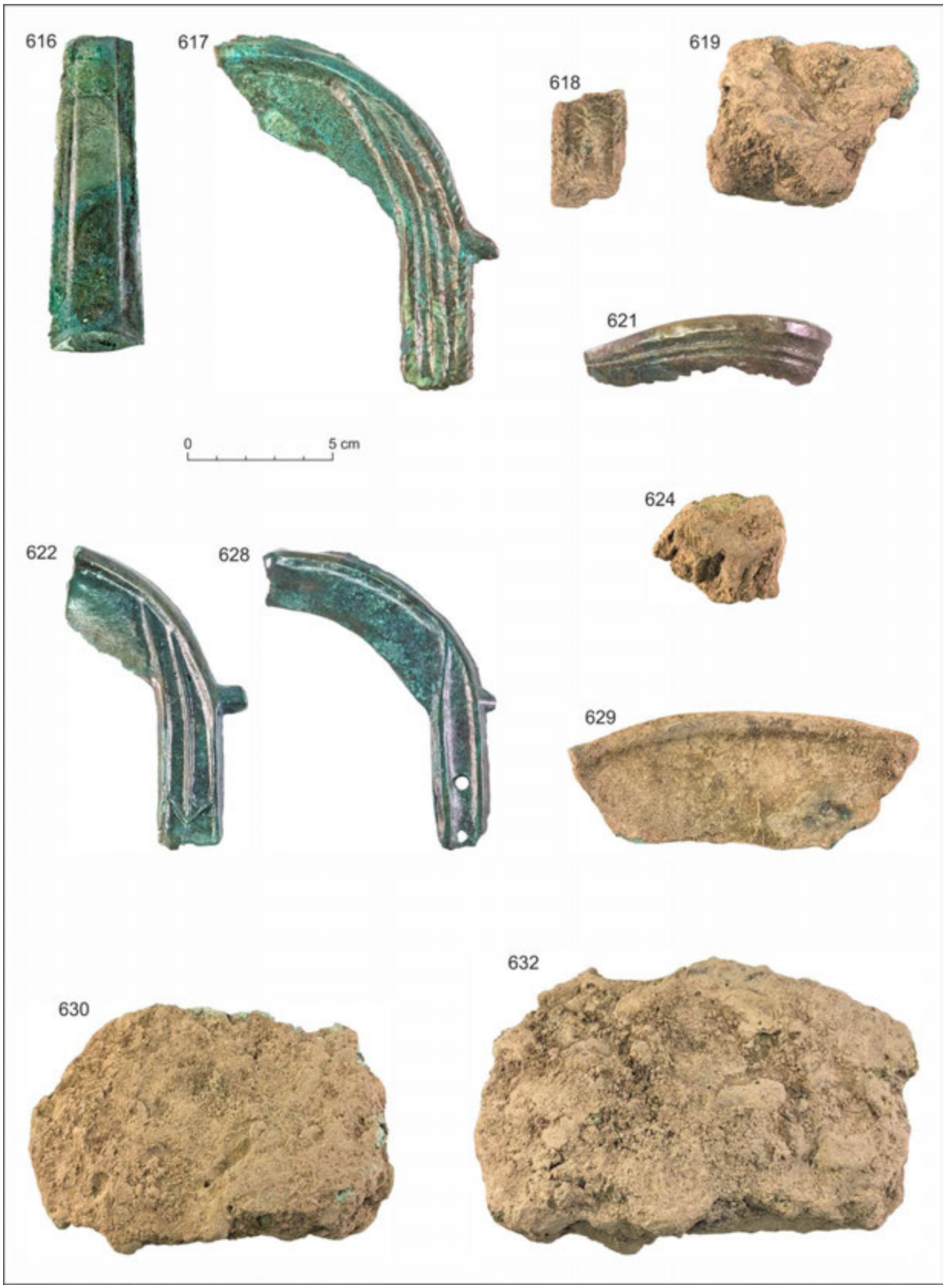

Fig. 8. Buchberg im Attergau. 616–619, 621, 622, 624, 628–630, 632 – material from hoard Attersee I; 617, 622 – sickle, Uioara type 4, Haidach; 628 – sickle piece, Böhmisch-Bayrische-Typengruppe, type Přestavlky. Photos by D. Lane.

Fig. 9. Buchberg im Attergau. 633, 636–645 – material from hoard Attersee I; 645 – palstave of Slovakian form. Photos by D. Lane. Scale: a – 633–644; b – 645.

Fig. 10. Buchberg im Attergau. 646–649, 651–660 – material from hoard Attersee I. Photos by D. Lane. 646 – without scale.

Fig. 11. Buchberg im Attergau. 661, 663, 664, 666, 669–675 – material from hoard Attersee I; 666 – winged axe, type Freudenberg (variant Rosenau); 670 – sickle, Uioara type 4, Haidach; 672 – sickle of the Böhmisch-Bayrische-Typengruppe, type Přestavlky/type Wildon; 673 – winged axe of type Dellach; 674 – sickle, Böhmisch-Bayrische-Typengruppe, type Wildon; 675 – Winged axe of type Haidach. Photos by D. Lane.

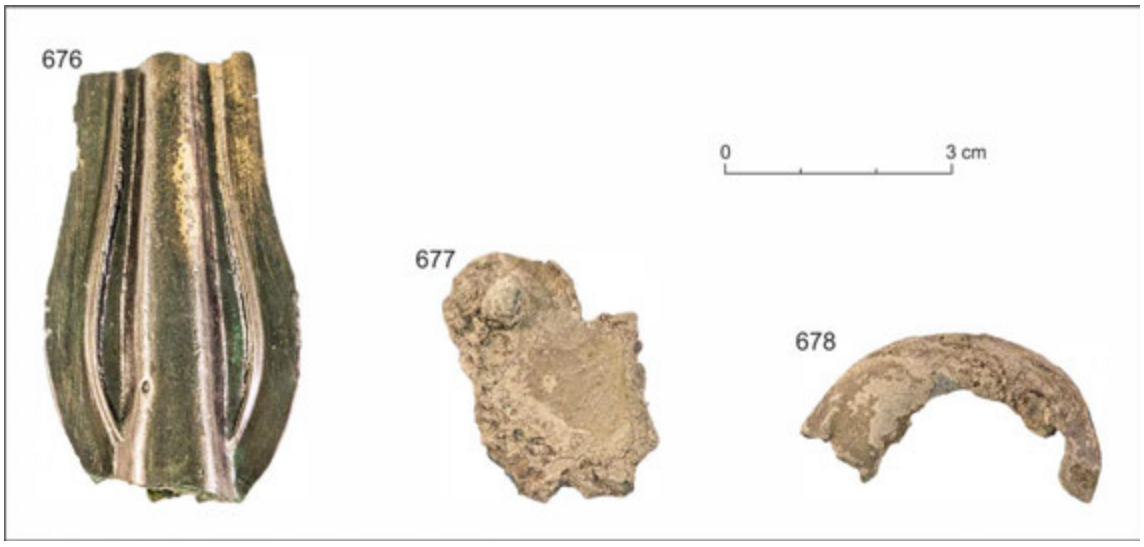

Fig. 12. Buchberg im Attergau. 676–678 – material from hoard Attersee I; 676 – spearhead of Říhovský's basic type C. Photos by D. Lane.

Fig. 13. Buchberg im Attergau. *In situ* documentation of hoard Attersee II before extrication. Photo by excavation team BeLaVi.

Fig. 14. Buchberg im Attergau. Documentation of trench 15 after the extrication of hoard Attersee II. Photo by excavation team BeLaVi.

Hoard Attersee IV was found after the original excavation and excavated only by a split team. Therefore, only a 1 × 1 m trench was set out to examine the find context (Fig. 17; *Gamon et al. 2020*, D6631–D6632). Contrary to the other three hoards this one was made up of gold finds. It contains three gold spiral ornaments and three gold wire fragments, which likely once also formed a spiral ornament (Fig. 18; *Gamon et al. 2020*, D6643–D6644). Unfortunately, only one of the finds is in original shape and not deformed (Fig. 19). By using typochronological parallels the find was dated into the phase Ha A1, which makes them some of the youngest finds of the campaign.

Moreover, a number of single object hoards have been found throughout the campaign (*Gamon et al. 2020*, D6645; *Lane 2020*, 34, 35). Serving as a representative example for this paper is the chisel from trench 19 (Fig. 20; *Gamon et al. 2020*, D6630–D6631). It was discovered inside the same structure as hoard Attersee III, which was the elite hall, not far off Attersee III, but in a position where it could have lain under a sprung timber floor. Typologically the chisel can be put into J. Říhovský's group III, which can be found throughout almost the whole Bronze Age (*Říhovský 1992*), and therefore cannot be

Fig. 15. Buchberg im Attergau. Selection of finds from hoard Attersee II. 1 – pin; 2 – part of a sickle. Photos by excavation team BeLaVi.

Fig. 16. Buchberg im Attergau. Selection of finds from hoard Attersee III. 1 – sickle (Nr. find 2500); 2 – knife (Nr. find 1497). Photos by excavation team BeLaVi. Scale: a – 1; b – 2.

Fig. 17. Buchberg im Attergau. Documentation of trench 20 after the extrication of hoard Attersee IV. Photo by excavation team BeLaVi.

Fig. 18. Buchberg im Attergau. Gold find from hoard Attersee IV. Photo by excavation team BeLaVi.

Fig. 19. Buchberg im Attergau. Gold find from hoard Attersee IV (2567). Only find in original shape. Photo by excavation team BeLaVi.

addressed chronologically on a more detailed level. It seems unlikely that such a fine object could have simply been dropped and lost in this central site context and is rather seen as a deliberate deposition.

RESULTS

The Attersee hoards as a form of risk management

In order to be able to advance interpretations for the hoards they must be classified first. Today the composition of hoards is often a crucial point of focus as classifications are often based on the combination of types within a hoard, which in a next step leads to a variety of different interpretational possibilities (*Krenn-Leeb 2010*, 282, 283). The composition of a hoard is by no means random, there are rules and regularities behind it (*Hansen/Neumann/Vachta 2012*, 2). Standards and certain composition patterns showing up repeatedly over larger areas with only small alterations have been recorded and used to compare and create categories (*Krenn-Leeb 2010*, 282). Central in classifying a hoard are the find context and the completeness of the hoard, as missing pieces can obviously change the impression and lead to a wrong attribution to a certain class.

One of the first classifying systems for hoards was developed by *F. Stein* (*1976*). She developed three main groups based on the composition of object types: "Rohmaterialhorte", "Fertigwarenhorte" and "Brucherzhorte". "Fertigwarenhorte" per her definition include new, almost new and used but not yet

unusable objects, while "Brucherzhorte" are made up of broken and complete pieces. "Rohmaterialhorte" are self-explanatory. She further developed a few subgroups like "Beilhorte", "Sichelhorte", "Waffenhorte", "Schmuckhorte", "Bronzegefäßhorte" and "Fertigwarenhorte mit gemischtem Inhalt". Some of these categories are still used today, although it must be said that there have been many different classification systems, based on various different criteria, suggested.

The hoards Attersee I and Attersee II have shown complete objects, a lot of fragmented objects, casting cake fragments, and in case of Attersee II also massive complete casting cakes. These ensembles can clearly be typologized as classic founder's hoards, which can be paralleled with the German term "Brucherzhorte". The most striking difference between Attersee I and Attersee II definitely are the massive casting cakes and the fact that hoard Attersee II contains a lot more very small broken pieces.

Hoard Attersee III is similar to a founder's hoard, as it also shows complete and broken pieces but, interestingly, it does not contain any casting cakes. Moreover, the quality of the metal work from Attersee III is definitely the highest of all hoards. Considering that the structure it was found in was probably an elite hall, hoard Attersee III might be interpreted as a hoard of an elite individual who would not have dealt in raw metal directly and representing some kind of reserve of wealth, like a bank vault deposit.

Fig. 20. Buchberg im Attergau. *In situ* documentation of the chisel from trench 19. Photo by excavation team BeLaVi.

As a gold hoard, hoard Attersee IV falls out of this scheme a little bit but it seems sensible to assume that these objects have been lost and therefore not retrieved before the settlement was abandoned. Given the high value of the material this might also fall into the "elite wealth reserve" category, but it was recovered by direct metal detection from an otherwise unexcavated and only partially surveyed part of the site where we currently do not have evidence for large-scale residential structures.

The single object hoards in many cases are of a very different nature, and so is the chisel from trench 19 (Fig. 20). It seems unlikely that this fine object could have simply been dropped and lost in this central site context. Seen as a deliberate deposition it may have been intended as permanent rather than temporary. It was not intended to be returned for as it was a gift from, and thus a sacrifice by, the master-builder (whoever they were) to the hall god, sky god, or other supernatural entity in return for which protection could be "bought". In German that term is called "Bauopfer". If true, then this shows a different kind of risk perception and management than the hoards I–IV.

The four multi-object hoards most likely have a profane background. The classic founder's hoards are storages of material. A lot of the material was probably destined for remelting and reuse, or in case of the many sickle fragments maybe acted and used as a form of pre-currency or token in exchange (*Sommerfeld 1994*). The single object hoards in many cases come from a ritual background. Even though neither all were addressed here, nor all found in such a central context as the chisel, they still are of a very similar nature.

The case study of Buchberg and its four classic hoards and single object hoards clearly shows that the hoards can be seen as part of the management of various risks. And by examining them on an interpretational level it also becomes clear that there were at least two different kinds of risk perception involved. On the one side there was the socioeconomic risks, which means for example the risk of loss of value by say theft, or the risk of non-usability. The hoards from Buchberg have not been finally retrieved and not recycled. They have survived until they were found in modern day. One can argue that this is a case of partly successful risk management because the immediate enemies of the Buchberg community have

not gotten them, but also, in a very long-term perspective, a partly failed risk management because the excavation actually brought them to light.

On the other side there are the supernatural risks, for example the risk of a god or the gods not adequately protecting a building unless a sacrifice is made. This is illustrated by the chisel. Of course, there are also other possibilities, which are not necessarily mutually exclusive.

CONCLUSION

A look at the history and development of Bronze Age hoard research shows that trouble with definitions and terminology is as old as the interest in Bronze Age hoards itself. Whether it is the struggle to define what hoards really are, the synonym usage of the terms "hoard" and "depot", or the question if single object depositions are to be considered hoards, all of these perceived issues run like a thread through research history. The advances in terminology and definitions have always been tied to the interpretations of the find category, having people include or exclude certain aspects, based on their preferred comprehension of hoards. This makes it very clear though that the weaknesses people perceived, and still sometimes perceive today, in the definitions of "hoards" and the terminology involved are not an issue of the words themselves. The issue lies in the interpretations tied to the terms throughout research history and different research traditions. Therefore, we are not dealing with a problem of terminology but one of sources and state of research. The phenomenon "hoard" is simply not understood well enough to really characterise and define it in its entirety. More data needs to be generated to be able to work out generalisations and better understand the intentions behind the practice of hoarding.

The case study of Buchberg and its four classic hoards as well as multiple single object hoards can be seen as an example of how to generate new high-quality data. During excavation, the hoards and their find contexts have been documented as detailed and meticulously as possible, to ensure a rich pool of data to draw on for interpretation. The hoards Attersee I and Attersee II presented themselves as classic founder's hoards, containing complete and broken objects as well as raw material in form of casting cake fragments and even three complete ones. Although showing a similar character, Attersee III is missing casting cakes in any form but holds the metal work of the highest quality. It is therefore interpreted as a form of elite wealth reserve. Found outside the regular excavation the gold hoard Attersee IV is currently the hardest one to judge but seen as either a loss or also falling into the elite wealth reserve category.

The single object hoards found during excavation are of a different kind of nature. For most of them ritual backgrounds are assumed. The chisel from trench 19 has been chosen as a representative example of this group. It is interpreted as a sacrifice to a supernatural entity or supernatural entities in order to win its or their protection for the building it was found in – in German called a "Bauopfer".

This classification of the hoards following our current system and the interpretation in the light of the ever-recurring question of whether to favour profane or ritual backgrounds for hoards has its value. It simply gives a base to work on. On the one hand, there is the four classic multi object hoards which most likely have been deposited in order to protect their contents in relation to an immediate threat. On the other hand, there is the single object hoards which in most cases likely represent gifts or sacrifices to the gods to win their favour.

A new, or at least not that common, aspect this paper presented is to look at hoards as a way of risk management. The hoards from Buchberg show that at least two different kinds of risk perception have been operating. On the one hand, the people on Buchberg encountered socioeconomic risks like the risk of loss of value or non-usability. This is clearly exemplified by the four multi object hoards. On the other hand, people also perceived supernatural risks like the risk to not be protected by the gods, for which the chisel from the elite hall can be seen as an example. Of course, this is just one possibility out of many, but the case study clearly shows that this approach could be an interesting and refreshing aspect to Bronze Age hoard research.

In the beginning this paper discussed the opposition between secular/economic and ritual interpretations of hoards. This situation of one versus the other has its origins in the earliest times of research on this topic and lead to a strong opposition in modern times, which seems to not leave any room for a syncretism of both sides. "Economic" and "ritual" are etic terms and categories though, which we use to depicture, characterise, and interpret the behaviour behind the finds we encounter. This strong distinction is not at all helpful and actually very detrimental as it distorts the emic reality. The emic categorisation or description of the displayed behaviour may have been vastly different. Hoards can clearly be both, a result of secular or economic behaviour and ritual actions at the same time.

One fascinating aspect involved is to see the deposition of hoards as a way of risk management. But who is taking the risk? Sites like Buchberg im Attergau are often interpreted as classic "Fluchtburgen", a place people retreat to in times of crisis. This would mean a community of the area retreated to Buchberg in response to an immediate threat and therefore managing a community risk. More future work needs to be done on Buchberg but the way the excavation data and archaeological context present themselves right now allows for a completely different view. The hoards seem to have been deposited inside separate housing structures and therefore in individual plots. There was no monumental structure of any kind found on the site, which means a connection to a place of worship can be excluded. Does that mean they represent individual risk management following or expressed through an approved cultural behaviour? Could we be looking at risks operating between the individuals within the same community?

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Technológia a risk – depoty doby bronzovej ako spôsob zvládania rizika

Dominik Lane

Súhrn

Tak ako každý technologický pokrok aj zavádzanie bronziarstva prinieslo so sebou riziko v jeho novej podobe. Hoci ľudia, ktorých sa táto zmena týkala, ho mohli vnímať predovšetkým v jeho ekonomickej rovine, istotne tu bola aj rovina metafyzická. Hodnota bronzu mala jednoznačne ekonomický charakter, no zároveň predmety vyrobené z tejto suroviny boli nositeľmi aj určitého symbolického významu. Cieľom tejto štúdie je prezentovať význam bronzu ako suroviny a majetku, predstaviť depoty doby bronzovej ako špecifický spôsob vysporiadania sa s fenoménom risku. Postavená je na príklade depotov vyzdvihnutých na lokalite Buchberg, nachádzajúcej sa v hornorakúskom regióne Attergau.

Depoty, jedna zo základných kategórií predmetu skúmania archeológie, sú dlhodobo v pozornosti bádateľského záujmu. Od samého počiatku štúdia depotov doby bronzovej, azda až podnes, je v popredí tohto snaženia hľadanie odpovedí na otázky spojené s ich správnou definíciou a terminológiou aplikovanou na tento fenomén. Od zavedenia termínu *Depotfund* S. Müllerom v závere 19. stor. predostreté boli rôzne definície a odlišné chápania termínov. Všetky spája to, že sú vnímané ako nie dostatočne výstižne či adekvátne opisujúce zmienený fenomén. Nie je to však problém významu používaných termínov, ale problém, ktorý vyplýva zo súčasného stavu poznania a interpretácií depotov. Jednoducho povedané, nevieme toho o tomto fenoméne dosť na to, aby sme dokázali zovšeobecňovať a v úplnosti ho opísať.

Rovnako ako pri viacerých termínoch v archeológii, problémom termínov poklad či depot je ten, že sú interpretatívne. Sú nositeľmi významov odvodených od nášho vzdelania, našich skúseností či predpojatostí. Predstavuje to však problém, keďže ide o skratku, ktorej výsledkom je okamžité interpretovanie nálezov. Týmto spôsobom si totiž sami bránime vo výhľade a viaceré (ak nie práve všetky ostatné) interpretácie môžu unikať nášmu dosahu, výsledkom čoho môžu byť nesprávne závery. Namiesto toho by sme si mali byť dobre vedomí významu používaných termínov. K nálezom by sme mali pristupovať analyticky, dopracujúc sa krok za krokom k interpretácii tak objektívne, ako je to len možné.

Hornorakúska lokalita Buchberg sa nachádza pri severozápadnom brehu jazera Attersee. Vzhľadom na to, že ide o posledný výbežok alpského predhoria pred údolím rieky Dunaj, polohu výrazne vyvýšenú ponad okolitý rovinatý terén, poskytuje vynikajúci rozhľad južným a severným smerom. Na samom vrchu Buchbergu bolo zistené sídlisko z neskorej doby bronzovej, respektíve doby popolnicových polí, vymedzené opevnením s dĺžkou 1,2 km. Prirodzená poloha tohto sídliska je veľmi výhodná, dovoľovala disponovať dosahom na komunikácie prechádzajúce týmto priestorom a poskytla tunajšiemu spoločenstvu rôzne možnosti sa realizovať. Takmer s určitosťou možno povedať, že Buchberg plnil dôležitú úlohu so zreteľom na obchod a slúžil ako miestne centrálne sídlisko.

Počas výskumu, zahŕňajúceho aj intenzívnu systematickú prospekciu, uskutočneného v roku 2019, boli na ploche sídliska vyzdvihnuté spolu štyri depoty, z ktorých tri pozostávali zo 72 kg bronzu a jeden zo zlata. Vyzdvihnutých bolo aj niekoľko samostatne deponovaných predmetov. Depoty označené ako Attersee I a Attersee II zahŕňajú rôzne predmety či ich zlomky a surovinu v podobe lúp z taviacej pece. Na základe predbežných výsledkov typochronologickej analýzy, čo sa týka datovania, zodpovedajú oba stupňom BD–HaA1. Depot označený ako Attersee III čistú surovinu neobsahoval, nachádzali sa v ňom však rovnako datované výrobky najvyššej kvality. Attersee IV pozostával z troch špirálových náramenníkov zo zlata a troch zlomkov zlatého drôtu, ktoré sa na nálezisku javia ako z tých najmladších, datované sú do stupňa HaA1. Príkladom samostatne deponovaných predmetov je dláto zodpovedajúce Říhovského skupine III.

Vychádzajúc z bežného rámca posudzovania, Attersee I a Attersee II možno klasifikovať ako depoty „zakladateľské“. Depot Attersee III má podobný ráz, no zahŕňa len výrobky špičkovej kvality, žiadnu surovinu. Z tohto dôvodu ho možno interpretovať ako tezaurované bohatstvo elít. Zlaté predmety z depotu Attersee IV, vyzdvihnuté na inak neodkrývanej ploche, môžu byť aj stratovými nálezmi, rovnako však môže ísť o prípad tezaurovaného bohatstva elít. Samostatne deponované predmety, napríklad zmienené dláto, sa spájajú zvyčajne s dôvodmi rituálneho charakteru. Môže sa chápať ako obetina, ktorou mala byť „zadovážená“ ochrana.

Na základe dvoch nerovnakých spôsobov tezaurovania, v podobe hromadných nálezov či samostatne uložených predmetov, je evidentné, že sa tu prejavili najmenej dva odlišné spôsoby vnímania risku. Na strane jednej to bol risk z oblasti sociálno-ekonomickej, riziko straty, na strane druhej risk vo vzťahu k nadprirodzenému, čiže z nedostatočnej ochrany zo strany božstiev. Okrem toho možno polemizovať o tom, či v prípade hromadných nálezov bol spôsob vysporiadania sa s rizikom čiastočným úspechom, no z hľadiska dlhodobej perspektívy bol neúspechom.

Obr. 1. Mapa Rakúska. Attergauský región je zvýraznený v rámci juhozápadnej časti spolkovej krajiny Horné Rakúsko. Mapu vypracovala J. Klammer (*Kowarik et al. 2020*).
Obr. 2. Attergau, Rakúsko. Topografický pohľad na lokalitu Buchberg a okolie. Mapu vypracovala J. Klammer (*Kowarik/Maurer/Taylor 2015*).
Obr. 3. Buchberg v Attergau. Plán dokumentujúci sondy vyhĺbené počas výskumu C. Eibnera, ich rozmiestnenie v rámci lokality a umiestnenie vzhľadom na opevnenie (*Eibner 1975*).
Obr. 4. Buchberg v Attergau. DMT s vyznačenou lokalizáciou výskumných sond vyhĺbených v roku 2019. © Mnr. 50002.19.01, Mbez. Buchberg im Attergau. KG Attersee, Gst. Nr. 153/1, KG Berg, Gst. Nr. 1/1, KG St. Georgen im Attergau, Gst. 4152. Plán vypacovala C. Hascher, IUHA 2020. Viedenská univerzita/výskumný tím BeLaVi.
Obr. 5. Buchberg v Attergau. Dokumentácia vrstvy kameňov v sonde 12. Foto výskumný tím BeLaVi.
Obr. 6. Buchberg v Attergau. Depot Attersee I pred vyzdvihnutím, *in situ* dokumentácia. Foto výskumný tím BeLaVi.
Obr. 7. Buchberg v Attergau. 609–615 – nálezy z depotu Attersee I; 612 – náramenný kruh, typ špecifický pre Horné a Dolné Rakúsko, Salzburg, Tirolsko, Bavorsko a Čechy; 615 – kosák typu Uioara 4, Haidach. Foto D. Lane.
Obr. 8. Buchberg v Attergau. 616–619, 621, 622, 624, 628–630, 632 – nálezy z depotu Attersee I; 617, 622 – kosák typu Uioara 4, Haidach; 628 – kosák česko-bavorskej typologickej skupiny, typ Přestavlky. Foto D. Lane.
Obr. 9. Buchberg v Attergau. 633, 636–645 – nálezy z depotu Attersee I; 645 – sekera s odsadeným schodíkom. Foto D. Lane. Mierka: a – 633–644; b – 645.
Obr. 10. Buchberg v Attergau. 646–649, 651–660 – nálezy z depotu Attersee I. Foto D. Lane. 646 – bez mierky.
Obr. 11. Buchberg v Attergau. 661, 663, 664, 666, 669–675 – nálezy z depotu Attersee I; 666 – sekera so stredovými lalokmi typu Freudenberg (variant Rosenau); 670 – kosák typu Uioara 4, Haidach; 672 – kosák česko-bavorskej typologickej skupiny, typ Přestavlky/typ Wildon; 673 – sekera so stredovými lalokmi typu Dellach; 674 – kosák česko-bavorskej typologickej skupiny, typ Wildon; 675 – sekera so stredovými lalokmi typu Haidach. Foto D. Lane.
Obr. 12. Buchberg v Attergau. 676–678 – nálezy z depotu Attersee I; 676 – hrot kopije, základný typ C podľa J. Říhovského. Foto D. Lane.
Obr. 13. Buchberg v Attergau. Depot Attersee II pred vyzdvihnutím, *in situ* dokumentácia. Foto výskumný tím BeLaVi.
Obr. 14. Buchberg v Attergau. Sonda 15 po vyzdvihnutí depotu Attersee II. Foto výskumný tím BeLaVi.
Obr. 15. Buchberg v Attergau. Výber nálezov z depotu Attersee II. 1 – ihlica; 2 – zlomok kosáku. Foto výskumný tím BeLaVi.
Obr. 16. Buchberg v Attergau. Výber nálezov z depotu Attersee III. 1 – kosák (nález č. 2500); 2 – nôž (nález č. 1497). Foto výskumný tím BeLaVi. Mierka: a – 1; b – 2.
Obr. 17. Buchberg v Attergau. Sonda 20 po vyzdvihnutí depotu Attersee IV. Foto výskumný tím BeLaVi.
Obr. 18. Buchberg v Attergau. Zlatý nález z depotu Attersee IV. Foto výskumný tím BeLaVi.
Obr. 19. Buchberg v Attergau. Zlatý nález z depotu Attersee IV (2567). Jediný nález v jeho pôvodnom tvare. Foto výskumný tím BeLaVi.
Obr. 20. Buchberg v Attergau. Dláto pred jeho vyzdvihnutím v sonde 19, *in situ* dokumentácia. Foto výskumný tím BeLaVi.

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