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Michael Kunst | Daniel Steiniger (eds.)

SETTLEMENT STRUCTURES AND METALLURGY

The Relations between Italy and the Iberian Peninsula in the Early Chalcolithic

Papers of an International Conference Held in Rome, Museo Nazionale Romano – Palazzo Massimo, 6–7 October 2011

For some considerable time right up to the present, almost all specialists have been dealing at various different regional levels with the topics of the conference published here. The expansion of the source material in the last decades has led to a comprehensive understanding of early metallurgy and its role in social, economic and settlement-structure terms. Despite this far-reaching progress, concrete questions are emerging more and more clearly that can only be answered at international and interdisciplinary levels. It is precisely this international communication that the conference on which the present volume is based has attempted to set in motion so as to address these complex questions. This publication pulls together and sets out the state of research on the topic at the beginning of the 21st century for the entire Central and Western Mediterranean regions.

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AND METALLURGY

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Ortwin Dally und Norbert Zimmermann

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Inhaltsverzeichnis

Vorwort

von *Henner von Hesberg* und *Dirce Marzoli*

Ein offener Dialog, eine einsichtige Darstellung der jeweiligen Arbeitsweisen und die Bereitschaft, den anderen Forschern in die Archive Zugang und in die Ergebnisse eigener Arbeiten Einblick zu gewähren, sind Voraussetzungen eines fruchtbaren Austauschs. Sie führen zu einer vertieften Kenntnis der jeweiligen Erforschung einer archäologischen Epoche, ihrer lokalen Besonderheiten und überregionalen Verbindungen. Ausdruck einer solchen Art von Austausch, der selbst in Zeiten problemloser Kommunikation nicht immer selbstverständlich ist, bilden diese Tagung sowie deren jetzt vorliegende Publikation. Sie erfolgt bedauerlicherweise mit großer Verspätung, aber ihre grundlegende Botschaft ist nicht überholt: nur gemeinsam und länderübergreifend lässt sich das Thema angehen.

Der hier behandelten Kupferzeit Südwesteuropas widmen sich methodisch innovative und interdisziplinär angelegte Projekte, zu denen Ausgrabungen von Siedlungen, Nekropolen, Bergbauarealen ebenso zählen wie Material- und Umweltstudien. Immer komplexer werden dabei auch Einblicke in Gesellschaftsstrukturen, Wirtschaftsweisen, Handelswege und Technologien, zunehmend deutlicher lassen sich zudem die Wege der Übertragung von Fertigkeiten und Produktionsformen nachzeichnen. Einige Ergebnisse liegen schon in internationalen Referenzwerken vor, gleichwohl werden sie im Kontext der Tagung ergänzt und vertieft und um die Forschungsergebnisse aus nicht immer leicht zugänglichen lokalen Publikationen erweitert, welche zudem häufiger lediglich Vorberichte darstellen. Abgesehen davon aber bieten die Beiträge neue Resultate und Interpretationsansätze.

Gerade auf den Gebieten der Siedlungsarchäologie und ihrer Verbindung mit der Montanarchäologie und der Archäometallurgie sind nämlich sowohl auf der Pyrenäen- wie auch auf der Apenninhalbinsel in den letzten Jahrzehnten bahnbrechende Ergebnisse erzielt worden, die nach weiterem Austausch über die Beziehungen zwischen Italien und Südwesteuropa im Chalkolithikum verlangen. Für diese Thematik haben die beiden Abteilungen des Deutschen Archäologischen Instituts – Rom und Madrid –, deren Aktivitäten diesem geographischen Raum vorwiegend gelten, als Veranstalter der Tagung und als Herausgeber der Publikation ein Forum geboten. Mit der Veröffentlichung der Tagung suchen sie der Diskussion im Bereich der Kupferzeitforschung weitere Impulse zu geben.

Die Tagung wurde zwar von den beiden Abteilungen organisiert, aber sie versteht sich als Projekt von Prähistorikerinnen und Prähistorikern aus vielen europäischen Ländern mit dem gemeinsamen Ziel, einen Beitrag zur Kenntnis der westlichen Hemisphäre der europäischen Kupferzeit zu leisten und Anstöße zu weiteren Zusammenarbeiten zu geben. Dabei ging es darum, die sehr unterschiedliche Situation der iberischen mit jener der Apenninhalbinsel zu vergleichen und zu prüfen, ob hier nur der Erkenntnisstand voneinander abweicht oder wir grundsätzlich zwei unterschiedliche Ausprägungen in einem historischen Horizont vor uns haben.

Die Veranstaltung dieser Tagung gewinnt über die fachwissenschaftliche Bedeutung auch eine forschungspolitische. Die Prähistorische Archäologie, die in den Abteilungen des Deutschen Archäologischen Instituts anfangs nur sporadisch und seit den sechziger Jahren in zunehmendem Maße an Bedeutung erlangte, präsentiert sich hier mit einem eigenen Projekt, dessen Anfänge bis in die Zeit der 1954 gegründeten Madrider Abteilung zurückreichen. Zu den Mitarbeitern der ersten Stunde zählte ein Prähistoriker, zu dessen Schwerpunkten die Kupferzeit gehörte: Edward Sangmeister. Ab 1959 war Hermanfrid Schubart als Prähistoriker an der Madrider Abteilung tätig, die er von 1980 bis 1994 leitete. Ihre Forschungen auf diesem Gebiet, vor allem die von ihnen gemeinsam geleitete Ausgrabung in Zambujal bei Torres Vedras in Portugal sind bis heute wichtige Referenzen für die Kupferzeitforschung geblieben. Ihre Namen und der mit ihnen verbundene Grabungsplatz wurden zum Synonym für den Erfolg internationaler Zusammenarbeit, aus der immer weitere Netzwerke hervorgingen. 1994 übernahm Michael Kunst als Referent die prähistorische Forschung der Madrider Abteilung und führte vor allem auch die Grabungen in Zambujal fort.

Das seit 1829 aktive Instituto di Corrispondenza Archeologica war am Anfang ganz den wissenschaftlichen Zielen Johann Joachim Winckelmanns verpflichtet, die in vieler Hinsicht aus einer philologischen Tradition hervorgegangen waren. Deswegen blieben die Zeiträume ohne Schriftzeugnisse zunächst außerhalb der Überlegungen. Erst später, unter dem Einfluss der Entwicklungen in den skandinavischen und angelsächsischen Ländern, kamen einzelne Aspekte der Prähistorie hinzu, konnten aber nie größere Bedeutung erlangen. Immerhin hat Wolfgang Helbig mit seiner 1879 erschienenen

Schrift über „Die Italiker in der Poebene“ sich in diese Bereiche der archäologischen Wissenschaft vorgewagt und damit auch Luigi Pigorini beeinflusst, der seinerseits oft in den Adunanzen des Instituts in jenen Jahren vortrug. Ein gegenseitiger Austausch war vorhanden, aber die Prähistorie in Italien ging bald eigene Wege und das Germanico blieb in der Folgezeit auf die klassische Antike konzentriert, wenn man einmal von der Zeit des Nationalsozialismus absieht, in der aber stärker die Zeit der Völkerwanderung und damit als Wissenschaft die Frühgeschichte an Bedeutung gewann. Spätere Studien von Seiten der Prähistorie, die innerhalb der Abteilung Rom des DAI entstanden, widmeten sich meist der Eisenzeit und ergänzten somit methodisch die Versuche der Klassischen Archäologie, die Frühphasen der späteren Kulturen Italiens zu erschließen. Zu nennen sind hier etwa die 1959 und 1962 erschienenen Werke Hermann Müller-Karpes zu den Anfängen Roms. Später hat Kerstin Hoffmann als Forschungsstipendiatin der Abteilung im Rahmen des von der Gerda-Henkel-Stiftung geförderten Projekts zu den einheimischen Kulturen in Italien sehr intensiv den internen Dialog gefördert. Aber erst mit Daniel Steininger 2006 startete dann ein eigenständiges Projekt, das mit den traditionellen Forschungsfeldern der Abteilung Rom nichts mehr zu tun hatte und ganz im Chalkolithikum angesiedelt war.

Darin kommt ein umfassender Wandel in den Methoden und der Organisation von Forschung innerhalb des Deutschen Archäologischen Instituts zum Ausdruck, der jüngst zu vielen Veränderungen geführt hat, etwa in der sogenannten Bildung von Clustern, also die Abteilungen übergreifenden Forschungsverbünden. Damit die unterschiedlichen Abteilungen des Instituts in den verschiedenen Kulturregionen Europas und der ganzen Welt untereinander weiterhin einen fruchtbaren Austausch pflegen können, zugleich aber auch für ihre Partner an den diversen Universitäten und übrigen Forschungsstätten anschlussfähig bleiben, muss die Konzentration auf einzelne archäologische Disziplinen zugunsten einer breiteren Fächerung erweitert werden. Dadurch ist es möglich, verschiedene historische Horizonte und Epochen etwa im Bereich des Mittelmeeres, aber auch darüber hinaus, in ihren Gemeinsamkeiten und Unterschieden in den Blick zu bekommen. Zugleich profitieren die Disziplinen voneinander durch ihre methodische Vielfalt.

In einer solchen engen Verschränkung kann die Arbeit des Instituts eine wirkungsvolle Ergänzung zu dem Studien- und Forschungsbetrieb der Universitäten bilden, in denen bei aller Interdisziplinarität durch die Studienerfordernisse und Fächerdefinitionen die Grenzen stärker bewahrt werden müssen.

Die Tagung mit ihrer Thematik stellt einen weiteren Schritt in diese Richtung dar und bezeugt zugleich Öffnung und neue Verbindungen, die dadurch möglich sind. Ihr Konzept haben Daniel Steiniger und Michael Kunst gemeinsam entworfen. Beide beschäftigen sich vorrangig mit der Kupferzeit und beide stammen von der Universität Freiburg, wo der eine 2007 und der andere 1982 promoviert hat, womit sie wiederum in der mittelbaren Tradition Sangmeisters stehen.

Ihnen gilt unser besonderer Dank. Danken möchten wir auch Patrizia Petitti und Christian Strahm für die Mitarbeit zur Vorbereitung der Tagung im wissenschaftlichen Komitee sowie allen jenen Kolleginnen und Kollegen, die durch Vortrag, Diskussion und schriftlichen Bericht zum Erfolg des Unternehmens beigetragen haben. Auch an alle anderen, die sich an der Betreuung der Tagung und an der Redaktion beteiligt haben, richtet sich unser Dank. Für die finanzielle Förderung gilt der Fritz Thyssen Stiftung unser besonderer Dank. Hervorheben möchten wir schließlich die Gastfreundschaft von Rita Paris und Anna Maria Moretti, die für die Tagung am 6. und 7. Oktober 2011 ihren schönen Vortragssaal im Palazzo Massimo in Rom zur Verfügung stellten.

Henner von Hesberg, Rom, und Dirce Marzoli, Madrid, Januar 2013

Few and Far Between – Early Halberds in Europe

by *Christian Horn*

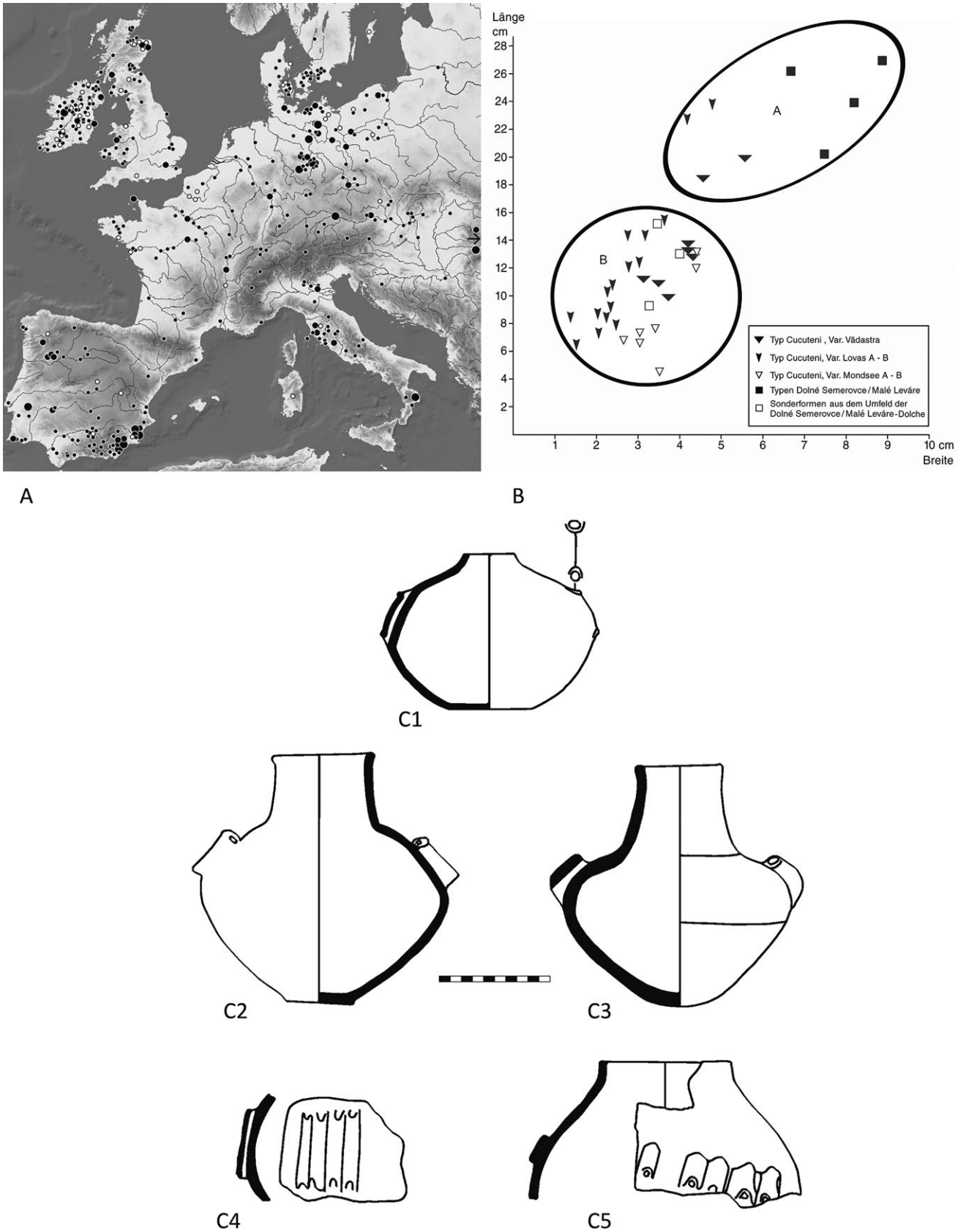
For many researchers, prehistoric halberds are a peculiar object more or less of Early-Bronze-Age date[1]. These scholars largely neglect the Italian material and its potential for a dating into the Italian Copper Age[2]. As recent research has shown, halberds were fully functional weapons[3]. Until today, approximately 730 halberds of copper and bronze have been discovered in Europe (fig. 1A) and although this is a rather small number, studies examining the entire find corpus are rare except for some articles[4]. Monographs[5] are even scarcer.

Ó'Riordáin[6] formulated the basic definition of a halberd: "[…] a pointed blade affixed at or near the end of a shaft and transversely to it." Yet, this definition is insufficient for the archaeological record, as the shaft is usually missing, leaving archaeologists with the problem of distinguishing which blades were in fact mounted as halberds and which were not. In order to solve this issue, a polythetical classification[7] has been employed and, accordingly, a variety of attributes for halberds has been defined[8]: an enlargement of all dimensions of the blade, a higher average weight, a higher average length of rivets, and a relatively strong mid-rib, all of which compared to dagger blades. Further distinctive features are an asymmetry in design, hafting and/or in subsequent use wear, a curving of blade and/or mid-rib and finally lineal haft traces placed either perpendicularly or tilted. Other evidence is context related, for example the positioning of blades, especially in graves. Although not all of these attributes have to be present on a blade to be interpreted as a halberd, just one is considered to be insufficient for a secure identification. However, special forms and exceptions such as blades alternately hafted as daggers and halberds are present[9].

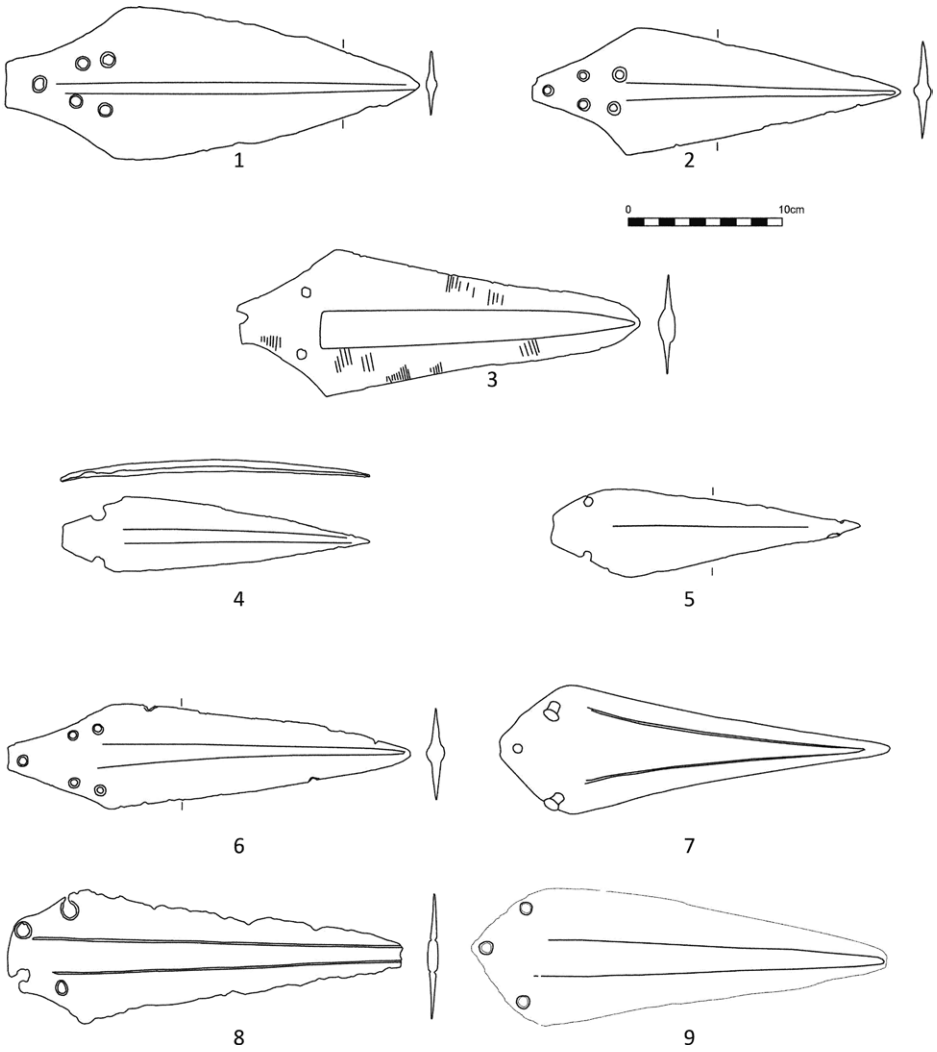
The halberd in itself is a rather simple invention for people who knew about the piercing qualities of daggers and the force generated by an axe/adze. Both are definable as 'weapon tools'[10] and the discovery of a mass grave in Talheim depicts in horrifying clarity the efficiency of axes/adzes, as several persons buried there show deadly traumata as results of blows with these implements[11]. With the invention of halberds – a hybrid of dagger and axe – a specialized weapon was created, devoid of any tool functionality but with a significant role in combat and warfare, which led to its important role in ritual contexts[12].

This study examines the evidence for the presence of the idea to haft blades and points of metal, stone and other materials in a halberd-like fashion from the first half of the 4th millennium onwards, but it leaves the possibility for an even earlier dating. This development will be outlined for a time span that lasted until the end of the Copper Age in large parts of Europe in the second half of the 3rd millennium BC. In this paper, I argue that the idea to haft weapons in a halberd-like fashion persisted in Europe for at least 2000 years, that it was wider spread than the scarcity of archaeological material suggests, and that its success was founded on the simplicity of the idea to construct a fully functional, specialized weapon.

1 Lenerz-de Wilde 1991; Schuhmacher 2002.
2 But see Barfield 1969; Horn 2014; Needham 2015.
3 Brandherm 2011; O'Flaherty 2007; O'Flaherty 2008; O'Flaherty et al. 2011; Horn 2014.
4 Ó'Riordáin 1937; Lechler 1938; Lenerz-de Wilde 1991; Schuhmacher 2002; Brandherm 2004.
5 Schickler 1963; Horn 2014.
6 Ó'Riordáin 1937, 240.
7 Eggert 2001, 136.
8 Horn 2014.
9 For example, Brandherm 2003, no. 1415.
10 Chapman 1999, 119.
11 Wahl – König 1987.
12 Horn 2011.



1 A. General distribution of halberds in Europe; B. length-vs.-width diagram of types Cucuteni, Malé Leváre and Dolné Semerovce; C. comparison between the vessels from Grave 3 in Rinaldone (C1), Elis (C2), Corano (C3) und Cava Lazzaro (C4, C5)



2 Halberds of the Western-Carpathian type and parallels: 1. Velehrad-Rákoš (Czech Republic); 2. Dolné Semerovce (Slovakia); 3. unknown, Sardinia (Italy); 4. Bratislava (Slovakia); 5. Levice (Slovakia); 6. Skalice (Slovakia); 7. unknown, Gotland (Sweden); 8. Ris-Orangis (France); 9. Ferrières-Haut-Clocher (France)

Western Carpathian Mountains

So far, the area of the Western Carpathian Mountains, today Slovakia and the Czech Republic, are not considered to be an important area for halberds. However, in this region a number of blades have been discovered to which several of the mentioned attributes apply. Compared to dagger blades they are enlarged in length and width (fig. 1B), as well as in thickness. Additionally, they possess an asymmetrical design, as the placement of the rivet holes and the transitions between hafting plate and edges show. Furthermore, they are asymmetrically worn with one side more or less convex, while the other side is straight or even concave. Despite lacking direct evidence of a shaft, for example with preserved wooden remains, the sum of these hints makes it possible that these blades were indeed hafted as halberds (Figs. 2, 1–2. 4–6).

Vajsov[13] termed these blades type *Dolné Semerovce,* and four of them are interpreted as halberds in this study. The other four belong to the type *Cucuteni*; the

13 Vajsov 1993, 134.

variants *Vădastra* and *Lovas A/B* are represented with two specimens each. The hoard from *Velehrad-Rákoš* contains one of the halberd blades (fig. 2, 1) associated with two massive chisels with rectangular cross-section. Similar chisels are dated to the *Bodrogkeresztúr-Phase B* (4200/4100–3700 BC)[14].

A hoard discovered in Male Levare confirms this date. Even though it is a dagger, the blade in this hoard is still morphologically close to the halberds under discussion. Other than that, the hoard contained an axe-adze (type *Jászladány*) dated by Zimmermann[15] to *Bodrogkeresztúr II* and a double-spiral pendant with a good parallel discovered in the hoard from Stollhof[16], which might point to a chronological position at the very end of this phase. Accordingly, the hoard of Malé Leváre has to be dated in absolute terms between 3850–3500 BC, which suggests a similar date for the hoard from Velehrad-Rákoš.

Accordingly, the deposition of early metal halberds in the Western Carpathian Mountains starts in the first half of the 4th millennium BC, if the interpretation of the discussed blades as halberds is accepted. From there the trail of evidence points to Northern Italy and Tuscany, following a well-established route in the spread of metallurgy[17].

Northern Italy and Tuscany

Although the exact beginnings of early metallurgical influence in Italy in the form of axe skeuomorphs in copper is much debated[18], it seems likely that these copper axes were in fact present before the end of the 5th millennium BC[19]. Somewhat later, but still in the Late Neolithic, a special kind of axe appears in Northern Italian contexts such as the Bocca Lorenza cave. They were compared by Pearce[20] to examples from the Balkans, but their elongated form and the wide outward swing to the cutting edge finds almost identical parallels in the *Szakálhát*-type axes, for example from Hódmezővásárhely-Szakálhát (Grave 2) and Fényeslitke (Grave 21)[21]. The Bodrogkeresztúr culture had a similar influence on the Western Carpathian Mountains discussed above, which is reflected in the Jászladány type axe-adze from Malé Leváre and the chisels from Velehrad-Rákoš.

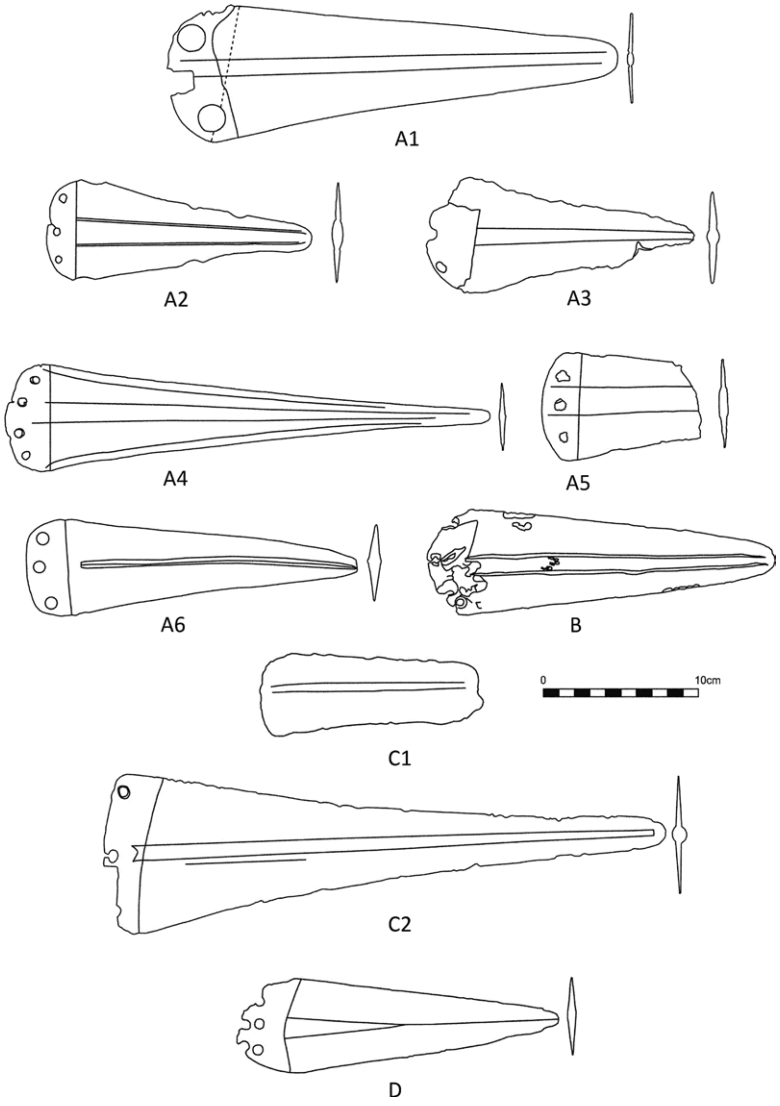
Zimmermann[22] was able to identify a dagger of Copper-Age date in the famous hoard from San Francesco (Bologna) that belongs to the Malé-Leváre dagger type. Thereby, he established a direct link between the Western Carpathian Mountains and the Apennine Peninsula.

Discussing the halberds here, a blade with unknown find context from Sardinia has to be added (fig. 2, 3). It has a parallel in the halberd blades from Dolné Semerovce (fig. 2, 2). Consequently, the blade from Sardinia ought also to be identified as halberd, because it is equally enlarged in comparison to dagger blades. Even though this halberd has a considerable amount of arsenic (1.1%)[23], it does not necessarily suggest a younger date as the presence of arsenical copper in that early time indicates, for example in the Circumpontic region[24]. Instead, it reflects a regional pattern, which suggests that this blade might be locally produced.

A similar metallurgical composition is also visible in the blades of the *Rinaldone* culture, which is the first region to show a rich body of early halberds of different types in dateable contexts. Barfield[25] argued for the early date of the Rinaldone halberds, but his results were not recognized by other researchers[26]. Later, Skeates[27] pointed to an early development of Italian halberds in the second half of the 4th millennium BC, but the blades he used for illustration are rather daggers than halberds[28]. Winiger[29] followed this dating and Brandherm[30] speculated upon such an early beginning in Italy, but remained undecided.

In the eponymous necropolis of Rinaldone both Graves 3 and 5 contained one halberd each (fig. 3, A3. C1). The graves belong to a group of richly furnished

14 Patay 1984, 21 f.; Vasajov 1993, 134 f. figs. 32. 34; Matuschik 1998, 228 f.; Zimmermann 2007, 53; Patay 2005, 131 f.; Czekaj-Zastawny et al. 2011, 48 fig. 2.
15 Zimmermann 2007, 52 f.
16 Angeli 1967, pl. 1; Vajsov 1993, 134 f.
17 Cierny 2008, fig. 2.
18 Pearce 2007, 38–40; Skeates 1994, 9–12.
19 Roberts 2008.
20 Pearce 2007, 45.
21 Patay 1974, pl. 1.
22 Zimmermann 2007.
23 Junghans et al. 1968, no. 8044.
24 Vajsov 1993, 138 fig. 36.
25 Barfield 1969.
26 Brandherm 2004, 315; for an example, see Lenerz-de Wilde 1991.
27 Skeates 1994, 26 f.
28 Skeates 1994, fig. 6.
29 Winiger 1999, 158–161.
30 Brandherm 2004, 314.



3 Halberd types in Italy and parallels: A1. Calvatone (Italy); A2. San Cristoforo (Italy); A3. Rinaldone (Grave 3, Italy); A4. Olmo di Nogara (Tb. I, Italy); A5. Poggio delle Sorche (Italy); A6. Fontaine-les-Puits (France); B. Vétroz (Switzerland); C1. Rinaldone (Grave 5, Italy); C2. Villafranca Veronese (Italy); D. Poggio Aquilone (Italy)

graves that show certain combinations of specialized weapons and tool-weapons[31] that comprise mace heads, flat axes, flint arrowheads and blades, some of which are identified as halberds. Both graves from Rinaldone possess a parallel in Grave 21 from Ponte San Pietro, which was equally richly furnished[32]. This grave yielded a radiocarbon date between 3600–3300 cal. BC, thereby proving that metal-rich graves and arsenical copper metallurgy start in Italy around the middle part of the 4th millennium cal. BC[33].

Grave 5 from Rinaldone contained a pear-shaped mace head similar to the one found in Ponte San Pietro, which indicates that there is no chronological distinction between pear and globular-shaped mace heads. The same is true for the huge variety of dagger forms present in the Rinaldone region[34]. However, in relative chronological

31 This term was used by John Chapman (Chapman 1999, 108) amongst others to signify implements that have been employed for peaceful means, but at the same time hold the *potential* for violent action. One might add that they do not just hold the potential, but can, in fact, be expected to have served this function.

32 Dolfini 2010, fig. 3.
33 Dolfini 2010, 711–715.
34 Dolfini, personal communication.

terms Dolfini[35] is right to see Grave 5 from Rinaldone as slightly younger than Grave 3 from the same necropolis due to the presence of a ceramic vessel known as *'vaso a fiasco'* in Grave 5. The pot from Grave 3, in contrast, confirms its rather early position (fig. 1, C1). It has features of *Lagozza* vessels such as the short neck, a well-rounded shape as well as closer fitting tubular handles, which are placed on the vessels mid-section (fig. 1, C4–C5), but the vessel unites these features with such commonly observable on '*vaso a fiasco*', for example just one larger tubular handle on each side and a well-defined shoulder (fig. 1, C2–C3).

Apart from the Rinaldone necropolis, the specific constellations of weapons and weapon-tools observed in graves allow us to place other graves with halberds in the same general timeframe, i. e. between 3600–3300 cal. BC up to 3000 BC. Similar assemblages were termed 'stereotyped' for the succeeding periods[36]. In the grave from Poggio Aquilone[37] a halberd (fig. 3D), a flint dagger, a copper flat axe, and an arrow point were associated with a mace head, which represents yet another form of mace heads in this phase. So far there is no clear chronological separation between the mace head forms; and it seems they are as diverse as the dagger types. From Poggio delle Sorche stems a range of objects ploughed out of a field[38]. Amongst other finds two flat axes, one arrow point, a globular mace head, and a halberd (fig. 3, A5) are present, as well as several fragmented vessels. This assemblage might very well represent yet another richly furnished grave, which has to be dated to an according time frame. One of the axes from Poggio del Sorche shows indicated flanges, which might place the complex closer to the chronological position of the ice mummy discovered in the Similaun Alps[39], who carried a similar axe. An equally shaped axe was discovered in the grave from Casanuova[40] associated with a halberd, a '*vaso a fiasco*' and a dagger of *Guardistallo* type. The combination of grave goods lacks a mace head as well as arrowpoints, which might indicate a younger date, but despite that the grave is still securely dated into the second half of the 4th millennium BC by the dagger[41]. In a cave near Fontino a halberd[42] was discovered in a mass grave amongst a number of daggers including one of Gaudo type and other finds. Even though the exact placement in the cave is uncertain, the halberd is connected with a ^{14}C-date ranging between 3362–3027 cal. BC (2-Sigma)[43].

Typologically, the halberd blades from the Rinaldone region show a similarly large variety as daggers and mace heads, but some evidence for the dating of Northern Italian halberds is present. Although this evidence is solely typological in nature it increases the likelihood of a chronological position of the Northern Italian blades in the second half of the 4th millennium BC. In the necropolis of Olmo di Nogara two halberd blades (fig. 3, A4) were found, each in a single structure termed grave (Tb. I and Tb. 516bis) despite the lack of grave goods and skeletal remains[44]. Both blades show features that resemble the halberds discovered in Grave 3 from Rinaldone, Casanuova and Fontaine-les-Puits (fig. 3, A6). The latter, although discovered in France, has to be mentioned here, since the blade was discovered in a cemetery that was linked both to the Rinaldone[45] and the Remedello culture[46]. It matches the find circumstances described for Olmo di Nogara as it was discovered as a deposition in the necropolis without grave association. Combier[47] does not present it as part of Grave A, to which the halberd has sometimes been connected. It seems to be a ritual practice in certain regions in the Copper Age to make offerings in the general area of a necropolis, maybe to consecrate the ground, but so far the evidence is vague. However, the second blade from Rinaldone (Grave 5) possibly belongs to a type similar to the halberd discovered in a grave from Villafranca-Veronese (Fig 3, C1–C2); yet, this parallel is far from secure, because the find from Grave 5 in Rinaldone is heavily damaged. However, if both weapons do indeed match each other, a beginning of these blades in Northern Italy parallel to that in Rinaldone can be suggested.

In summary, it is very likely that halberds were present in the Rinaldone Culture from its very beginning. The same might be true for the Remedello culture and the blade from Fontaine-les-Puits, but it is as of yet not possible to state the latter with certainty, because good grave associations and radiocarbon-dated comparisons are lacking.

35 Dolfini 2004, 245 f.
36 Van der Linden 2007, 183 f.
37 Brizio 1899.
38 Rendini et al. 2001.
39 Gleirscher 2003, fig. 3; Dal Ri 2006, 23.
40 De Angelis 1995.
41 De Marinis 2006, 216.
42 Zanini 2002, fig. 50, 1.
43 Zanini 2002.
44 Salzani 2005, 33. 277.
45 Strahm 2005, 28.
46 Gallay 1981, 129; It is indeed not easy if at all to distinguish between the Remedello and Rinaldone culture, as Steiniger (2005) points out.
47 Combier 1976.

Halberds in Alpine Rock Art

A variety of halberd depictions has been discovered on rock panels and *stelae* in Valcamonica, Valtellina and in the French Alpes-Maritimes on Mont Bego. A smaller amount of depictions is known from Val d'Aosta and Arco[48]. On all of these panels and *stelae* halberds are connected to other objects, as for example axes, possibly similar to the axe of the ice mummy from the Similaun Alps, or maybe indeed flat-axes, shaft-hole axes and Remedello daggers (fig. 4, B2–B6).

Rock art is very difficult to date, but with the new evidence for the presence of early halberds – presented above – a beginning of this rock art in the second half of the 4th millennium BC is at least possible. Similarly, Anati[49] dates the beginning of style IIIa, in which the halberds are usually engraved, to 3300 BC, and he sees depictions of halberds for example on Rock 4 from Foppe di Nadro as connected to this style. Yet, on Rock 1 in Foppe di Nadro, a halberd engraving attached to a human figure in Style I was discovered (fig. 4, A1), which makes an even earlier dating thinkable. De Marinis[50] suggested that the figures have to be dated according to the objects they hold. Yet, the depictions do not differ in style. Usually, the styles of engraving the weapons and the human figures are chronologically interrelated with the type of weapon; for example, an Iron-Age figure wields an Iron-Age weapon, and both are engraved in the Iron-Age style. Consequently, a weapon depicted in Style I wielded by a figure of Style I is most likely contemporary with both figure and style, and does not belong to any later period. The depicted halberd blade was probably not made of metal, and although halberd blades from such early times have not been recognized amongst the finds so far, the flint halberd blade found in Grave 2 in Spilamberto[51] accounts for the existence of stone halberd blades in Northern Italy in a very general sense. The blade from Spilamberto is interpreted as halberd blade because of its positioning in the grave (fig. 4, D1), and it probably belongs in the second half of the 4th millennium BC.

Furthermore, the depiction on Rock 1 in Foppe di Nadro raises some questions about the dating of halberd engravings on Rocks 4 and 23 from the same location and some depictions in the region of Mont Bego, which can be seen as parallels (fig. 4, A2). Anati[52] has called Foppe di Nadro a center of Style-I and -II rock art. Consequently, his chronological table contains a halberd on the given position[53], and although he calls them axes, they clearly show triangular blades. Nevertheless, the chronology has to be left open for the individual engravings on Rocks 4 and 23 in Foppe di Nadro, because it is just a stylistic comparison. Moreover, associations, such as on Rock 1 of Foppe di Nadro are missing.

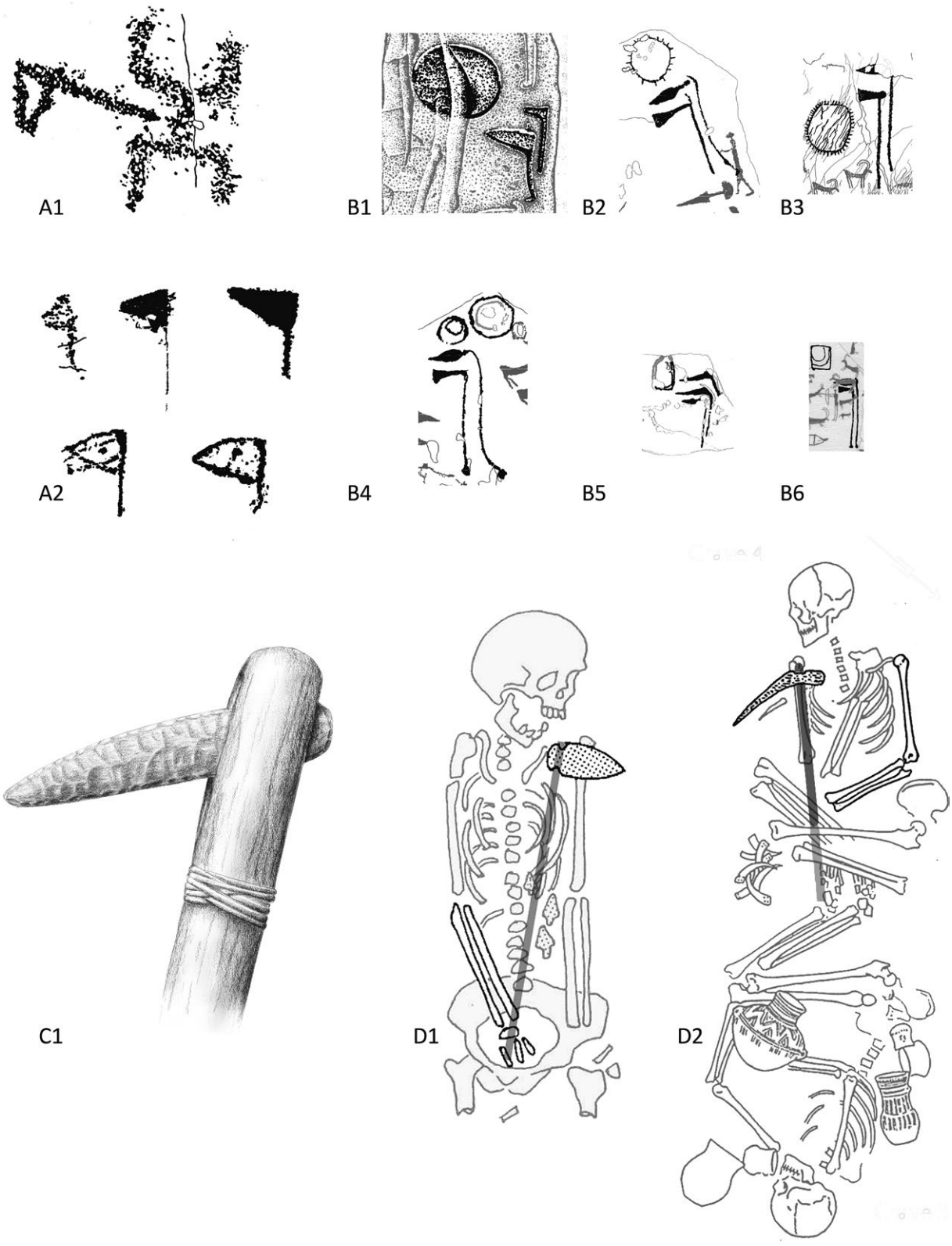
This raises an interesting question about the presence and absence in the archaeological record that will be addressed below.

Iberian Peninsula

In the megalithic cultures of the southern part of the Iberian Peninsula good evidence for the knowledge and existence of early halberds is visible. In the name-giving megalithic tombs of this region halberd blades not only of metal, but at least one made out of stone, were discovered. For some notched metal blades in these tombs it was suggested early on that they might, in fact, be halberd blades[54]. Four of these blades have been discovered in Alcalar (Grave 3). The type-site of Los Millares (Grave 57) and the megalithic tomb from El Moral (fig. 5, A1–A6) contained one each. It is problematic to differentiate whether the blades with rivet notches were hafted as daggers or halberds. Brandherm gives some good reasons to interpret some of them as halberds, including the fact that their blades are asymmetrical as well as the placement of the rivet notches[55]. Additional proof is provided by diagonal hafting traces, by the asymmetrical wear of the blades and by the fact that they possess midribs at all, in contrast to the contemporary dagger blades. That these blades are notched is no contradiction to their use as halberds, as is visible in the halberd from Grave 2 in Spilamberto (fig. 5B).

In Alcalar (Grave 3), all copper objects including the halberds were unearthed in a side chamber of the tomb.

48 Casini 1994; de Lumley 1995.
49 Anati 2008.
50 De Marinis 1994, 119.
51 Bagolini 1981, 109 fig. 49.
52 Anati 2008.
53 Anati 2008, 14.
54 Leisner – Leisner 1943, 238.
55 Brandherm 2003, 80 f.

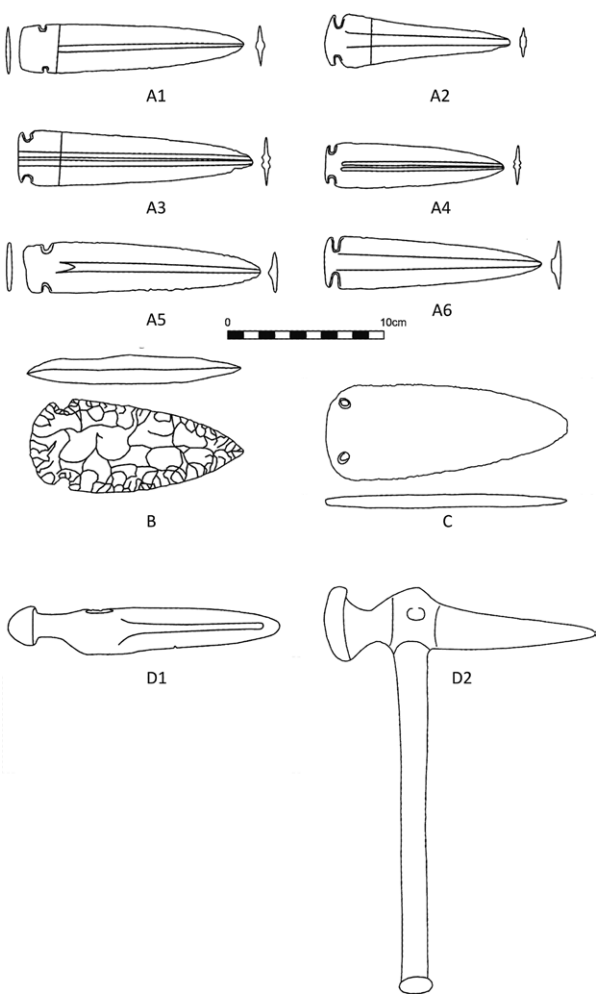


4 A1. Foppe di Nadro (Rock 1, Italy); A2. Mont Bego (France; De Lumley 1995); B1. Tübingen-Weilheim (Germany; after Reim 2006); B2. Caven 2 (Italy); B3. Cemmo 2 (Italy); B4. Caven 1 (Italy); B5. Vangione 1 (Italy); B6. Tirano-Lovero (Italy; B2–B6 after De Marinis 1994); C1. possible 'dolkstav'-hafting (illustration: Ingvild Tinglum); D1. Spilamberto (Grave 2; after Bagolini 1981); D2. Braunsdorf-Braunsbedra (Grave 4; after Matthias 1982); all modifications by Christian Horn

Among them were copper flat axes of Type 1A according to Monteagudo[56], which are dated to Phases II-IIIa of the *Tejo* culture or the Early to Middle Copper Age. There seems to be no material directly associated to Bell Beakers in the tomb. Some blades were cast in a bivalve mold, but the early development of halberds in the Western Carpathians and Italy shows that this casting technique was employed already in the 4th millennium BC. Moreover, the two blades from Los Millares (Grave 57) and El Moral were cast in an open mold (fig. 5, A5–A6), hinting to the circumstance that bivalve casting was not used everywhere yet. Thus, these blades are most likely not of Bell-Beaker origin[57]. Absolute chronological dates exist for the *tholoi* which span between 3200/3100–2600 cal. BC[58]. Yet, it is not certain where to place the metal halberds in this timeframe.

From a megalithic tomb in La Pijotilla (Grave 3) comes a ^{14}C-date directly associated with the discovery of a limestone halberd blade (fig. 5C). Typologically, this blade is difficult to classify, as it shows parallel features to the earlier specimens, for example from Grave 3 in Rinaldone or Fontaine-les-Puits, but also from the rather late halberds in the Cano hoard. However, the radiocarbon date yielded a result of 4130±40 BP (Beta-121143)[59], which calibrates to 2862–2625 cal. BC (1-Sigma) and 2873–2581 cal. BC (2-Sigma) using OxCal 4.1[60]. The *tholos* from La Pijotilla (Grave 3) is linked to the previously mentioned Iberian megalithic tombs by an array of different finds, such as phalange idols, ceramic bowls, flint arrowheads, long flint blades and a notched copper dagger that is similar to another dagger discovered besides the halberd blades in Grave 3 from Alcalar.

In summary, on the Iberian Peninsula the deposition of the discussed stone and metal halberds starts between 2850–2600 cal. BC. Brandherm[61] pointed to some other probable stone halberd blades that might predate the metal examples in the phase deduced here, but so far these blades are not very well researched and it would lead too far to examine them in any detail in the presented study.



5 Various halberds: A1–A4. Alcalar (Grave 3, Portugal); A5. Los Millares (Grave 57, Spain); A6. El Moral (Spain); B. Spilamberto (Grave 2, Italy); C. La Pijotilla (Grave 3, Spain); D1. Santa Fiora (Italy); D2. Worowo (Poland)

Traces of Early Halberds in Europe

So far, four different regions (Western Carpathian Mountains, Tuscany, Circum-Alpine and the Southern Iberian Peninsula) with reasonably good evidence for early halberds have been reviewed, but despite showing at least some temporal overlap, these regions are in general geographically far removed from each other, leaving considerable gaps. Archaeological finds of elaborate weaponry depend highly on ritual practices, and their

56 Monteagudo 1977, 24 f.
57 Contra: Blance 1971, 81.
58 García Sanjuán 2006, 156 tab. 11, 4.
59 Hurtado Pérez 2000, 249 f.
60 Horn 2014.
61 Brandherm 2004, fig. 11, 3–4.

discovery is very arbitrary, since most are discovered by chance mostly by laymen.

However, the situation in the Western Carpathian Mountains shows that single depositions are amongst the earliest finds, which is also confirmed by the discoveries in Olmo di Nogara and Fontaine-les-Puits. Furthermore, in regions where halberds were known and probably played a role in day-to-day life, they do not necessarily get deposited. This is emphasized in the Mont-Bego region with its 268 halberd engravings[62], but the next find location of a physical halberd is situated at more than 100 km distance. Deposition as ritual practice in any sense, i. e. grave good, hoard or single deposition, is very peculiar, and is on a global and temporal scale not shared by many people. Even where it occurs, it is a rather rare occasion at least in this early time frame. Taking all this into account as vantage points, a survey of the scarce evidence of halberds and the idea to haft blades or points transverse to a shaft elsewhere in Europe will follow.

The blade from Sardinia – discussed above – shows that the forms from the Western Carpathian Mountains can be detected at quite a distance from their main distribution. Other places where typologically related blades were discovered are on Gotland (fig. 2, 7), in Ris-Orangis (fig. 2, 8) and Ferriéres-Haut-Cloches (or Rostrenen)[63]. All three halberds have unknown find circumstances. The specimens from Gotland and Ferriéres-Haut-Cloches show some parallel features to the examples from Skalice, Bratislava and Levice (fig. 2, 4–6), but also resemble each other more closely. The blade from Ris-Orangis is typologically even closer to the Western Carpathian Mountains; the missing fifth rivet hole might be either due to breaking and re-work or a mistake in copying. All three blades possess contents of Arsenic[64], thus were probably locally produced.

The famous hoard from Bygholm is a reminder not to discount the possibility of an unexpected appearance of highly developed metal forms in an early setting. The associated ceramic shows that this hoard is of Funnel-Beaker date[65]. Jensen[66] interpreted the copper blade present in the hoard as a halberd, but this is viewed critically by the author[67], because of the thinness of the blade. Additionally in this case, the missing hafting plate makes any certain interpretation impossible. However, the blade from Bygholm shows an interesting feature shared by a variety of different early metal blades.

The blades from Bygholm, Ris-Orangis (fig. 2, 8) and Calvatone (fig. 3, A1), the latter is a parallel to the example from Grave 3 in Rinaldone, possess channelings instead of a mid-rib. This has been recognized as a feature on many early blades by Klimscha[68]. Another halberd, which was found in Vétroz (Switzerland) can be added to these examples (fig. 3B), and was loosely attributed to the *Pfyn* culture by Wyss[69]. These channels probably imitate the straight narrow mid-ribs commonly observable on the early daggers and halberds from the Western Carpathian Mountains and Italy.[70] This is illustrated by the halberd from San Cristoforo (fig. 3, A2), which is a close parallel to the specimen from Grave 3 in Rinaldone. The latter shows such a mid-rib, but accompanied by channels.

Both the Baltic Sea as well as the Northern Alpine regions yielded so far just a singular find of an early metal halberd, but another weapon form based on the idea to mount blades and pointed implements transversal to a pole is probably visible since the 4th millennium. In the Baltic Sea region thick flint points ('Dicke Flintspitzen')[71] got interpreted by Ebbesen[72] as halberds ('dolkstave'). The curvature many pieces express, their asymmetry, and their very thick cross-section[73] are features that make this hypothesis a credible possibility (fig. 4, C1). However, other scholars have argued against this interpretation[74]. Recent research has shown that the thick flint points were potentially used as weapons[75]. Furthermore, it is interesting to note that in this area halberds of Late-Neolithic origin are continuously produced in flint[76]. The absolute dating of the Funnel-Beaker halberds starts around 3500 BC[77], which coincides with the rise of the deposition of metal halberds in Tuscany.

The hafting style of the antler picks ('Geweihsprossenhacken') for example from the Swiss lake dwellings is not much disputed. The debate in this case centers

62 De Lumley 1995.
63 See Gallay 1981, 126 fig. 2, 9.
64 Gotland: 0.5% (Otto – Witter 1952, no. 1719); Ferriéres-Haut-Cloches: 2% (Krause 2003, No. 71711); Ris-Orangis: 2.1% (Mohen 1977, no. 13).
65 Klassen 2000, 257–260.
66 Jensen 2001, 430–432.
67 Horn 2014.
68 Klimscha 2010.
69 Wyss 1973, 80 fig. 30.
70 Channelings do not necessarily weaken the blade. They are used to reduce material costs while simultaneously strengthening the blade (Seifert 1981, 29; keyword: 'Hohlbahn'). But in the case discussed here, these channels produce the same visual effect as a mid-rib; even from closer distances.
71 See Lübke 1997/1998, 72–77.
72 Ebbesen 1992.
73 Ebbesen 1992.
74 Klassen 2000, 260 f.
75 Horn – Schenck 2016.
76 Kühn 1979, 72 f.
77 Klassen 2000, 79; Early Neolithic Phase II; see Ebbesen 1992, 110–112; Steffens 2009, 174.

around their functional interpretation, and it was Winiger[78] who made a good argument in favor of a weapon function, which, in turn, would not exclude an employment of these implements in other tasks. According to Winiger[79], the picks also start in the second half of the 4th millennium. This gives these objects a contemporary setting with the deposition of halberds in Italy and might explain their occurrence within their local setting.

In the regions north of the Alps, another scattered hint of the knowledge of halberds in the late 4th and the early 3rd millennium BC is visible in the *stelae* from Tübingen-Weilheim in the Neckar Valley. Apart from cup marks it shows an array of weapons and a circular motive (fig. 4, B1). Reim[80] interpreted all of the engraved weapons as halberds, but two of them are lacking points and are thus interpreted as axes[81]. The specific constellation displayed on the *stelae* of Tübingen-Weilheim of two weapons placed diagonally above each other in addition to a circle or circular motif above both weapons, has almost identical parallels in Northern Alpine rock art (fig. 4, B2–B6). Despite drawing the connection to Italy, Reim[82] does not date the *stelae* accordingly, but attributes it to an Early-Bronze-Age setting instead, because of a singular Early-Bronze-Age halberd discovered near Kiebingen. Yet, the local halberd does not match the engraved ones in outline, thus a direct connection is unlikely, especially in light of the rather close match of the complex Italian constellation. The latter shows a more or less contemporary setting with the Northern Italian rock art, since the meaning and thereby the prerequisite for engraving this symbol in the first place would have been lost over a long temporal distance.

Before this paper ends, it should be pointed out that in the Corded-Ware culture the idea to haft blades and points transversally was already known on organic blades and points. In chronological terms this leads away from the 4th and the first half of the 3rd millennium BC into the second half of the 3rd millennium BC. In Grave 4 in the Corded-Ware necropolis in Braunsdorf-Braunsbedra a man got buried with a so-called bone hatchet (fig. 4, D2), which got interpreted by von Brunn[83] as a halberd. A comparison with the placement of the halberd in Grave 2 from Spilamberto supports this interpretation (fig. 4, D1). Both men were buried with their weapon in hand, thus giving the deceased the warrior identity they equally possessed in life and in death. Despite Treherne's[84] conclusion that these identities might be the mere notion of a lifestyle, they will still be rooted, at least partly, in a social practice[85]. The everyday use in case of weaponry is fighting and war, thus referring to the warrior. However, the shaft of Braunsdorf-Braunsbedra was fixed to the bone blade via a shaft hole rather than with rivets, which can be explained by the material of the blade, as it appears unsuitable for rivet holes.

Another example of a metal halberd with a shaft hole is known from Italy from Santa Fiora (fig. 5, D1), but the find context is unknown. The specimen is a hybrid between a halberd and a hammer-axe and got dated to the Italian Copper Age[86]. Even though a find from Worowo (Poland) is geographically and chronologically far removed from the blade from Santa Fiora, the general outline of both is comparable (fig. 5, D1–D2). The find from Poland seems to represent a similar hybrid, but with some kind of shaft still attached. This example was discovered in a bog as single deposition, but sadly was subsequently lost. All that is preserved is a sketch of the find[87]. The rounded tip makes the interpretation either as axe or as adze unlikely, and that it was, in fact, a halberd remains the most suitable explanation.

Although it is possible that the halberd from Worowo had a preserved wooden shaft upon discovery, it seems more likely that it was, in fact, a metal shaft, but this argument is difficult to assess, since the object is lost. These metal shafts were known in the regions under influence of the Corded Ware on the type *Eschollbrücken* axes of variant *Bebra*[88]. The halberd from Worowo shares the hammer-ending with these axes, but also with battle axes of the Single-Grave culture. The specimen from Worowo cannot be more precisely than to the third millennium BC.

In summary, some evidence for an early spread of the idea to haft weapons in a halberd-like fashion is visible in several areas in Europe. Two regions, the Baltic Sea and the Northern Alpine region, started to deposit these objects contemporary to the halberds in burials in Tuscany. Most likely the regions in-between were also influenced by this practice; thus, the halberd or halberd-like weapons were well-established before the Únětice culture, and its strong deposition practice became significant in the Early Bronze Age.

78 Winiger 1999, 158–161.
79 Winiger 1999, 158–161.
80 Reim 2006, 448.
81 Fossati 2004, 272.
82 Reim 2006.
83 Von Brunn 1941; Matthias 1982, fig. 3a.
84 Treherne 1995, 129 f.
85 Hodder 1986, 128.
86 Barfield 1969.
87 Gedl 2004, no. 35.
88 Kibbert 1980, 26–28.

Conclusion

The evidence presented shows that the deposition of metal halberds begins at the latest around the middle of the 4th millennium BC, but most likely even earlier in the first half of the 4th millennium BC in the Western Carpathian Mountains, thus giving the idea of constructing halberds at least 2000 years of time to develop, spread and gain symbolic status in Europe before falling out of use again in the Early Bronze Age. The bulk of the material still belongs to the second half of the third and the first centuries of the second millennium BC in Ireland, the El Argar and Únětice culture. However, the example from Mont Bego shows that what changes is not the presence of halberds in prehistory, but the ritual practices of the given societies. The Únětice culture is signified amongst other things by a massive hoarding phenomenon; in the El Argar culture more of their members, compared to the Italian Copper Age, were buried with grave goods. An explanation for this might be as simple as the scarcity of metal in earlier times[89], and people might have chosen to depict such items on rock or simply not deposited weapons at all.

The halberd and the idea to haft implements transversally gained the status of prestigious, symbolic and ritual item through their practical use. In that sense, the halberd had a development parallel to the sword, as a practical weapon and social signifier[90]. Thus, the distinction between useable item and prestige/ritual object is generally flawed; these objects rather contain both or several dimensions at the same time[91]. In fact, the symbolic value stems from a specific kind of usability directly linked to warfare, reinforcing Keeley's statement about axes: "these implements were male status symbols because […] they were weapons."[92]. The same is true for halberds. In this way, war homogenizes the way in which it is carried out and inevitably leads to an idealization of the same object as signifier of the warrior status or identity, and so provides the ability for a mutual understanding. In this regard, it does not matter whether the warriors are allies or adversaries; they will understand the symbology, which can be carried over considerable distance as the *stelae* from Tübingen-Weilheim shows. Cosmology is dependent on practical use[93], but in order to directly observe this relation for prehistoric societies, evidence has to enter the archaeological record which requires a specific ritual constellation, for example depositing objects in the soil at certain occasions. Whenever this feature is missing in sacrificial practice, the situation has to be assessed indirectly.

This paper is a summary and thereby in its very nature abstracted and incomplete. Further research has to be undertaken to prove or disprove its assumptions. Furthermore, it represents a particular view on the material to present evidence for a presence of halberds at least in the early 4th millennium BC, but ultimately it is the aim of this article to stimulate a fruitful discussion about the earliest specialized weapons in Europe.

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89 Kristiansen 1989, 21.
90 Schulz 2006, 217–220.
91 Larson 1989, 26 f.; Vandkilde 2011, 370 f.
92 Keeley 1996, 50.
93 Weiner 1992, 3 f.

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