

LATE PREHISTORY AND PROTOHISTORY: BRONZE AGE AND IRON AGE

PROCEEDINGS OF THE XVII UISPP WORLD CONGRESS
(1–7 SEPTEMBER 2014, BURGOS, SPAIN)

Volume 9 / Sessions A3c and A16a

1. THE EMERGENCE OF WARRIOR SOCIETIES AND ITS ECONOMIC, SOCIAL AND ENVIRONMENTAL CONSEQUENCES

Edited by

Fernando Coimbra and Davide Delfino

2. AEGEAN – MEDITERRANEAN IMPORTS AND INFLUENCES IN THE GRAVES FROM CONTINENTAL EUROPE – BRONZE AND IRON AGES

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Valeriu Sîrbu and Cristian Schuster

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Foreword to the XVII UISPP Congress Proceedings Series Edition

Luiz OOSTERBEEK
Secretary-General

UISPP has a long history, starting with the old International Association of Anthropology and Archaeology, back in 1865, until the foundation of UISPP itself in Bern, in 1931, and its growing relevance after WWII, from the 1950's. We also became members of the International Council of Philosophy and Human Sciences, associate of UNESCO, in 1955.

In its XIVth world congress in 2001, in Liège, UISPP started a reorganization process that was deepened in the congresses of Lisbon (2006) and Florianópolis (2011), leading to its current structure, solidly anchored in more than twenty-five international scientific commissions, each coordinating a major cluster of research within six major chapters: Historiography, methods and theories; Culture, economy and environments; Archaeology of specific environments; Art and culture; Technology and economy; Archaeology and societies.

The XVIIth world congress of 2014, in Burgos, with the strong support of Fundación Atapuerca and other institutions, involved over 1700 papers from almost 60 countries of all continents. The proceedings, edited in this series but also as special issues of specialized scientific journals, will remain as the most important outcome of the congress.

Research faces growing threats all over the planet, due to lack of funding, repressive behavior and other constraints. UISPP moves ahead in this context with a strictly scientific programme, focused on the origins and evolution of humans, without conceding any room to short term agendas that are not root in the interest of knowledge.

In the long run, which is the terrain of knowledge and science, not much will remain from the contextual political constraints, as severe or dramatic as they may be, but the new advances into understanding the human past and its cultural diversity will last, this being a relevant contribution for contemporary and future societies.

This is what UISPP is for, and this is also why we are currently engaged in contributing for the relaunching of Human Sciences in their relations with social and natural sciences, namely collaborating with the International Year of Global Understanding, in 2016, and with the World Conference of the Humanities, in 2017.

The next two congresses of UISPP, in Melbourne (2017) and in Geneva (2020), will confirm this route.

Introduction

1. The Emergence of warrior societies and its economic, social and environmental consequences

Fernando COIMBRA and Davide DELFINO

The aim of violence, warfare and conflict in Late Prehistory (Neolithic and Bronze Age) was already approached from different points of view since some decades: general works on the subject of warfare in Later European Prehistory. Taking in account the main works published since the 60s in that specific issue, and about Europe outside the Aegean area) from a pure archaeological point of view there must be considered: Escalon de Fonton (1964), among the first to talk specifically about the birth of war in European prehistory; Sandars (1978) already speaking of a war society referring to Sea People; Sherratt (1987) which defines the Central European Bronze Age as characterized by chiefdom, a system dedicated to warfare and to trade network; Drews (1993), giving an opinion that there was already a warfare throughout Bronze Age and that this had evolved with the so-called crisis of the 12th century BC, and Kristinnson (2010) which analyzes the ancient warfare from the Urnfield Culture (*ibid.*: 40-57); Jimenez (2009) as part of a military history of Spain coordinates the Recent Prehistory and Protohistory part, bringing these periods of in military history on par to historic period; Kristiansen (2001) with a vision of European Bronze Age dominated by warrior societies also in the symbolic aspect; Osgood, Monk, and Toms (2000) dealing for the first time in a complete work on a European scale the theme of warfare in the Bronze Age without much exaggerated care, but frankly speaking, based on archaeological facts; Vandkilde (2006) which defines the warrior side of Corded Ware and Bell Beaker cultures correctly applying archaeological theory and data, and anthropology.

At a level of symbolism of a warrior society characterizing the European Late Prehistory there must be quoted the work of Harrison (2004) and the work coordinated by Baray, Honegger and Dias-Meirinho (2011) which with a study between cognitive archaeology, funerary archaeology and the study of artefacts, build a European scenario of a warrior society with its symbols.

Also from an anthropologic point of view, the aim of the violence and warfare in prehistoric societies was treated, overall by North American anthropologists, and resulted in various works, some of these useful also to the interpretation of the societies in European Later Prehistory. Many of which clearly explain the presence of violence in mankind, and how this has inevitably led to the development of natural warfare in the first complex societies. Among the main works, we must cite Kelly (2000) using some examples of behavior in hunter-gatherer groups to isolate some human distinctive characteristics that can lead to warfare in the complexes societies; the work by Keeley (1996) gives an explanation to the anthropological archaeological data going beyond the traditional European cultural and historical setting, giving a clear and solid basis to justify warfare since the Neolithic. Also others works (Wilson 2012: 71-85) link war with the necessity of having sufficient territory and resources to support the increasingly numerous human community from the Neolithic.

Among the multidisciplinary studies, often carried out between archaeologists and anthropologists, are fundamental the work by Guillaime and Zammit (1998) which with a comparative view between rock art, palaeopathology and physical anthropology, structures of fortified settlements impeccably explains the transition from prehistoric violence, in particular the Mesolithic, until the real war in Recent Prehistory; the work coordinated by Fry (2013) which with a panorama enriched by primatology, cultural anthropology, animal behavior, physical anthropology in prehistoric skeletons, archeology and polemology explains human nature between a predisposition to both war and peace, with evidence from the origins of the human race and with evidence of organization in warfare in

Recent Prehistory. Also the very recent work by Golitko (2015) proposes a socio-economical cause of conflict since Early Neolithic, starting by archaeometry of LBK pottery.

Several works have been dedicated to the aim of warfare in European Bronze Age, by a point of view of bronze technology and archaeometallurgy: starting by the works by Coles (1962 and 1977) with several use of Experimentation Archaeology in demonstrating ancient really use of shields, passing to the work by Molloy (2004, 2007 and 2009) until the volume by Uckelman and Moedlinger (2011) summarizing the work of two conferences on technology and the use of weapons in Bronze Age.

The present volume wants to be a short and actualized contribution to the study and interpretation of warrior societies, through a point of view of the marks of the first warfare in Europe, its causes and its consequences in all the intelligible evidences, both from a point of view of material culture, of landscape, of human behavior and artistic manifestations. Some of the articles presented here are related to communications that were first proposed to the thematic session, *Iberian Peninsula in Bronze Age and Iron Age: between Atlantic and Mediterranean*, which didn't take place due to the lack of a minimum of communications. Since the themes of these papers are issues related in some way to people who manifested allegiance to warrior societies, it was decided to host these communications in the present session and, consequently, to publish them in this volume.

According to the order of presentation of the session's papers during the XVII IUPPS Conference in Burgos, the articles published here are the following: *Symbols for protection in war among European societies (1000 BC-1000 AD)*, by Fernando Coimbra, where the author analyses symbols such as the swastika, the triskeles and the pentagram, which appear intensively associated with warriors and their weapons in a very diverse range of iconography and artefacts; *Walled enclosures in Western Europe as marks of conflict in Late Prehistory. A psychological, anthropological and archaeological approach*, by Davide Delfino which focuses on the debate of the role of walled enclosures in Late Prehistory being ritual or defensive, making also a brief overview involving the psychology and anthropology of combat; *The emergence of war in human societies*, by Stefano Ruzza and Gabriele Berrutti, studying the birth of violence and conflicts in human societies from a point of view of anthropology and social sciences; *The Group of cuirasses found in the Danube region in the Late Bronze Age*, by Katalin Jankovits, presenting a defensive armament in a Danube Valley regarding the European context and from an archaeometallurgical point of view; *The Bronze Age battlefield in the Tollense Valley, Mecklenburg-Western Pomerania, Northeast Germany – Combat marks on human bones as evidence of early warrior societies in northern Middle Europe?*, by Ute Brinker, Annemarie Schramm, Stefan Flohr, Detlef Jantzen, Jürgen Piek, Karlheinz Hauenstein and Jörg Orschiedt, presenting archaeological evidence of traces of violence in numerous human skeletal remains after a battlefield, dating about 1250 BC, found together with weapons and horse bones; *Warfare in Valcamonica rock art: new emerging data from Paspardo area*, by Dario Sigari, analyzing the rock art representation of warriors in the attitude of duel in the area of Paspardo, in the Italian Alps.

Three papers were initially dedicated to the mentioned cancelled session: *Metalwork's model and scraps bronze circulation between Mediterranean and Atlantic in Middle Tagus in Final Bronze Age*, by Davide Delfino examining several Late Bronze Age objects in different contexts such as scraps hoards, workshops in walled settlements and some bronze scraps in agricultural farms from the Middle Portuguese Tagus Valley; *New developments in Galician pottery from the second half of the second millennium BC. From the regional to the extra-regional: Wide Horizontal Rim vessels and stamping*, by Laure Nonat, M. Pilar Prieto Martínez and Pablo Vázquez Liz, focusing on a specific type of pottery, known as Wide Horizontal Rim (WHRv), which is mainly decorated and exclusively found in the NW Iberian Peninsula; *Bronze Age Settlements and Dwellings in Galicia. Seeking Connections with Europe*, by Mikel Díaz Rodríguez and M. Pilar Prieto Martínez where the authors study the shapes of Settlement structures of Middle and Late Bronze Age of Galicia and show some connections with the European world.

In the Congress, the session had also one more paper, which was not sent for publication: *Warrior ideology, burial customs and gender roles in European Bronze Age societies (2500-800 BC)*, by Dirk Brandherm.

After the presentation of all the papers there was a productive final discussion, which led to some conclusions:

Warrior societies leave several marks in the diverse manifestations of human culture, such as mythology, arts, architecture, trade, technology and the environmental space throughout all the metal ages.

The transformation of peasant societies into warrior societies is a turning point in the history of Mankind, which results in a change from local conflicts to widespread conflicts.

It's possible to define as a warrior society not only the human groups starting from Iron Age, but also the manifestation of organized violence and used both as defense and as a method to increase the prestige and resources, which is clearly documented since at least the Neolithic. However, it is during Bronze Age, which, also thanks to the technology of bronze, it becomes possible to systematize and professionalize warfare.

The fact that conflict and the art of war are not only ritual manifestations, it is evident both from the manifestations of a non-rituality of violence starting from the Neolithic, both from a series of data obtained not only with archaeology, but also with sociology, psychology and archaeometry. But also, clearly, by the good sense to understand that one thing that is ritual, before becoming such, is practice; unless someone confuses a human habit (like eating, breeding, hunting, making war) as a ritual only because it is carried out periodically.

All the papers presented at Session A3c and published here have been peer reviewed.

Introduction

2. Aegean – Mediterranean imports and influences in the graves from continental Europe – Bronze and Iron Ages

Valeriu SÎRBU and Cristian SCHUSTER

There is already a ‘history’ with not only different opinions, but sometimes contradictory regarding the role played by the Aegean-Mediterranean area in the evolution of the peoples who lived in continental Europe during the age of Bronze and Iron, including burial customs.

The organizers of the section proposed, through ongoing communication and the discussions that followed, to obtain new data on the influences and Aegean-Mediterranean imports found in the graves, and the possible movements of groups of people who carried them.

Our interest has focused on the ‘roads’ and the stages of their penetration, but also considered feedback from peripheral areas.

Our intention was to highlight the role of the southern imports in the evolution of local communities elites and their impact on the general development of the populations of continental Europe, the possible meanings of their deposit in the burials.

Analysis of these phenomena over wide geographical areas (from the Urals to the Atlantic) and large chronological periods (the third-. first millennia BC) allowed us to identify certain traits as general (eg., the continuity and discontinuity), or particular (eg., the impact of imports and southern influences on communities of different geographical areas).

The five papers presented there, despite their small number, have identified the variety in themes, as well as interesting aspects treated evidenced by the fact that they have led to numerous questions, comments and discussions.

Another aspect worthy to be mentioned is that all those who submitted contributions, have already prepared for publication, so that they will quickly enter the international scientific circuit.

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SESSION A3C

1. THE EMERGENCE OF WARRIOR SOCIETIES AND ITS ECONOMIC, SOCIAL AND ENVIRONMENTAL CONSEQUENCES

Edited by

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Walled enclosures in Western Europe as marks of conflict in Late Prehistory. A psychological, anthropological and archaeological approach

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Abstract

The nature and role of walled enclosures in Late Prehistory (Neolithic – Bronze Age) is still debated between being ritual, or defensive. But, first of all, we must clarify the nature of violence during this period, and if this justifies the link between conflict and walled enclosures. A brief overview involving the psychology of combat and anthropology shows that it is not inappropriate to think about Late Prehistoric societies as increasingly warrior societies. According with this, it's possible not only to observe more and more numerous evidences of combats that occurred between the 5th and the 2nd millennium BC, but also to highlight some common features of the walled enclosures of the settlements: everything shows that the function of the walled enclosures was not purely symbolic, although it could be argued that there is a minimum of symbolism, linked, however, to practical functions.

Keywords: Late Prehistory, psychology of combat, anthropology of war, war in Late Prehistory, walled enclosures

Résumé

La nature et le rôle des enceintes fortifiées de la Préhistoire Récent (Néolithique – Âge du Bronze) est encore débattue entre être rituel, ou défensive. Mais, tout d'abord, nous devons clarifier la nature de la violence pendant cette période, et si cela justifie le lien entre conflit et enceintes fortifiées. Un bref aperçu impliquant la psychologie du combat et l'anthropologie culturelle montre qu'il est inapproprié de ne pas penser pour ce période à des sociétés comme des sociétés de plus en plus guerrières. Selon cette perspective, il est possible non seulement d'observer témoignages de plus en plus nombreux de combats qui ont eu lieu entre le 5 et le 2e millénaire avant JC, mais aussi de mettre en évidence certaines caractéristiques communes des enceintes fortifiées des peuplés: tout montre que la fonction de la enceintes fortifiées était pas purement symbolique, même si on pourrait faire valoir qu'il ya un minimum de symbolisme, liée, cependant, à des fonctions pratiques.

Mots clés: Préhistoire Tardif; Psychologie du combat; Anthropologie de la guerre; Guerre dans la Préhistoire Récent; Enceintes fortifiées

Introduction

First of all, we must clarify something in the time scale: in Central- Western Europe no one can speak about protohistory before the first millennium BC. From the early Greek *πρωτο-ιστορία* (proto-historia), protohistory means 'the first history': History starts with writing, and in Central- Western Europe writing only appears during the 1st millennium BC. So, for the period that is treated (Neolithic- Bronze Age) we must speak of Late Prehistory.

About the principal aim of this paper, the walled enclosures, too frequently it is speculated on their nature, looking for romantic interpretations related to pure symbolism and based more on philosophical foundations than on archaeological evidence, revealing more the desire of demonstrating erudite knowledge, than the intention of really interpreting ancient societies, sometimes ending to discuss

more on poetry of the landscape, than on ancient occupation of the territory. In this work, we will analyze not only archaeological evidences, or apply 'archaeopoetry' theories. We will also make a more thorough and credible analysis, with the help of anthropology of war and, above all, with that of the combat psychology, a field which is very rarely applied to violence in prehistory. In order to fulfill these two aims, will be used studies of those who had really participated in fighting and had studied its psychology and physiology, teaching it in military academies around the world (Lt. Col. Dave Grossman) and of those who had carried out the first serious studies about anthropology of war in primitive societies (Laurence H. Keeley). Two questions are to be posed before the conclusion in this work: 1) Is violence different depending on the human society, or there is a common matrix inherent in human? 2) May warriors be considered also the first complex human societies, namely those of Late Prehistory? In a response to the questions about these matters it will be verified the true nature and the true function of enclosures around settlements in Late Prehistory.

Psychology of combat

This important theoretical basis was obtained from the first part of an original work on the psychology and physiology of combat (Grossman, Christensen, 2010): the book shows a topic applied in modern combat, but some parts are universal in human psychology, regardless of chronological time. First of all, it's necessary to start with an analysis of the difference between fear and phobia: fear is an intense emotion derived from the perception of a threat, real or supposed; phobia is an irrational fear, uncontrollable, that significantly modifies the human behavior (habits for example). In the case of a phobia, there's a more irrational reaction, in which, regarding the human control, prevails his mesencephalon (the part linked to the animal nature, where instincts prevail on rationality). Every human being has his particular phobia, but there is a phobia that is common to all human beings: physical aggression between human beings (Universal Human Phobia – U.H.P.). Also some sociologists say that it is only in the presence of violence when the human being is involved in the physical or personal sphere and the size of most elementary of violence is linked to the vulnerability of the human body (Sousa Ribeiro, 2013, 8; Butler, 2004). In the case of a personal phobia (snakes, stray dogs, altitude etc.), every time when you meet the cause, you are warned; but it's not possible staying warned all the time for any human being in the case of U.H.P.: therefore is more rare to meet a traumatic stress by phobia in the case of U.H.P. and when it happens, the trauma is more serious and enduring (Butler, 2004, 27-28). Another important point to be noted it is about the Sympathic Nervous System (SNS) and the Parasympathic Nervous System (PNS):

- SNS allows you to draw energy from the reserves stored in the body, inhibits digestion, dilates blood vessels and makes the muscles contract: mobilize and orientate towards the action the energies in the human body;
- PNS is linked to the relaxation and is involved in the physiological activities that increase energy reserves: orientate the body towards the break and rest.

On the occasion of a combat (and so a U.H.P.), all the participants suffer a stress that results in an activation of the SNS: after the combat, when the situation of danger had ceased, it is necessary regaining the energy reserves consumed very quickly by SNS, and thus the PNS gets activated, which causes a 'general black out' in the body: that is a parasympathic blackout (Butler, 2004, 39-40). That moment is one of the biggest moments of vulnerabilities.

Effects of SNS in the human body directly involves heartbeat and its frequency. Now, in a normal situation before the stress of the U.P.H. the heart has around 60-80 beats per minute (the amount is indicative, it depends on each individual): it is a common physiological condition at the attitude of 1) not guarding and negating the danger (white condition) and 2) alert, or guarding, waiting for the danger (yellow condition). The difference between these two conditions (white/prey and yellow/warrior) is absolutely just a psychological one; the prey does not expect the danger of an attack by another human being, while the warrior is always in alert and expects that: beyond the psychological attitude, there is the fact that a cause of stress involved physiological consequences, not just a sudden physical

attack, but the fact of not having a warning (Butler, 2004, 258). When the trauma of U.H.P. occurs, the heart beat goes up to 115-145 beats per minute (the SNS comes into action) and there is a deterioration in fine motor skills, but an optimum of complex motor skills; this is a better condition to fight, but it involves risks: the heart pumps blood too quickly and begins not to be able to get filled again, causing insufficient oxygen to the brain. Those who control this situation, because of being trained, or already in yellow condition before the trauma of U.H.P., are able to stay in a condition of relative efficiency for combat (grey condition); but those who are not trained, or were in white condition before the trauma of U.H.P., do not control the situation and fall into a state of deterioration of the complex motor skills, immobility, irrational reactions (black condition) (Butler, 2004, 53-55, 64-65).

Another important component of psychology in combat is the 'Bigger Bang' factor: who does most clamor more than the other one, can scare him and make him desist from attacking, or can even make him flee (Butler, 2004, 86); to make more clamor than the other does not only mean this in a literal sense, but more appropriately intimidating; so, it intimidates even when appearing in greater numbers or, in a position that appears unassailable: this is the way to show stronger than the other, regardless of what is real or not (Butler, 2004, 199). In the open field, one of the effects of 'Bigger Bang' occurs when people have no experience in fighting and escape, both due to the instinct and because they are terrified: when one runs away is the time when it is easier to be killed, and that is because he is offering his back to the enemy, and also because the pursuer doesn't see anymore the chased as another human being, but as a prey.

In fact, in a hand to hand fight, people stop thinking with the forebrain and start thinking with mesoencephalon: so it blocks the mechanism of preservation of the species and the apparent reluctance to kill a member of one's own species; that is sociopathy (Butler, 2004, 198), which is common, at least, in the *Homo sapiens*. To deflect the obvious objection to this affirmation, which can arise from frequent data concerning cannibalism, one can say that: 1) in the case of *Homo* antecessor that practiced cannibalism in Atapuerca (Carbonel *et al.*, 2010), it is not *Homo sapiens*; 2) to the cannibalism of *Homo sapiens*, it is always in contingencies with the absence of stress which causes the use of mesoencephalon, such as ritual moments (Arens William, 2001). So, in hand to hand combat, the only ones that cannot be sociopaths, with few exceptions of unbalanced people, are those trained not to be so, namely the warriors (Grossman, Christensen, 2010, 198). Other psychological factors that are crucial in hand to hand combat, in addition to 'make more clamor', are the mobility, taking the enemy in flanks or back, and the 'group factor' that does mutual support and sharing of responsibility (Grossman, Christensen, 2010, 200, 203-204).

Anthropology of war

Paraphrasing the words of L. H. Keeley, 'existing few works about the primitive war, this is still a fertile ground for speculation of intellectual fashions and whims' (Keeley, 2009, 25). Among these, he divides two schools of thought which, in turn, reflect the ideas of Hobbes and Rousseau: 1) man as violent and chaotic, has become peaceful and civilized thanks to the establishment of civil laws and civilization (Hobbes position, by *Leviathan*); 2) man passed from a 'state of grace' and golden age to a more violent one, due to the progress (Rousseau position). According to Hobbes, man is not naturally violent, but becomes violent for social dynamics; according to Rousseau, man is peaceful by nature, but becomes violent when he comes out of his natural environment, by generating artificial structures (Keeley, 2009, 29-30). The vision of Hobbes (1588-1679) was very theoretical, having been postulated before the first major scientific explorations in the 18th century AD. The vision of Rousseau (1712-1778) was enunciated after these first scientific explorations made by anthropologists, but with several prejudices, which were aimed at dismantling Hobbes, creating a diametrically opposed model and not accepting anomalies of bellicosity recorded by anthropologists (Keeley, 2009, 30-31). Unfortunately, also today, several researchers working in a theme of pre-state societies are also influenced by those two extremist positions, with a light majority to the 'Bon sauvage' of Rousseau. A real 'third way' can be the theory of pre-existing acquaintance (Delfino,

Charters de Almeida, 2012, 125-126): it's a form of concepts, or ways of relating to the world, or methods to interpret and use it, which are common to the human being and are the foundation of their 'being cognitive'. In a simple ternary relationship between man and the sensible world, with a first feedback of the world by man, a reworking inside the human brain of impressions with another feedback and a third time to another feedback of man by the outside world, repairs itself there always some aspects of the subconscious that remain, despite the historical periods or cultures. This is not the result of cultural exchange among men, but of 'to be human being'. These aspects, being connected to the subconscious, actions do not always occur in an exact manner between these two components, but only similar, in general aspects. So, you should not imagine a concept of increasing or decreasing human bellicosity along time. You should consider how this dimension of the human subconscious in connection with the social structure could become manifest, the technical means of the period when those people lived, but also their socio-economic conditions. In essence, over time, the objectives and organisational possibilities had changed, but the causes and the reasons for it persisted and also the psychology and physiology related to the combat experience remained unchanged.

Returning to Keeley, he provides an excellent example of how a fight between humans may be distorted as ritual: the Sambia of New Guinea transposes episodes of real fighting in the stories that they stage in representations removing the more bloody episodes and emphasizing those most idealistic ones (Keeley, 2009, 34). In this respect, J. Keagan (1976) points out that if one reads the stories of some western historiography of the 19th-20th centuries, fighting between soldiers appears motivated either by the glory for themselves, for their regiment, or by their thirst for revenge: the two examples of real bloody combats appear ritual, or idealistic to people who knew only the sources that define them as such, and certainly they would change their opinion if they saw the reality of the facts. Indeed, often the fighting for the primitive civilization of Oceania mostly consists of raids, ambushes and surprise attacks against installations (Keeley, 2009, 35). You can also add data on losses between combatants compared between the totality of the population of prehistoric society and contemporary society, in order to remove once and for all the doubts that the wars of primitive society are bloody (Tab. 1); also, the data about the relationship between the level of society and frequencies of war (Tab. 2) can make us understand how the frequency of wars is not directly proportional to a complex level of society. Most broadly, the frequency of warfare in many cultures (primitives, or modern) and many areas of the world is understandable in a Human Relation Area Files (HRAF) (Haas, Piscitelli, 2013, 173).

In this anthropological part it's not possible to avoid mentioning the interpretative models built by two pioneers of polemology, Quincy Wright and Harry Albert Turney-High, both misled by the 'Bon

Human society	Death in fight
Jivaro	32,7%
Yanomano-Shamatari	20,9%
Mae Enga	18,6%
Western Europe in XVII cent. AD (30 years war)	2%
U.S.A. and Europe in XX cent. AD (World Wars)	1%

TABLE 1. PERCENTAGE OF CAUSALITIES DUE TO WAR WITH RESPECT TO TOTAL POPULATION (SOURCE KEELEY, 2009, 431-432).

Political organization	Continuous war	Frequent war	Rare war
State	40%	60%	0
Chiefdom	50%	33.3%	16.7%
Tribes	80%	8%	12%
Band	33.3%	55.6%	11.1%

TABLE 2. RELATION BETWEEN POLITICAL ORGANIZATION AND FREQUENCY IN WAR (SOURCE KEELEY, 2009, 405).

sauvage' myth (Keeley, 2009, 36). The model foresees a modern war between the states where there are material goals (raw materials, conquest of a territory, political submission). It is also predicted a war between primitive bands where there are more ideal goals (vengeance, ordeal etc.). Therefore, both consider real war only the modern form (Keeley, 2009, 39-40), which is characterized by: logistics, chain of command, specializing in corps, fortifications. We will see below how some of these features can be found even in recent prehistory.

Finally, and approaching to the application in archeology, one cannot make a reference to the reasons that Jared Diamond includes the role played by violence and war in the formation of complex societies, thus, giving reasons to speak about ancient wars, even in non complex societies. It is possible to extrapolate some points of his model, but by adapting it to solve the problem of the difference between modern and primitive war. The birth of States is linked to the increase in population and probably conflicts caused the formation of more extensive political units, but only in the presence of large populations. With low density of people, as in the case of bands of hunter-gatherers, the losers in a war can simply change the territory. In regions occupied by sedentary tribes, where the population density is higher and the link with the territory larger than in the bands, the losers rarely flee elsewhere, as there are almost unoccupied lands which are easy to settle upon and, above all, the losers have a link with the territory. So, in the case of sedentary societies (and, therefore, since Neolithic), also the resistance factor on its territory will be a matter to be taken into account with respect to the behavior in war of these societies. And this also implies a particular care, compared to society in bands, for example when discussing about the fortifications. In that way also can enter the model by Otterbein (2004, 3) which provides suggestions for the creation of a new model of warfare with the birth of the first complex societies with the advent of agriculture and their need for territorial conquest.

Some overview of walled enclosures in Western Europe along Late Prehistory

Quoting the words of Wobst (1978), if archaeologists consume ethnographically derived theory without prior testing, there is a great danger that they merely reproduce the form and structure of ethnographically perceived reality in the archaeological record; therefore, it is necessary an overview of the most significant data derived from archaeological facts, to be compared with the theory of psychology and of anthropology. This is also needed to avoid falling into the error made by many anthropologists to see the past through the eyes of today's world and risk of overestimating the bellicosity that you can see today in primitive society (Haas, Piscitelli, 2013, 184-185). But, facing the limited material evidence in the society of Paleolithic hunter-gatherers, who can confirm or deny this modernist vision (Haas, Piscitelli, 2013, 184). For the first complex society in the Late Prehistory we have, as we will see, an amount of data, sufficient to support a hypothesis that can also arise from the anthropological vision. An archaeological data that can surely be an indicator of material manifestation in Western Europe related to the psychology of combat are the enclosures around the settlements existing along the Late Prehistory: some studies have been done on rock art (Nash, 2005), however proving that the conflict was an integral part of the organization of the intertribal society of last hunter-gatherers, but the enclosures (palisades or wall) and outbuildings contexts that surrounded many settlements between the Neolithic and the Bronze Age, guarantee to be more concrete evidence and covering a geographic area more extensive. Consequently on them you can build a 'hypothesis enshrined more permanently.

Neolithic: ditches and palisades in settlements with sometime evidences of violence

In a brief overview of the most symptomatic cases in Western Europe, there are interesting cases of tree LBK settlements between Austria and southern Germany: Herxheim, Tallheim and Schletz. The three settlements are just considered in a interesting study combining contextual, anthropological and radiocarbon data (Wild *et al.*, 2004): Herxheim (Rheinland Pfaltz- Germany) is a settlement inside two concentric ditches where a huge amount of human remains was found (c.a. 500), most of them in

the ditches, several bones having no correct anatomical position and being mixed with animal bones. Maybe, that was not the result of a combat, but a funerary ritual is still under discussion. Tallheim (Baden-Wuttembrg-Germany) (Figure 1) is a big common burial pit with 34 skeletons (Guillaine, Zammit, 1998, 130) near an open settlement, without any fortification: individuals, mixed man, woman and children, are massacred with bodies quickly thrown into a pit and covered up, with anthropological evidences of a traumatic death, with no children under 4 years old, and possibilities that have been abducted by the attackers. Schletz (Lower Austria) is a rounded settlement with 2 oval fortification ditches, with more than 200 skeletons buried at the base or outside the ditch: like Tallheim, human bones present marks of traumatic death and also carnivore gnawing marks, that indicate the time during which the bodies remained exposed being not the expression of a ritual. It is interesting to compare the absolute chronology, the context and the anthropological remains of the tree LBK settlements (Tab. 3).

In general the progressive emergence of warfare in LBK society is recently highlighted by Golitko (2015).



FIGURE 1. THE FAMOUS MASSACRE OF TALLHEIM
(SOURCE GUILAINE, ZAMMIT, 1998, FIG. 10).

	Herxheim	Tallheim	Schletz
Chronology	5290-5040 cal. BC 5260-5040 cal. BC 5290-4960 cal. BC	5250-4700 cal. BC 5000-4780 cal. BC	5060-4770 cal. BC 5260-4990 cal. BC 5290-5050 cal. BC 5300-5040 cal. BC
Fortification	Ditches	Absence	Ditches
Interpretation of burial	Ritual or massacre	Massacre	Massacre

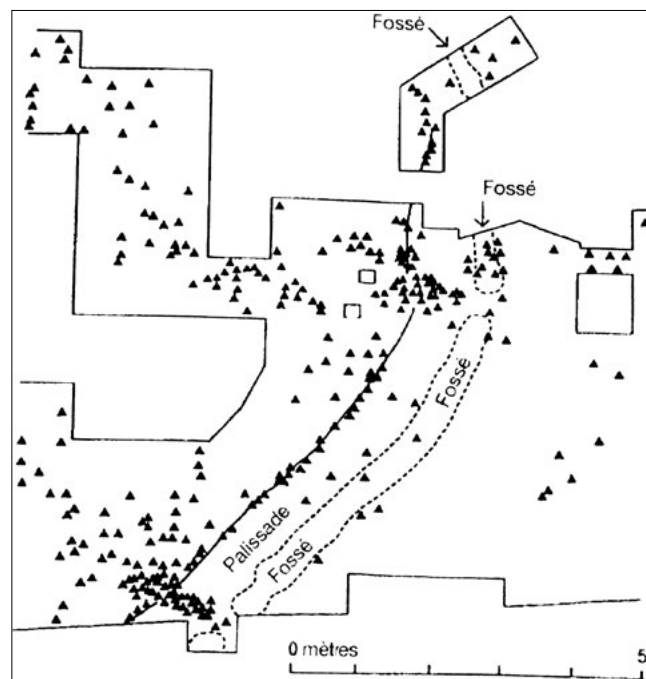
TABLE 3. CROSSED DATA BETWEEN THE TREE LBK SETTLEMENTS. ABSOLUTE CHRONOLOGY INDICATE TO EACH SITE CITING ONLY A MUCH RELIABLE (95.4%) AMONG MANY CARRIED OUT ON OSTEOLOGICAL MATERIAL AND CALIBRATED BETWEEN 2 SIGMA (SOURCE WILD *ET AL.*, 2004, 382-382).

Other settlement group with interesting remains is in the context of Lengyel Culture (4800-4000 BC), many with fences and ditches, some with houses built around these empty enclosures like Nitriansky Hradok (Slovakia), in other few, like at Zlkovce (Slovakia) the settlement is encompassed by these enclosures with double architecture. It's interesting that in the settlement of Borova some skeletons had been found in the ditch. (Pavuk, 1991; Cauwe *et al.*, 2007, 139-142).

In Central Iberian Peninsula, in the Meseta plateau, during the 5th millennium BC, alongside some settlements with evident no defensive ditches (Los Cascajos) there's a settlement with a double ditch delimited by palisade, La Revilla (Rojo Guerra, 2014, 49). In this case, also, probably the interpretation is more open to a defensive function.

In southern England, a good example of fortified settlement is Hambledon Hill. Situated on the top of a hill, during the Neolithic has been affected by several works for the construction of ditches and respectively earth walls (Mercer, Healy, 2008, 13, 44) during the 4th millennium BC, and in a ditch some skeletons had been found, among which a young man pierced by an arrow: the seven Neolithic phases are chronologically closed at 3380- 3320 cal. BC (Mercer, Healy, 2008, 57). It's interesting that the same site of that Neolithic fortified site had been occupied in the Iron Age by a classical hillfort (Mercer, Healy, 2008, 403). Also in England, it's emblematic the case of Crickley Hill (Figure 2) (Keeley, 2009, 55; Dixon, 1988): that is the case where the coincidence between weapons, defenses (palisade and ditch) and skeletal trauma remove all doubts about the existence of a warfare and fortifications also from the Neolithic time (Mercer, 1999, 143).

FIGURE 2. CRICKLEY HILL, PALISADE WITH
ARROWHEAD FINDS (BLACK TRIANGLES)
(SOURCE: KEELEY, 2009, 55).



Connections between archaeological evidence and psychology of violence in the Neolithic

The question that one cannot avoid posing is: at what stage of Grossmann's psychological model were the inhabitants of Tallheim- the settlement without fortifications was detected by a surveying project more than 50 years ago (Wild *et al.*, 2004, 379) – at the time of the obvious attack that led to

their massacre? White step or yellow step? Probably white: no fortifications around the village, this involves a situation of individuals not used to fighting (for example woman and children found in the common burial pit) are suddenly facing the physical threat of other men (Universal Human Phobia) and instinctively try to escape with their back to the attacker, ending rapidly in 'black condition' and fail to run enough to get away. The still existing doubts about the ritual or war nature of the kill in Herxheim, lets us quickly in front of the evidence that the massacre of Tallheim is, according to the absolute dates, earlier than Schletz: so, is probable that the experience of villages as Tallheim, without fortification, has been an example to start fortifying settlements. Obviously, with variable results of the combat, in some cases negative perhaps for the defenders, as Crikley Hill: in this example from England according to the data from the dispersion of arrowheads found, is evident that the settlement suffered a massive attack by warriors armed with bows, and that the palisade was effectively done to protect the defenders from their shooting; but not only. The other function of the palisade, or of any enclosure around an area (for example a settlement) is also to give its defenders the possibility of not being surprised by a sudden attack, as can happen in the open field: in that case, palisade helps having a basic 'attention' and to not get caught in 'white' phase; palisade also puts defenders in terms of defending a defined and closed line, without escape way: this helps the team spirit to be more fiercely in the fight, cancels the factor of mobility of the attackers who cannot take on the side, or back the defenders, can cancel the sociopath factor in the defenders when they defend not only themselves, but all their possessions. Also a palisade in a more or less elevated position can have a double benefit: 1) defenders can better control what surrounds them and observe the movements of possible attackers; 2) a palisade on a hill top has always a certain deterrent effect in bands of attackers that do not yet have the technique of sieges, and this can be perfectly related to the theory of 'Bigger Bang' that is not necessarily only 'sound', but means everything that can be used to show someone as being stronger and more dangerous when facing the enemy.

But, taking into account that:

- in many fortifications of settlements between the Calcolithic and Bronze Age in Western Europe there are few signs of violence and pillage- you can only count a few examples like Roca, Late Bronze Age (Scarano, 2010);
- several examples of walls and structures around the settlements are evidently been conceived like more and more complex fortifications in Western continental Europe (Jockenhovel 1980; Moret 1996; David Elbiali, 2000, 326-328; Gebhard, Rieder, 2002; Schubert, Pincel, Orteaga, 2001; Diés Cusi, 2005; Molina *et al.*, 2005; Mederos Martin, 2009, 38-40; Almagro Gorbea, 2009, 51);

how can be explained the maintenance and the evolution of fortifications in settlements starting in the Neolithic? Apparently the use of surrounding settlements with enclosures, in many cases, more and more complex, not only does not cease, but becomes more and more a normality, especially for settlements placed in high positions. Maybe the enclosures that delimit fortified settlements in the latest part of Later Prehistory (Bronze Age), can be interpreted with a dichotomy meaning between the practical and symbolism associated to the defense of the settlement

A paradigmatic example of Final Bronze Age in Portuguese Middle Tagus Valley

A system of walled sites on hilltop, dating from the Final Bronze Age and installed around a quartzite ridge, define the landscape in north/Eastern part of the municipality of Mação (Figure 3) (Santarém-Portugal) (Delfino *et al.*, 2014, 193-194). Three sites still preserve vestiges of dry stone walls: the walled stations of Castelo Velho do Caratão, Castelo Velho Zimbreira and Castro do Santo. All these sites, placed of heights very distinguishable in the landscape and with very harsh slopes denote absence of violent destruction; but at the same time, if we imagine their impact on the territory with the original walls (Figure 4), it is clear that their double, or even triple protective walls were designed to scare off potential attackers. In fact, the area of the walled settlements appears too small to contain the population of a village implanted permanently in these sites (Castelo Velho da Zimbreira: 1 hectare; Castro do Santo: 0.7 hectare; Castelo Velho do Caratão: 0.6 hectares): it is reasonable to

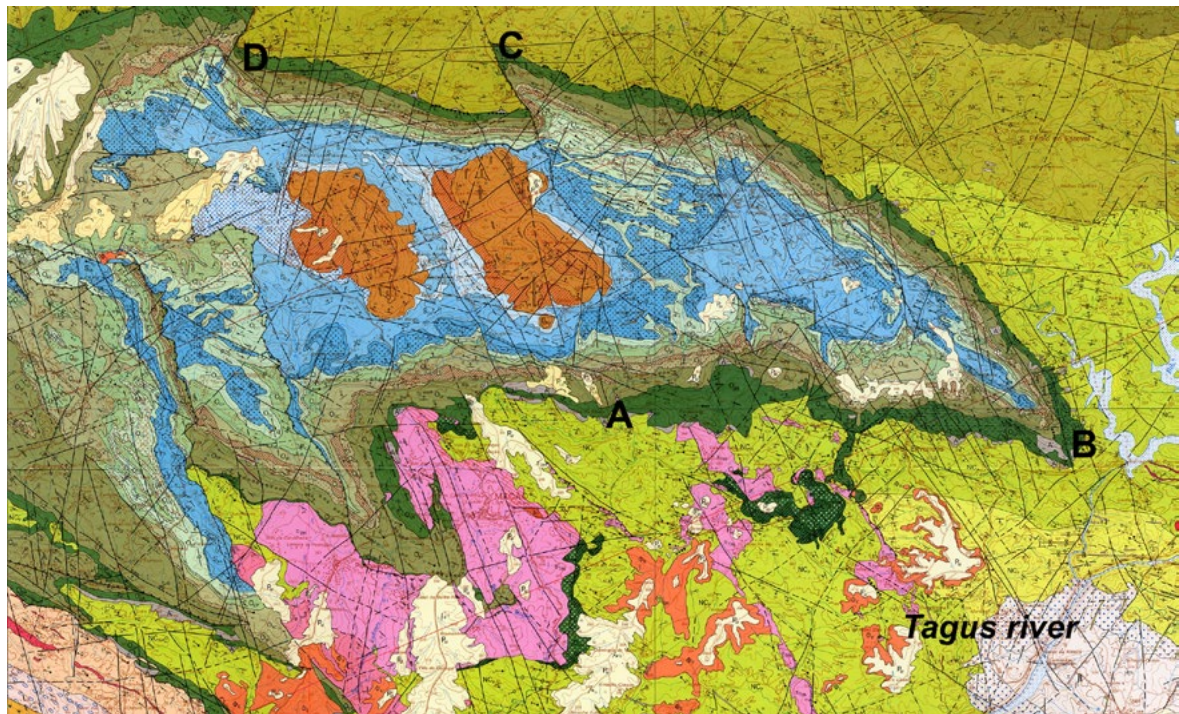


FIGURE 3. TERRITORIAL SYSTEM OF HILLTOP WALLED STATIONS
IN THE MUNICIPALITY OF MAÇÃO. A: CASTELO VELHO DO CARATÃO;
B: CASTELO VELHO DA ZIMBREIRA; C: CASTRO DO SANTO;
D: CASTRO DE AMÊNDOA.



FIGURE 4. CASTELO VELHO DA ZIMBREIRA (ENVENDOS, MAÇÃO).
UP THE STATION TODAY, DOWN 3D RECONSTRUCTION OF ENCLOSURE
AND ITS IMPACT IN THE LANDSCAPE (3D CONCEPTION DRAGOȘ GHEORGHIU,
3D REALIZATION ANDRADA STANCU, PROJECT TIME MAPS).

interpret these sites like fortified settlements, where to concentrate and to defend strategic activities (e.g. metallurgy in Castelo Velho do Caratão) and where the population, which probably lived normally in small open villages in the valley, could find protection in the case of danger.

In this brief example of Portuguese Middle Tagus Valley, it's possible to see the continuation of what was probably the guideline in building settlements or fortified settlements in Western Europe during the Calcolithic and Bronze Age: after the experience in the Early Neolithic, taking into account a general human behavior according to the concept of 'pre-existing acquaintance', it was realized that to avoid having pillaged their settlement, in societies which were not yet capable of conducting sieges, was enough to build a fortified structure on a place difficult to attack. In this sense, the structures of fortification had a practical function, the defense of the settlement, but at the same time symbolic, of deterrence.

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Symbols for protection in war among European societies (1000 BC – 1000 AD)

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Abstract

The emergence of warrior societies in Europe is interconnected with the spread of several symbols, which are used by warriors to affirm their importance in society.

Despite other meanings that they had in earlier times, a new value (protection in war) can be observed with the rise of warrior societies. Those figures take then advantage of a previous known symbolism and get reinforcement in meaning and diffusion in Protohistory, among several European cultures. This conclusion is possible through the analysis of symbols like the swastika, the triskel and the pentagram, which appear associated with warriors and their weapons in a very diverse range of iconography and artefacts.

Keywords: *pentagram, swastika, triskeles, protection, war*

Résumé

L'émergence des sociétés guerrières en Europe est interconnectée avec la diffusion de plusieurs symboles, qui sont utilisées par les guerriers pour affirmer leur importance dans la société. Malgré d'autres significations qu'ils avaient antérieurement, une nouvelle valeur (protection en guerre) peut être observée avec la montée des sociétés guerrières. Ces figures profitent d'un symbolisme précédent connu et obtiennent renfort en sens et en diffusion dans la protohistoire, parmi plusieurs cultures européennes. Cette conclusion est possible grâce à l'analyse des symboles comme le swastika, la triskèle et le pentagramme, qui apparaissent associés à des guerriers et leurs armes dans une gamme très variée d'iconographie et d'objets.

Mots clés: *pentagramme, swastika, triskèle, protection, guerre*

1. Introduction

The emergence of complex societies in the Old World and the appearance of war are followed by several consequences, namely economical, social and environmental. The role of the warriors becomes more and more important in society, appearing these individuals, sometimes, associated with certain symbols. Some of these figures continue a previous known symbolism and the fact of being used for the protection of the warriors brings them a kind of reinforcement in meaning and diffusion during Protohistoric times, through time and space.

In fact, the transformation of agricultural societies in warrior societies is a crucial moment in human history, resulting in a shift of local conflicts to a larger scale of conflagrations and also in alliances and trade over long distances, creating acculturations which are also responsible for the diffusion of some symbols (Coimbra & Delfino, in press).

In this article the author analyses the association of three symbols with weapons and warriors, since about 1000 BC till 1000 AD, which are: the pentagram (or five pointed star), the swastika and the triskeles.

The examples chosen for this research come from a very diverse range of iconography and artefacts such as rock art, pottery, fibulae, funerary tombstones, helmets, shields, spears, axes and swords, among other cases, with different chronologies.

The bibliography about the swastika as a protective symbol in other contexts besides war is very extensive and impossible to quote entirely in this article. Therefore we decided to make only a selection of the most interesting publications.¹

2. The pentagram

It's a motif which is used in a symbolic way since Prehistory till the present times, being this extraordinary 'survival' important to understand better its meaning (Coimbra, 2008). It has several values, according to time and space, but it appears frequently in one rather evident context: the association with warriors or with weapons.

There are several examples of pentagrams in this context in Portugal, Spain, France and Italy. One of the oldest known so far appears in the rock of *Peña Rayá de La Huetre* (Las Hurdes, Cáceres, Spain), where a five pointed star is associated with an arrow head and halberds of the Carrapatas type (Sevillano, 1991: Fig. 16), dated probably from Late Bronze Age. Another case with a similar chronology can be seen at *Biniguarda Vell* (Menorca, Spain), on the wall of an artificial cave, where two pentagrams are associated with an axe and a schematic human figure, probably a warrior (Mascaró Pasarius, 1953-54: Fig. I).

However it's during Iron Age that many of the examples of pentagrams associated with warriors can be observed. For example, in a crater from Cerveteri (Italy), dated from 650 BC, there's a representation of a battle between warriors from two ships, having one of them two pentagrams in front of it (Coimbra, 2011a: Fig. 3).

In Italy this symbol appears frequently in the Iron Age rock art from Valcamonica: at *Luine* and *Dos di Custapeta* it's associated with swords, axes and spears (Ventura, 1996); at *Piancogno* it can be seen together with spears (Priuli, 1993); at Rock 24 from *Foppe di Nadro* it's associated with a bow and arrow; at Rock 64 from *Naquane* it's depicted in a duel between two warriors (Fig. 1); In *Roca dei Guerrieri* (Piancogno) there are several pentagrams associated with warriors, being depicted one of them on a shield and the others near big axes (Priuli, 1993: 71); at Rock 57 from *Campanine di Cimbergo*, there's a pecked pentagram over the head of a big and muscled warrior (Fig. 2), which holds a shield and a weapon (Rossi; Zanetta, 2009: 218-219).

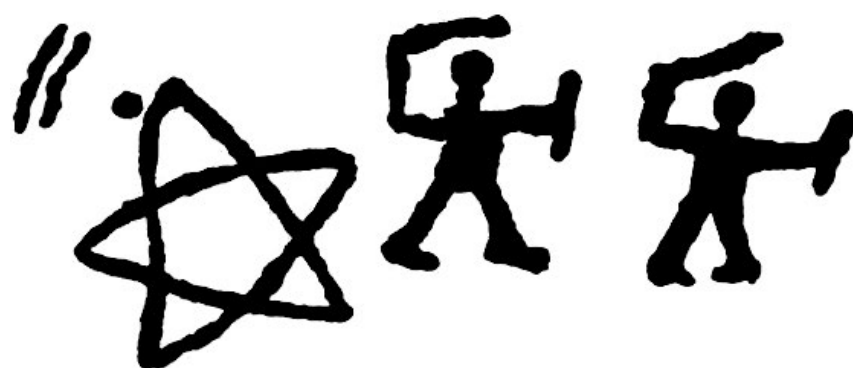


FIGURE 1. PENTAGRAM ASSOCIATED WITH IRON AGE WARRIORS. (AFTER PRIULI, 1991).

In France, at the cave of *Églises Supérieures d'Ussat-les-Bains* (Ariège) there's a pentagram that comes out from the left foot of a warrior which has a shield (?) in his right hand (Glory, 1947).

¹ For a developed list see Coimbra, 2007.

The pentagram was also used on a barbarian piece of armour found at *Conimbriga* (Portugal), dated from the 5th century AD and appears on iconography depicting several Muslim warriors with pentagrams on their shields.²

Despite being out the time frame of this article, some examples of pentagrams deserve to be mentioned, because they contribute to the better understanding of their association with warriors or with knights. It's the case of several funerary tombstones from the 12th century, belonging to the Knights Templar from Tomar, in Portugal (Fig. 3) and the 14th century English romance *Sir Gawain and the Green Knight*, which considers the pentagram to be represented on this knight's shield (Coimbra, 2011a).

The pentagram associated with warriors continues to be used in medieval rock art from the 13th/14th century, indicating an interesting revival, as it happens at Rockshelter 7 from *Tiermes-Sotillo de Caracena* (Soria, Spain), where the symbol appears with two horse-riders (Fig. 4), one of them with a long spear (Gomez Barrera, 1992: 164). It's also present near a military fort from the 17th century in *Montedor* (Viana do Castelo, Portugal),



FIGURE 2. PENTAGRAM ASSOCIATED WITH WARRIOR.
PHOTO BY THE AUTHOR OVER 'FROTTAGE' DONE
IN 2001 BY DIPARTIMENTO VALCAMONICA,
CENTRO CAMUNO DI STUDI PREISTORICI.



FIGURE 3. KNIGHTS
TEMPLAR FUNERARY
TOMBSTONES WITH
PENTAGRAMS.
(PHOTO: F. COIMBRA).

² This iconography can be seen in the manuscript *Cantigas de Santa Maria*, from the 12th century.



FIGURE 4. PENTAGRAM ASSOCIATED WITH HORSEMEN. (AFTER GOMEZ BARRERA, 1992).

associated with five cup-marks in the same way of good-luck charms used in the country by that time and during the 18th century (Coimbra, 2005: Fig. 9). Due to the deepness of the grooves and recent *patine* it was probably made by the soldiers from the fort, for protection, during the wars with Spain from 1640 to 1668 (Coimbra, 2011a).

The large number of examples mentioned so far allows speaking of an undeniable association of the pentagram with weapons, warriors, soldiers and knights, from different cultures, since Bronze Age until the Middle Ages and beyond. This revival only can be understandable if this symbol had in fact a sacred or a protective role, being presented to society as a visible sign of a belief. Indeed, the many examples of the association of the pentagram with deities, with sacred symbols and its presence in the funerary cult of different peoples gives the idea that it could also have been a protection for warriors across different times and places.

3. The swastika

This millenary symbol is represented in numerous ways, being most likely the figure that has more variants, among all those who appear in archaeological remains. But, in order to establish a simplified typology, we will only mention that it can present 'arms' at right angles and curved 'arms' (Fig. 5). This second type has examples with a variable number of arms, that can go from three (triskeles), four (tetraskeles), five, six, seven ... until sixteen (Coimbra, 2011b), being the triskeles considered also a variant of the swastika symbol, despite having only three 'arms'.

The swastika appears very often associated with warriors from different cultures and chronologies and also on a diverse range of weapons and defensive military equipment. In order to organize the description of the several examples, they are presented in three groups: swastikas on defensive warrior equipment, swastikas on weapons, and swastikas associated with warriors.

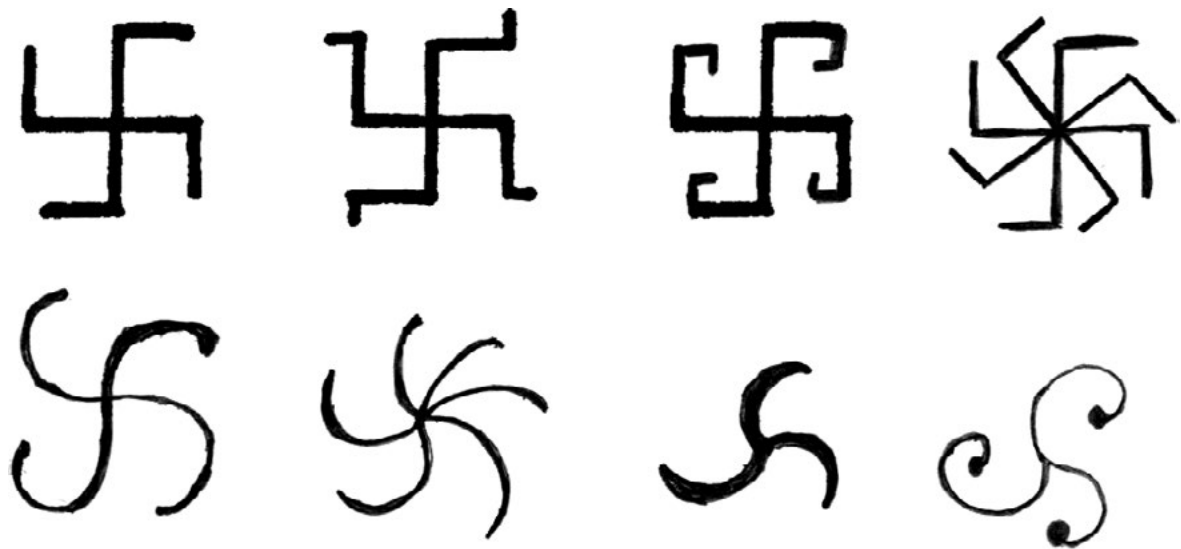


FIGURE 5. VERY SIMPLIFIED TYPOLOGY OF SWASTIKAS, DISTINGUISHING CURVED 'ARMS', FROM RIGHT ANGLED 'ARMS'. (DRAWING BY THE AUTHOR).

3.1. Swastikas on defensive warrior equipment

Regarding defensive equipment, swastikas appear on shields, on helmets and on belt buckles.³

Some of the oldest examples of shields with curved swastikas can be seen depicted on pottery from Pazarli (Anatolia), dating from the 7th century BC (Fig. 6). From the same period one of the warriors represented on the already mentioned crater from Cerveteri has a shield with a seven 'arm' curved swastika (Coimbra, 2011a: Fig. 3).

Also from Cerveteri comes the so called Eurytios Krater,⁴ dated from 600 BC, depicting Ajax's suicide, showing also a hoplite holding a spear and a shield with an eight 'arm' curved swastika (Perrot & Chipiez, 1911: Fig. 335).

From the Roman period, there's an extraordinary example of a right angled swastika depicted on the shield of a gladiator (a *secutor*) represented on a vase from Colchester, England (Jewitt, 1885: Fig. 21), dating from about 175 AD. Probably some gladiators used symbols like the swastika, among others, to protect themselves during the life or death combats that they had to do.

Curved swastikas on shields appear also in the 7th century AD, like for example on a funerary stele from Hornhausen, in Germany (Sansoni, 1998: Fig. 103) and in the 10th century, on the *Commentary of the Apocalypse* (written by Beato de Liébana), available on the Museum of the Cathedral of Seo de Urgel (Spain).

Regarding swastikas on helmets they are rare, but an interesting example from the Roman period is described and published in the 19th century by A. Bertrand. This author refers to the protective role of this symbol, when he writes that 'le sens prophylactique du swastika ne peut être ici méconnu. Ce

³ Belt buckles can also be considered defensive equipment, at least in some Iron Age cultures from the Iberian Peninsula, as it will be shown later.

⁴ This Krater belongs to the collections of the Louvre Museum.

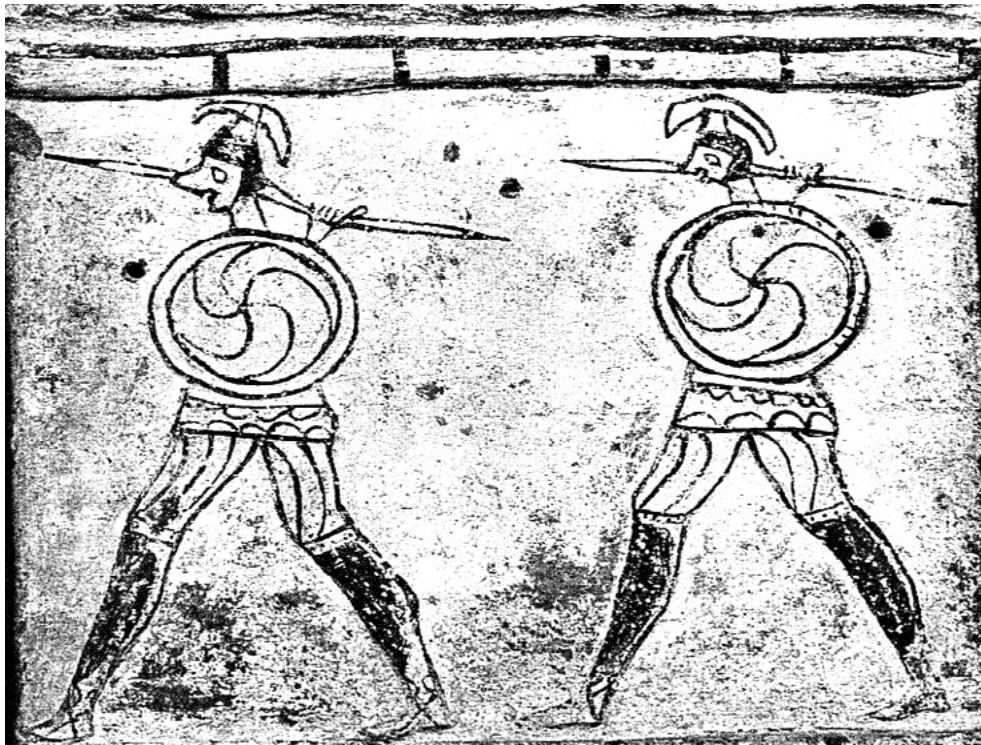


FIGURE 6. FIVE 'ARM' CURVED SWASTIKAS ON SHIELDS. (AFTER TEMIZSZOY ET AL., N/DATED).

signe est gravé à plusieurs reprises sur le sommet du casque là où porte naturellement le coup dirigé par une main ennemie' (Bertrand, 1897: 171).

An older example, dating from Late Iron Age, was found at La Gorge-Meillet (Marne, France), consisting in a conic helmet with several right angled swastikas inside rectangles (Déchelette, 1927: Fig. 490).

According to J. M. Blázquez Martínez (1985: 150-151), during Late Iron Age, in some places of the Iberian Peninsula, belt buckles are considered to have a magical character of protection or victory, having representations of concentric circles and swastikas, such as in the examples found at Atienza (Guadalajara) and Las Cogotas (Avila), among other cases. Unfortunately this author doesn't present images about these swastikas and so it's difficult to know the typology of these symbols.

A beautiful curved spiral swastika with four arms appears on a belt buckle from the necropolis of El Romanzal (Plasenzuela, Spain), displayed in the Provincial Museum of Caceres, existing an almost equal example in the private Collection Estrada, from Abrantes, Portugal (Fig. 7), being both examples dated from the 4th to the 1st century BC.

Similar spiral swastikas appear also on belt buckles from Scandinavia (Wilson, 1894: Fig. 208).

Still from Iron Age, a belt buckle found in a tomb from the forest of Haguenau (Alsace, France) has a right angled swastika (Bertrand, 1897: Pl. VIII), appearing the same type of motif in the Caucasus region (Wilson, 1894: Fig. 38).

The swastika appears also later in France, among the Merovingian, in the same kind of artefact, but with curved arms (Bertrand 1897: PL. VIII; Fig. 18).



FIGURE 7. BELT BUCKLE WITH CURVED SWASTIKA, COLLECTION ESTRADA. (PHOTO: D. DELFINO).

3.2. Swastikas on offensive weapons

Regarding offensive weapons, swastikas appear on axes, spearheads, swords and daggers. Some of the oldest examples of this symbol on weapons appear on axes. The best known cases come from the North of Italy,⁵ dating one of them from Bronze Age (Montelius, 1895: Pl: 33) and the others from the 8th century BC, found at S. Francesco, in Bologna (Farina, 1995-96). Among these last examples, some of them present a meander swastika (Fig. 8).

Paola Farina (1995-96: Fig. 8.21 – Fig. 8.24) also presents drawings of beautiful decorated axes with spiralled curved swastikas from Apa, Someşeni, Szeghalom (Romania) and from Hajdúsámson (Hungary), but unfortunately without mentioning their chronology.

The well known spearhead from Brandenburg (Germany), dating from the 1st century BC presents one right angled swastika with three small dots at the end of each ‘arm’ and also a triskelion with the same kind of dots (Lowenstein, 1941: Fig. 10). A similar example, but without the triskelion, was found at Torcello, in Italy (Wilson, 1894: Fig. 204a).

In what concerns swords, the swastika can be seen on the handles or on scabbards. In the first case they appear on an example from Sweden, dating from the Iron Age (Montelius, 1874: Fig. 117) and on a Franc sword from Coizard, Marne (Reinach, 1917-1921: Fig. 155). In scabbards there are some examples of four ‘arms’ curved swastikas from Scandinavia (Wilson, 1894: Fig. 209-210), dating probably from Iron Age. This author reports also a bronze sword with a right angled swastika as part of a runic inscription (Idem, Fig. 203), but he doesn’t mention in what part of the sword the symbol is represented.

Regarding daggers there’s one interesting example from Mycenae (Müller, 1886) with two symmetric spiral swastikas (Fig. 9), being one of the oldest examples of weapons with this kind of symbol.

⁵ Montelius only refers that this example comes from the North of the River Po, without giving more detailed information.

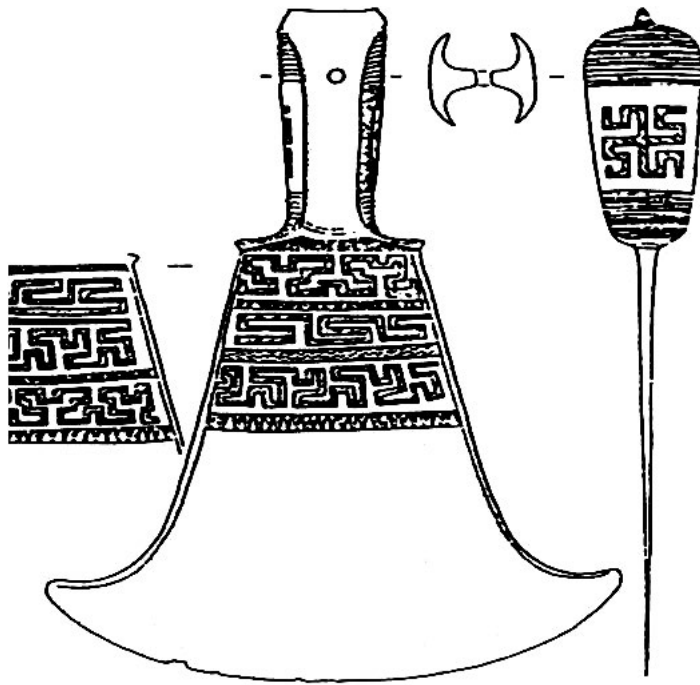


FIGURE 8. AXE WITH A MEANDER SWASTIKA.
(AFTER FARINA, 1995-96).



FIGURE 9. DAGGER FROM MYCENAE.
(AFTER MÜLLER, 1886).

3.3. Swastikas associated with warriors

Besides appearing on defensive and offensive weapons, the swastika can often be seen associated with warriors from different cultures. For example, in the Iron Age Hillfort Culture from the North West of the Iberian Peninsula, curved swastikas appear on torques, which are considered a symbol of the warrior's dignity. Furthermore, in the same culture, the same kind of symbol can be seen on the sculptures of warriors on the belt buckles (Coimbra, 2007), which, as already was mentioned, can be also protective.

Mentioning only a few more examples, in the Iron Age rock art from Valcamonica, swastikas are represented associated with warriors at Sello and Giadighe (Farina, 1998).

Also Athena, goddess of war, is frequently depicted on Greek pottery with swastikas on her clothes or on her shield. An interesting example can be seen on a vase from Andróklides, dated from the 7th century BC, where Athena is represented with her clothes full of right angled swastikas (Bertrand, 1897: Fig. 27). The same kind of symbol appears also on the clothes of a Scythian archer depicted on an Athenian black figure amphora, from about 540 BC (Sparkes, 1997).

Still regarding Greek pottery, two more cases deserve to be mentioned: a plate from the British Museum, dated from about 600 BC, representing Hector and Menelaus fighting over Euphorbos' body, with a meander swastika under Hector's shield; a plate from the Archaeological Museum of Thasos (Greece), with the same chronology and the same kind of swastika depicted in front of the head of the Greek hero Bellerophon (Pasquier, 1981: 410: Fig. 364).

In the 3rd century AD, several examples of fibulae in the shape of four horses' heads forming a swastika seem to be related to the creation of the Illyrian cavalry corps, with many examples in ancient



FIGURE 10. FIBULA WITH FOUR HORSES' HEADS.
(PHOTO: D. DELFINO).

Roman Dacia (Romania) and Serbia and less examples in Croatia, Slovenia, Hungary, Austria, south Germany and North of Italy (Buora, 2005; Gudea, 2005). In Portugal there's one example of such fibulas in the private Collection Estrada, but of unknown provenance (Fig. 10).

4. The Triskeles

The word triskeles (from the Greek τρισκελής, triskelis), is composed by *tria* (three) and *skelis* (legs). Indeed, in several cases, this motif shows exactly three human legs, like for example in the symbol of the isles of Man and Sicily.⁶ Despite being considered a variant of the swastika,⁷ this figure deserves to be considered separately, since there are examples of triskeles with a different typology, in spite of Wilson (2000) arguing that the true triskeles is composed by three human legs.

Like the swastika, the triskeles appears also on defensive and on offensive weapons.

4.1. Triskeles on defensive weapons

Regarding this kind of warrior equipment, the triskeles appears on shields, on helmets and on belt buckles.

In what concerns shields with three legged triskeles, the most know examples are some cases of 6th century Greek pottery, depicting hoplites, such as an *hydria* from the Museum of Fine Arts in Boston (Wilson, 2000: Fig. 37), the Attic black amphora belonging to the Cleveland Museum of Art and a similar piece from the British Museum (Fig. 11).

According to R. Wilson (2000: 49), 'there can be little doubt that the function of the triple legs on the shield was to serve as an apotropaic symbol, to protect the bearer and to strike fear into the enemy, as in the poem written (...) by the epigrammatist Dioscorides'.

⁶ Curiously the triskeles was also adopted as the symbol of the Institute of Archaeology from the University of Cambridge.

⁷ On pottery from Polizzello (Sicily) there's a swastika formed by four human legs, which seems to be the origin of the symbol known as triskeles (Wilson, 2000).



FIGURE 11. THREE LEGGED TRISKELES ON SHIELD.

Another kind of triskeles appears on the umbo (or shield boss) of a 8th century Lombard shield belonging to the Museum of Bergamo (Italy), seen by the author in 2011.

Regarding helmets, the beautiful example found at Amfreville (Eure, France), dated from the 3rd century BC, shows a golden plaque with a pattern of interconnected triskeles (Kruta, 1991).

Triskeles appear also on three belt buckles dated from Iron Age, belonging to the private Collection Estrada (Coimbra, 2011b), which will be part of the future Iberian Museum of Archaeology (Abrantes, Portugal).

4.2. *Triskeles on offensive weapons*

Regarding this kind of weapons the triskeles is represented on swords and on spear heads.⁸ In what concerns swords, this symbol can appear on the handle, on the blade or on scabbards: on the handle it's represented on a case from Mycenae (Müller, 1886: Fig. 8) and on a Celtiberian example from the necropolis of La Osera (Chamartín de la Sierra, Ávila), in Spain (Álvarez Peña, 2002: 57); on the blade it can be seen on Iron Age swords found at Munich (Fitzpatrick, 1996: Figs. 8-9); on scabbards they are present through some examples from Scandinavia (Wilson, 1894: Fig. 211).

As mentioned before, the triskeles is represented associated with a swastika on the spear head from Brandenburg.

5. Final note

As it can be seen through the above presented examples, the pentagram, the swastika and the triskeles, despite other meanings in other contexts, were used as symbols for protection in war.

⁸ So far we don't have information about triskeles on axes or on daggers.

In the specific case of the triskeles, it was chosen by the Syracusan leader Agathocles, in the 4th century BC, to replace the Nike (symbol of victory in war) in the coins minted in that period (Wilson, 2000). Furthermore, a triskeles of crescents, inside a circle, appears associated with Athena on a Corinthian stater from 375 to 300 BC (Voukelatos, 2011: Fig. 17), constituting one more example of the association of this symbol with war.

The value of symbols for protection in war attributed to the pentagram and the swastika during the studied period can result from earlier examples when they appear in a religious or sacred context, being associated with deities, appearing in funerary cults of different peoples and chronologies. This gives the idea that, for having such an importance, they must have been presented to society as a visible sign of a belief.

With the appearance of war, those figures seem to take advantage of a previous known symbolism and get reinforcement in meaning and diffusion in Protohistoric times, among several European cultures through time and space.

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The emergence of war in human societies

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Abstract

The advent of warrior societies is a crucial moment in human history, and the study of such a topical moment represents a challenge for both anthropological archaeology and social sciences at large. These new societies created their own myths and patterns of social behaviour, placing a specific human actor at their center: the warrior. Bronze age strongholds, colonies and open mines (among many other possible examples) are visible traces, well documented in the archaeological record, of the deep and pervasive social, economic and technological changes brought by war to human societies. War is indeed one of the most peculiar human behaviours. But how did the concept and practice of war emerged in human culture and why did it became central in Bronze age warrior societies? These broad and far-fetching questions are addressed through a multidisciplinary approach, including theories and empirical findings from political philosophy, archaeology, history, ethology and political science. The proposed argument merges material and socio-cultural analysis, in order to open new venues to the understanding of the emergence of war as a human practice, the relationship between war and society, and their mutual influence. By integrating different disciplines and methods, the paper aims to open new grounds and allow for fresh hypothesis about birth, development and impact of war on human society

Keywords: war, warrior societies, Bronze age, human culture, human behaviour, war archaeology

Résumé

L'avènement de sociétés guerrières est un moment crucial dans l'histoire de l'humanité, et l'étude d'un tel moment est un défi pour l'archéologie anthropologique mais aussi pour les sciences sociales en générale. Ces nouvelles sociétés ont créé leurs propres mythes et modèles de comportement social, en plaçant en leur centre un type spécifique d'acteur humain: le guerrier. Les forteresses de l'âge du Bronze, les colonies et les mines à ciel ouvert (entre-autres) sont des traces visibles, bien documentées par leurs vestiges archéologiques, des changements sociaux, économiques et technologiques profonds et généralisés amenés par les guerres aux sociétés humaines. En effet, la guerre est un comportement propre aux sociétés humaines. Mais comment le concept et la pratique de la guerre sont apparus dans la culture humaine et comment sont-ils devenus un point central dans les sociétés guerrières de l'âge du Bronze? Ces questions sont abordées à travers une approche multidisciplinaire, en prenant en compte les théories et constatations empiriques de la philosophie politique, de l'archéologie, de l'histoire, de l'éthologie et des sciences politiques. Le débat proposé associe l'analyse matérielle et socio-culturelle, afin d'ouvrir de nouvelles perspectives à la compréhension de l'émergence de la guerre comme pratique humaine, de la relation entre guerre et société, ainsi que leur influence mutuelle. En intégrant différentes disciplines et méthodes, cet article a pour but d'exposer de nouvelles hypothèses sur la naissance, le développement et l'impact de la guerre sur la société humaine.

Mots clés: Guerre, Sociétés guerrières, Culture humaine, Comportement humaine, Archéologie de la guerre

Introduction

The birth of warrior societies is a crucial moment in history, as it generated deep and lasting changes in human culture through the affirmation of a specific social actor – the warrior – and through

the introduction of new myths and new form of social, political and economic organization. The impact of warrior societies has been made tangible, above other things, in strongholds, colonies and open mines: the remnants of these artefacts are the long-lasting testimony of the specific social and technological features of these peculiar societies. Warrior societies could not exist without the practice of war, and the emergence of human collective violent confrontation is, in itself, a significant area of study in archaeology, anthropology and history (Redmond 1994; Reyna & Downs 1994; Martin & Frayer 1997; Carman & Harding 1999). War is a specific subset of social violence, and its origins have been analysed from different disciplinary standpoints, like biological anthropology (e.g. Wrangham 1999), social anthropology (e.g. Kelly 2000), history (e.g. Keegan 1993; Dawson 2001) and archaeology (e.g. Keeley 1996). An excellent summary and commentary of current theories and debates on the subject has been published by Alessandro Guidi (2007).

Starting from the debate about the emergence of war, this article intends to move one step further, and advance a complementary explanation for the turning of agricultural societies into warrior societies, a change that indeed represents a challenging topic for anthropological archaeology and for social sciences at large. Specifically, it aims to answer to the question ‘why warrior societies did emerge?’ by looking at the incentives (rather than at the material preconditions) that may have plausibly pushed human communities in such a direction. It is a well known fact that agriculture has been a necessary element for the development of warrior societies, yet is it also a sufficient one? The role of material factors allowing for the birth of warrior societies have been widely investigated (e.g. Beyneix 2007), but less attention has been devoted in evaluating drivers, incentives and rationales that may have pushed humans communities to organize themselves in warrior societies. This article aspires to ignite a process meant to fill up this epistemic gap.

The argument is developed as follows. The first section, drawing from biology, ethology and anthropology, looks at the biological foundations of human intra-specific collective violence, making comparisons with other social species and with primates. Being biology insufficient to account for the wide variance in human intra-specific violence, culture is added as a complementary explanatory factor, focusing specifically on the development of hunting tools and techniques in hunter-gatherers societies as elements precursory to the development of war proper. Building from this premise, the second part concentrates on cultural practices aimed at manipulating the human ability to socially deploy intra-specific violence – war included – bringing it beyond the standard of other animal species. Drawing from both social psychology (processes of dehumanization) and from political philosophy (the definition of others as ‘enemies’), this section is complemented with examples linking the theories summarized with pre-, proto- and historic evidence of human intra-specific violence carrying peculiar traits: the Talheim Death Pit, the Tollense Valley battlefield and the Battle of Kadesh. The focus of the third and last section is the birth of the European Bronze age warrior societies. In order to expose the rationales that brought to this development, it is first considered the presence of war in hunter-gatherers societies through the analysis of skeletal remains, pictures and through the use of actualism. This last method allows to statistically show that larger societies (i.e. agricultural, sedentary ones) are better at granting the survival of individuals and of the whole group in the face of military threats than smaller ones (i.e. those made of hunter-gatherers). As new sedentary cultures proved better at delivering security it is argued that this can be a reason accounting for both the birth and spread of larger agricultural societies on one hand and for the central role attributed to warriors in these societies on the other. The peculiar social status granted to warriors in European late-Neolithic to Bronze age societies is then made evident empirically by recalling pertinent findings in rock art, burials and menhirs.

Violence and Biology

The capability of intra-specific killing is not exclusive to humankind, as it can be found in several animal species: for example, the assassination of cubs by new dominant males is a normal practice in lion groups. Not even the social dimension of intra-specific violence sets humans aside from

other species: collective violence, taking the form of inter-group coordinated skirmishes, has been observed by ethologists in many social species, like ants, wolves, lions and hyenas (Wilson 1978; Holldobler & Wilson 1997; 2011). The well known case of a battle between two different groups of hyenas in the Ngorongoro Park (Tanzania), documented by the biologist Hans Kruuk, during his studies on ‘excessive killing’ (1972), is an excellent case in point. In order to understand the extent to which biology provides a foundation for human intra-specific violence it is then appropriate to take a look to the behaviour of human’s closest relatives: gorillas and chimpanzees (Goodman 1964; Goodman 1974; Goodman *et al.* 1975). Male gorillas fight for controls of females, and winners may get to kill their competitors along with their offspring. This is the main cause of death for young male gorillas, and about 38% of gorilla cubs deaths is attributed to infanticide (Fossey & Harcourt, 1977). The studies carried out by Jane Goodall between 1974 and the 1977 in the Gombe Stream National Park (Tanzania) documented the violent confrontation between two different groups of chimpanzee. Goodall’s describes one long-lasting conflict, spanning several years, that included coordinated attacks, ambushes and kidnappings. It ended with the utter destruction of one group (with the exception of some females co-opted into the prevailing party) and with the conquest of the losers’ territory by the winners (Goodall 1986).

These cases show behavioural analogies between human and primate groups about the social use of violence, even to the point of carrying a definite resemblance to war, as they can entail the use of intra-specific violence in a organized, inter-group fashion in order to contest and conquer territory and resources (Wrangham 1999; Mitani *et al.* 2010). But while biology can provide an explanation about the foundation of human intra-specific social violence, it is *per se* insufficient to account for its variance. Thorpe (2003) argued that biological theories imply a constant level of violence, something not supported by the archaeological, historical and anthropological evidence. On the base of similar environmental conditions, humans can refrain from intra-specific violence or escalate their aggressive behaviours to a high-end, and the history of humankind shows significant variation in type, intensity, scale, duration and frequency of human collective intra-specific inter-group violence. As humans we labels these different endeavours differently: riots, rebellions, revolutions, uprisings, and so on: war is just one kind of intra-specific inter-group violence among many.

Thus something more than biology is required in order to account for the great variance in human intra-specific inter-group violence: culture. The founding father of cultural anthropology, Edward Burnett Tylor, in his essay ‘Primitive Culture’ (1871) defines it as ‘that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society’. Bringing culture into the picture allows to grasps variations in human intra-specific aggression, and to conceptualize war as one of its specific declinations, grounded on a biological foundation, but not entirely contained in it. So how and when culture came into play to make humans war-capable? André Leroi-Gourhan theorized the emergence of war in primitive societies as a development out of hunting abilities (1964). Hunting required humans to organize themselves into coherent groups, capable of coordinated action in order to exercise violence. The same skill set can be used to switch from animal hunting to human hunting: on this base, Leroi-Gourhan argues that the practice of organizing and conducting animal hunting was a facilitator in passing from extra-specific to intra-specific violence. The social aspect is not the only one coming into play, as hunting also required to employ and perfect tools meant at harming and killing or, to state it differently, to develop and evolve the technology of destruction. The famed ethologist Konrad Lorenz (1969) said that the aggressive instinct of animals has its greatest inhibition in killing individuals of their own species, but technology, as a human cultural practice, altered the equilibrium between inhibition and aggression through the birth and the perfection of weapons. These latter made easier the application of violence, as they increased the ability to deliver damage and, at the same time, reduced the emphatic cost on the perpetrator by allowing to him (or her) to operate more quickly and/or from a greater distance (Eibl-Eibesfeldt 1975). In archaeological records, the proof of the switch from human-hunting as a secondary practice to an full-fledged independent activity is visible in the transition from tools-weapon (i.e. tools occasionally used as weapons) to weapon-tools

– (i.e. tools specifically made for waging war), as proved also by the changes in the shapes of arrows (Chapman 1999; Knüsel & Smith 2013; Churchill 1993; Brizzi 2004). In short, animal hunting gave the impulse to create ‘cultural objects’ precursory to the emergence of war proper, a process well grasped by the notion of ‘exaptation’ introduced by Gould and Vrba (1982).

The social dimension of violence

In developing human intra-specific violence into war proper culture plays an essential role beyond the two aspects summarized in the previous paragraph (social organization and technology). Thorpe (2003) considered cultural methods addressed at reinforcing biological urges to kill, like dances, rituals, vows, wearing of special costumes, and use of drugs, but the list could be easily extended. A further method worthy to be added to the list is *dehumanization*, a process described by social psychologists, meant to portray others as less-than-human or as non-human (Haslam 2006; Livingstone Smith 2011; Volpato 2011; 2013). By denying or limiting the humanity of ‘others’, dehumanization permits moral disengagement and suppression of empathy. It can take different forms – the most obvious being animalization, demonization and objectification – and can be more or less explicit (in this latter case is called *infrahumanization*; see Leyens *et al.* 2000; Vaes *et al.* 2004). In ethology, it is extra-specific violence that delivers serious and substantial damage as it is aimed primarily at preying, plundering and defending, while intra-specific violence tends to be more limited in its effect since it is meant to be just a method for hierarchical organization and for regulating access to resources (e.g. food or mating partners). Through pseudo-speciation, dehumanization culturally disguises intra-specific aggression as extra-specific, allowing violence to escalate to levels that would not be otherwise attainable (Erikson 1966; Friedman 1999; Gil-White, 2001; Marlantes 2011).

Dehumanization is a common practice throughout human cultures and could be observed in its basic (and less-than-lethal) form through the use of animal names (dog, pig, monkey, etc.) as insults in various languages. While observing the New Guinean warring tribes, Jared Diamond (1994; 2004) witnessed men from one tribe regularly using derogatory terms to refer to neighbouring groups, defining them as ‘primitives’ and ‘ignoble’, a practice that was integral to the recurring lethal clashes. When dehumanization is brought to its extreme consequences, it allows for extensive and intensive application of violence, even to the point of genocide. Nazis labelled Jews as ‘sub-humans’, ‘pigs’, ‘lice’ and ‘rats’, and this latter term was also used by French colonialists to describe Algerian Muslims. In North America, natives were called ‘wolves’ and ‘red devils’ by settlers, while Paraguayans named the hunter-gatherers population Ache’ as ‘rabid rats’. In antiquity, barbarians were considered below humans, and in times very close to our own dehumanization still happens on a large scale: for example in Rwanda Tutsi and dissident Hutus were labelled ‘cockroaches’ by Hutu Power militias in the ‘90s as a part of a process that generated about 800,000 deaths in just a hundred days. Propaganda imagery provides the most immediate example of dehumanization, where enemies are portrayed as beasts, demons, or otherwise deprived of human traits and features (e.g. by altering their size to massive or tiny proportions).

A definition of ‘enemy’ that can easily be linked with dehumanization has been provided by the political philosopher and jurist Carl Schmitt: enemy is whoever is ‘in a specially intense way, existentially something different and alien, so that in the extreme case conflicts with him are possible.’ (Schmitt 1932/2007: 27). Successful designation of ‘others’ as enemies, however, does not just allow to exercise violence but also enhance in-group cohesion and cooperation and ease mobilization: all fundamentals elements in order to make effective the social use of violence, be it defensive or offensive. As the developmental psychologist Michael Tomasello pointed out, violent confrontation and cooperation among humans are not mutually exclusive, but they can instead reinforce each other:

Of course humans are not cooperating angels; they also put their heads together to do all kinds of heinous deeds. But such deeds are not usually done to those inside the group. Indeed, recent

evolutionary models have demonstrated what politicians have long known: the best way to motivate people to collaborate is to identify an enemy and charge them that they threaten us. The remarkable human capacity for cooperation therefore seems to have evolved mainly for interaction within the local group: such group in cooperation is, perhaps ironically, a major cause of strife and suffering in the world today. The solution – more easily described than attained – is to find new ways to define the group (Tomasello 2009).

Getting back to Schmitt, in his seminal work ‘The concept of the political’ (1932) he located the quintessential task of politics in the definition of enmity. The concept of identity entrepreneurship – the capability of collecting socio-political and economic rents from the manipulation of social identities and the edification of enmity – is today a widely accepted notion in political science and in conflict studies (e.g. Kaldor 1999; Berdal 2009; Keen 2012).

The proof of a pre-historic inter-group conflict where the other had to be considered so intolerable to wish for its complete annihilation is provided by the Talheim Death Pit – a mass grave discovered in Germany in 1983, datable at around 5000 B.C. and contained in a Neolithic Linear Pottery Culture (LBK) settlement. The pit holds the remains of thirty-four bodies: sixteen children, nine adult males, seven adult women and two bodies of adults of indeterminate sex (Scarre 2005). Several skeletons have signs of healed trauma, suggesting that violence was a common element of everyday life, but all the skeletons also present signs of non-healed traumas that are considered to be the likely cause of death. These traumas are divided in three categories: eighteen skulls show wounds attributable to the sharp edge of adzes; fourteen skulls have traces of wounds produced by the blunt edge of adzes; three had arrows wounds. The majority of the skulls are smashed, but serious injuries were also inflicted upon other parts of the body like arms, legs and pelvis, and several victims carry signs deriving from multiple and various types of injuries. This data indicates that some individuals were struck by more than one attacker or that some of the attackers dealt a *coup de grâce* to the dying. All the skeletons do not exhibit defensive wounds, indicating that the group was either fleeing or incapacitated (perhaps bounded) when killed (Wahl & König 1987; Scarre 2005). This element, along with the fact that the group also includes women and children, shows a definite will of annihilation on the side of the attackers not justified by an immediate defensive purpose: the inherently human cultural practice of dehumanization may have played a role in allowing inter-group violence to reach such an extreme.

In short, culture allows to manipulate the perception of others through discursive practices grounded on the use of language, to reinforce in-group cohesion and to generate mobilization. Along with other cultural factors, like technology, this permits to human social violence to reach extremes unequalled by other species (Bonanni *et al.* 2011; Maynard Smith & Parker 1976; Parker & Rubenstein 1981; Hammerstein & Parker 1982; Enquist & Leimar 1987). Culture is also essential in defining variations in type as well, since boundaries between one kind of human intra-specific violence and another – i.e. where war begins and where other forms of social collective violence end – are culturally defined. But what are the available traces, testifying the emergence of war as a peculiar human activity, differentiated from other forms of social collective violence? For historians, there is an important date: 1274 B.C., when the Battle of Kadesh took place on the Orontes River (Syria), pitting the Egyptian army of Ramesses II against that of the Hittite Empire (Freu 2005; Strum 1995). It is not the oldest known military confrontation, as there are written sources on Sumerian, Assyrian and Babylonians wars as well, but it is the earliest battle of which reports on tactics and formations were handed down in history, along with two versions of the peace treaty later subscribed by the belligerents. One copy is engraved on the walls of Pharaoh Ramesses II’s mortuary temple in Thebes (Egypt), while in the Hittite capital of Hattusa (Turkey) it was found on baked clay tablets (currently stored at Istanbul Archaeological Museums).

Moving away from written sources, and looking into archaeological remains, an important trace of war has been found in the Tollense Valley (North-Eastern Germany). Since the ‘80s, this site

returned a great number of bronze objects, recovered mainly from dredged river sediments. Within the archaeological finds there are weapons such as knives, arrowheads, clubs, spearheads, adzes, a dagger blade and a small sword fragment. Test trenches documented a consistent layer below the ground surface containing clusters of human and animal bones in fluvial sediments, bringing to the finding of more than 9,000 human skeletal remains and more than 3,000 animal bones (most of them horses). The minimum number of human individuals at the site is calculated at 124 and several human bones exhibit signs of peri-death traumas due to different weapons: arrows, clubs and cutting weapons. This, along with the presence of the horses, suggests the existence of a complex military organization capable to deploy diversified troops, from infantry to cavalry, and to operate both from long-range and in melee. The demographic analysis carried on the remains found that the majority of individuals were young adult males with just a few females, thus further supporting the hypothesis of a military significance of the event (Brinker *et al.* 2013; Flohr *et al.* 2014). The AMS datation made on ten human remains gave the result of 1200±40 B.C. (Jantzen *et al.* 2011), linking the findings to a common originating event: a Bronze age battle (Bricker *et al.* 2013; Flohr *et al.* 2015).

The birth of war and the advent of warrior societies

The cases considered in the previous paragraph are related to advanced societies: the Talheim death pit to Neolithic Linear Pottery Culture societies (LBK); the battle of Kadesh to late Bronze age societies, and the Tollense battlefield to the European warrior Bronze age culture. But in order to find the first signs of war it is necessary to take one step back and focus on the first human societies: the hunter-gatherers. The existence of war in these societies has been analyzed by Lawrence H. Keeley (1996) but his idea was not completely new: others authors before him found that hunter-gatherers societies, albeit limited in size (because of the need for large hunting-gathering areas to support few individuals), were nonetheless able to practice war (e.g. Diamond 2004; Lévi-Strauss 1955).

The controversy about the presence of war in hunter-gatherers societies is grounded on the fact that undisputable archaeological traces of it hardly come by. In the Palaeolithic and Mesolithic periods the evidence consists in weapons, depictions of warfare, and skeletal remains with traumas (Thorpe, 2003). About these latter, in many cases it is impossible to ascribe the causes of injuries to war, other forms of intra-specific violence or even accidental traumas. On one side, on the basis of the frequency of traumatic injury on their skeletal remains, Brothwell (1999) suggests the presence of conflicts between Neanderthal societies. On the other, Berger and Trinkaus (1995) argue that Neanderthals suffered a higher level of trauma than other hominids because of their practice of short-range hunting with spears. A case that appears more clear-cut is that of Jebel Sahaba (Sudan), where a cemetery containing fifty-nine burials dated 14,000 B.C. was found. Among these burials, twenty-four had arrowheads embedded in the bones. More than one hundred points were founded during the excavations, almost all of them in a positions indicating that they penetrated the body as heads on projectiles or spears (Wendorf 1968). Traces of violence are more frequent on male remains, but also women and children were killed by projectiles. There are skeletons that present multiple wounds (up to a dozen in the case of an adult female) that may indicate either close combat or a revenge attack.

Moving from skeletal remains to pictures, European hunter-gatherers rock-art, painted or engraved, is concentrated in three main areas: northern Scandinavia (including Finland and western Russia), Valcamonica (Italian Alps) and the Spanish Levant (south-eastern Spain). The most important representation of war is witnessed within this latter assemblage, where the engraved complex images show scenes of warfare or skirmishing in which figures are placed in a way that suggests the use of battle tactics (Beltrán 1982; Dams 1984; Mateu 2002; Nash 2005; Porcar 1953). In these panels some figures have highly elaborate headdresses that can represent warriors of rank, while others are simple stick silhouettes, probably representing common soldiers. This portrayal of violence is in contrast

with the herding and hunting scenes that otherwise dominates the whole assemblage (Nash 2000), thus suggesting that war has not been the central fulcrum of the represented culture (Nash 2005). According to other authors (e.g. Dams 1984) warrior representations are later to be dated at around 6500 B.C., thus Neolithic). Irrespective of period though, these figures represent a hunter-gatherer economy. This interpretation is based on other non-violent and hunting figures present either on the same panel or on neighbouring panels such as hunted red deer, chamois/ibex and bulls – e.g. Cingle de la Mola Remigia, caveats IV and VII (Nash, 2005).

A different approach to the study of war in pre- and proto-historic societies is provided by actualism. Cases central in the current debate among anthropologists are the hunter-gatherer societies of the Kalahari Bushmen, the Yanomami of the Orinoco basin and the Highlanders of New Guinea. Most studies agree on the presence of war, although in different forms, in these societies (Gat 2000), hence claiming that the roots of war are already present in hunter-gatherer civilizations (Diamond 1992; Levi Strauss 1955; Marin & Frayer 1997; Ferguson 1997).

On the base of the recalled traces, it is thus reasonable to assume that the advent of war was a long-term process that likely started before the Copper age; a process that in turn generated an increased need for security, making necessary for human societies to become able to fend off organized attacks coming from other human groups, in order to guarantee survival for both individuals and society as a whole. The most simple and straightforward way to answer to this demand is aggregation or, to put it differently, the creation of larger groups: a strategy also applied by various animal species, from sardines to chimps (Wrangham 1999; Mitani *et al.* 2010). The introduction of agriculture occurred with neolithization generated the material capability to sustain larger societies, and the fact that larger societies are more secure in the face of threats coming from the outside (both from humans and from wildlife) may be a complementary factor accounting for both the birth and spread of larger agricultural societies. This hypothesis is not meant to replace other theories accounting for neolithization, but aims to bring into focus a factor that is generally overlooked and understudied, and worthy of more consideration. i.e. the security driver. In turn, the role of this driver, can also account (at least to some extent) for the central role attributed to warriors in these societies.

Statistical analysis shows that bigger societies are more secure not only on the aggregate level (as it is harder to wipe out one entirely, hence better guaranteeing cultural survival) but also at the individual level, since larger societies suffer in percentage less war-related deaths than smaller ones (Keeley 1996; Guilaine & Zammit 2001). Keeley (1996) compared the percentage of male deaths caused by warfare in different societies, finding that war is more deadly in primitive societies, even if their technology of destruction is less advanced. For example, the average yearly percentage of Russian war deaths during the 20th century has been 1.6% (and the figure is similar for Germans) while for the Yanomami of the Orinoco basin has been 3.2% and for the Dugum Dani population of the Papua New Guinea highlands 5%. This means that overall in the 20th Century the Yanomami lost 25% of their population to war and the Dugum Dani the 33%, while Europe and the United States combined – albeit involved in the largest military confrontations to date and in command of extensively lethal technology – only 2%.

In short, the advent of agriculture made possible the birth of larger societies while the quest for security made it *desirable*. These new sedentary cultures proved better at delivering security – i.e. to defend themselves and their members from external threats – and this on one hand, coupled with the higher vulnerability to war-related losses suffered by hunter-gatherers societies on the other, implied that the latter lost ground to the former, leading to the prevalence of the agricultural model over hunter-gatherers, in a process of social evolution.

The fact that larger agricultural societies were born in response to a demand for security also helps in explaining why the capability to wage war became socially important, as it was a mean to acquire security for the group. A prominent role was thus attributed to warriors and warrior values, making

these sedentary cultures warrior societies proper: a form of social organization that interested all of Europe in the Bronze age. This claim is proved by archaeological evidence in burials, graves and art (Kristiansen and Larsson 2005), reflecting the prestige attached to warriors and to warrior status. For example, the Bronze age rock art in Valcamonica includes several portrayals of weapons: swords of different kinds, halberds, axes and shields. Duelling scenes are also present, interpreted as rituals involving the most important members of society (de'Marinis & Fossati 2004). Bronze age male burials including weapons have been found all throughout Europe and this kind of finding is so widespread that is considered a standard element of European proto-history. The social importance of warriors, along with the transcendental values attached to this specific 'disposable' figure, are well visible in the necropolis of Olmo di Nogara, in North-East Italy. There, among more than twenty Middle Bronze age warrior tombs, was found a grave of a male who suffered of congenital heavy scoliosis. This proves his incapability to conduct a warrior life, and yet he was buried with warrior's grave goods (Cupitò & Leonardi 2005; Cupitò & Rubat in this volume). In this case, it is clear that the weapons carry symbolic value, as a mean to remark a high social status, by granting to the man the privilege of being considered a warrior even if he was physically unable to be one. Traces of the growing importance of warriors in European proto-historic societies can be also found in archaeological remains dating back to the end of Neolithic and all the way up to the Bronze age, as war progressively gained in importance, leaving its symbolic mark across European cultures. Throughout this time, there was an important production of statue menhirs: engraved standing stones consisting of a vertical slab or pillar with a stylised human figure engraved on it, sometimes with hints of clothing or weapons visible. These are commonly found in southern and western France, Catalonia, Corsica, Sardinia, continental Italy and in the Alpine chain. In these menhirs the attributes of the male figures are daggers and halberds engraved on the stone (de Marinis, 1994; de Marinis & Fossati 2005), and can therefore be interpreted as another clear sign of the growing importance of the war and warriors in these societies.

Conclusions

War is a peculiarly human cultural practice. In some of its elementary forms it carries some resemblance with violent behaviours of other species, yet human culture allows to manipulate intra-specific violence to make it reach extremes unequalled by other animals. Konrad Lorenz and André Leroi-Gourhan pointed out how the development of hunting techniques and technology in primitive societies played an essential role in reducing inhibitions to intra-specific human killing and to develop 'human hunting'. Discursive practices aimed at defining others as enemies and to de-humanize them are other cultural tools that help in enhancing the magnitude of intra-specific violence and in-group cohesion, as highlighted by classical political philosopher Carl Schmitt along with many recent studies from both developmental and social psychology. The remains found in the Talheim Death Pit (5000 B.C.), exposing the murder of defenceless men, women and children, could be considered a case of prehistoric dehumanization and shows how far human violence can set itself aside from animal violence.

As pointed out by Leroi-Gourhan and Lorenz, the birth of war, as a social practice, has its foundations in hunter-gatherer societies. The advent of agriculture provided the means to sustain larger societies and, since those are less prone to war-related deaths (as statistically proved by Lawrence H. Keeley through actualism), the quest for security could with good reason be considered an incentive (among others) that made humans favour the development of Neolithic over hunter-gatherer societies. Also, the major propensity to battle-losses of hunter-gatherers society can account for their progressive loss of ground in the face of agricultural warrior societies, in a violent process of social adaptation and evolution. The hypothesis that larger agricultural societies were born in response to a demand for security helps in explaining why warriors became central figures in European Bronze age societies, making them then develop in warrior societies proper. The prominent role of warriors and the elevated status attached to this peculiar social function in these societies is still tangible in rock art (Valcamonica), burials (Olmo di Nogara) and menhirs scattered all over Europe.

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The Bronze Age battlefield in the Tollense Valley, Mecklenburg-Western Pomerania, Northeast Germany – Combat marks on human bones as evidence of early warrior societies in northern Middle Europe?

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Abstract

The discovery of numerous human skeletal remains, as well as horse bones and weapon finds dating to about 1250 BC, brought the Tollense Valley into the focus of interdisciplinary research. So far, c. 9300 commingled human bones of more than 124 (mostly male) individuals have been recovered and are currently interpreted as the remains of a large Bronze Age group conflict. Several bones exhibit clear traces of interpersonal violence. Fine cut marks and notches have also been identified. To find out whether these minor traces could be attributed to arrowheads or stabbing weapons, the injury pattern caused by experiments with replicas of Bronze Age arrowheads and daggers on half-carasses (pigs) was compared with the human material, using macroscopic, microscopic and radiological analysis. In addition to traces of blunt and sharp force, the use of bows and arrows, daggers, lances, swords and wooden clubs are evident. This indicates considerable interpersonal violence. The osteological analysis combined with archaeological experiments highlights the scenario of conflict with use of distance and close combat weapons. The range of weaponry and number of victims indicate a high intensity Bronze Age group conflict of supraregional significance.

Keywords: prehistoric warfare, interpersonal violence, peri-mortem lesions, weapon injuries, archaeological experiments'

Résumé

La découverte de nombreux vestiges humains squelettiques, ainsi que des os de chevaux et arme datant d'environ 1250 avant JC, a apporté la vallée Tollense dans le centre de recherche interdisciplinaire. Jusqu'à présent, c. 9300 ossements humains mêlés de plus de 124 personnes (essentiellement des hommes) ont été récupérés et sont actuellement interprétés comme les vestiges d'un grand conflit de groupe de l'âge du bronze. Plusieurs os présentent des traces claires d'une forte violence. Les marques et les encoches de coupe fine ont également été identifiées. Pour savoir si ces traces mineures pourraient être attribués à des pointes de flèches ou armes blanches, le motif de dommage causé par des expériences avec des répliques de pointes de flèches de l'âge du bronze et de poignards sur des demi-carasses (porcs) a été comparé avec le matériel humain, en

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utilisant l'analyse macroscopique, microscopique et radiologique. En plus de traces d'un objet contondant et tranchant, l'utilisation d'arcs et de flèches, des poignards, des lances, des épées et des bâtons en bois sont évidents. Cela indique violence interpersonnelle considérable. L'analyse ostéologique combinée avec des expériences archéologiques met en évidence le scénario de conflit avec l'utilisation des armes à la distance et pour combat rapproché. La gamme d'armes et le nombre de victimes indiquent une haute intensité du groupe conflit à l'Age du Bronze d'importance suprarégionale.

Mots clés: Guerre Préhistorique; Violence interpersonnel; Blessures peri-mort; Marques des coupes; Expériences archéologiques

1. Introduction

The discovery of numerous human skeletal remains (some with traces of violence) as well as horse bones, together with weapon finds like arrowheads, bone spearheads and wooden clubs, dating to about 1250 cal BC (Jantzen *et al.* 2011), brought the Tollense Valley in the federal state of Mecklenburg-Western Pomerania, Northeast Germany, into the focus of interdisciplinary research into the past, financially supported by the Deutsche Forschungsgemeinschaft (German Research Foundation) since 2010 (Jantzen *et al.* 2011; Jantzen and Terberger 2011; Jantzen *et al.* 2014a). The remarkable finds are currently interpreted as the remains of a Bronze Age group conflict of an unexpected scale. Such major group conflicts are well known for the Mediterranean and were documented in numerous written sources and iconography, e.g. the campaign of Thutmose III to Megiddo in 1457 BC reported in wall reliefs of Karnak temple in Egypt, the fight of the Egyptian Pharaoh Ramses II against the Hittites at the Battle of Kadesh in 1274 BC, or the conquest of Troy by the Greeks described in the Iliad (Jockenhövel 2006). However, there has been no evidence of comparable military confrontations north of the Alps during this period. Nevertheless, in addition to weapon finds and proven fortifications, petroglyphs of armed warriors and battle scenes (e.g. Tanum (Sweden), Tegneby (Sweden); cf. Jockenhövel 2006; Falkenstein 2006/07) indicate the use of specialized weapons and advanced combat techniques here. Therefore, the battlefield in the Tollense Valley will transform the generally peaceful image of the local Bronze Age so far recorded from archaeological research into a very different picture. One of arising questions is if there were already 'professional' warriors in the Early Bronze Age. In this paper some results of the osteological analysis on human bones from the Bronze Age battlefield in the Tollense valley are presented. The osteological point of view will be used to discuss the question to what extent combat marks on human bones point to evidence of early warrior societies in northern Middle Europe.

2. Site background

The Tollense valley is situated in the southern Baltic region, north of Berlin. The River Tollense drains Lake Tollense, flowing northwards via the river Peene into the Baltic. Near the small village Weltzin the river crosses a narrow valley section. Along a c. 2.5 km long stretch of the river more than twelve thousand human and animal bones have been recovered from 14 sites along the valley during the last two decades (Fig. 1). The finds were recovered during excavations in close proximity to the riverbanks, during diving surveys in the river, and from formerly dredged sediment from the riverbed (Brinker *et al.* 2010; Krüger *et al.* 2012; Lidke *et al.* 2014b). The majority of finds are from excavations from Weltzin 20, the site that has been subject to the most intensive research. There alone nearly 7,500 mostly disarticulated and scattered human bones as well as ca. 1,500 animal bones (including horse remains) were found until the end of 2013.

In total c. 9,300 well-preserved human bones have been discovered in the valley, corresponding to more than 124 individuals, with 77 of them represented at the main site Weltzin 20 (MNI based on the number of left femurs). In relation to the MNI of 77, only 43% of the expected skeletal elements were present. The most frequently represented elements are femurs (94%). Smaller bones from the post-cranial skeleton are under-represented. Thus, the proportions of the skeletal elements represented at

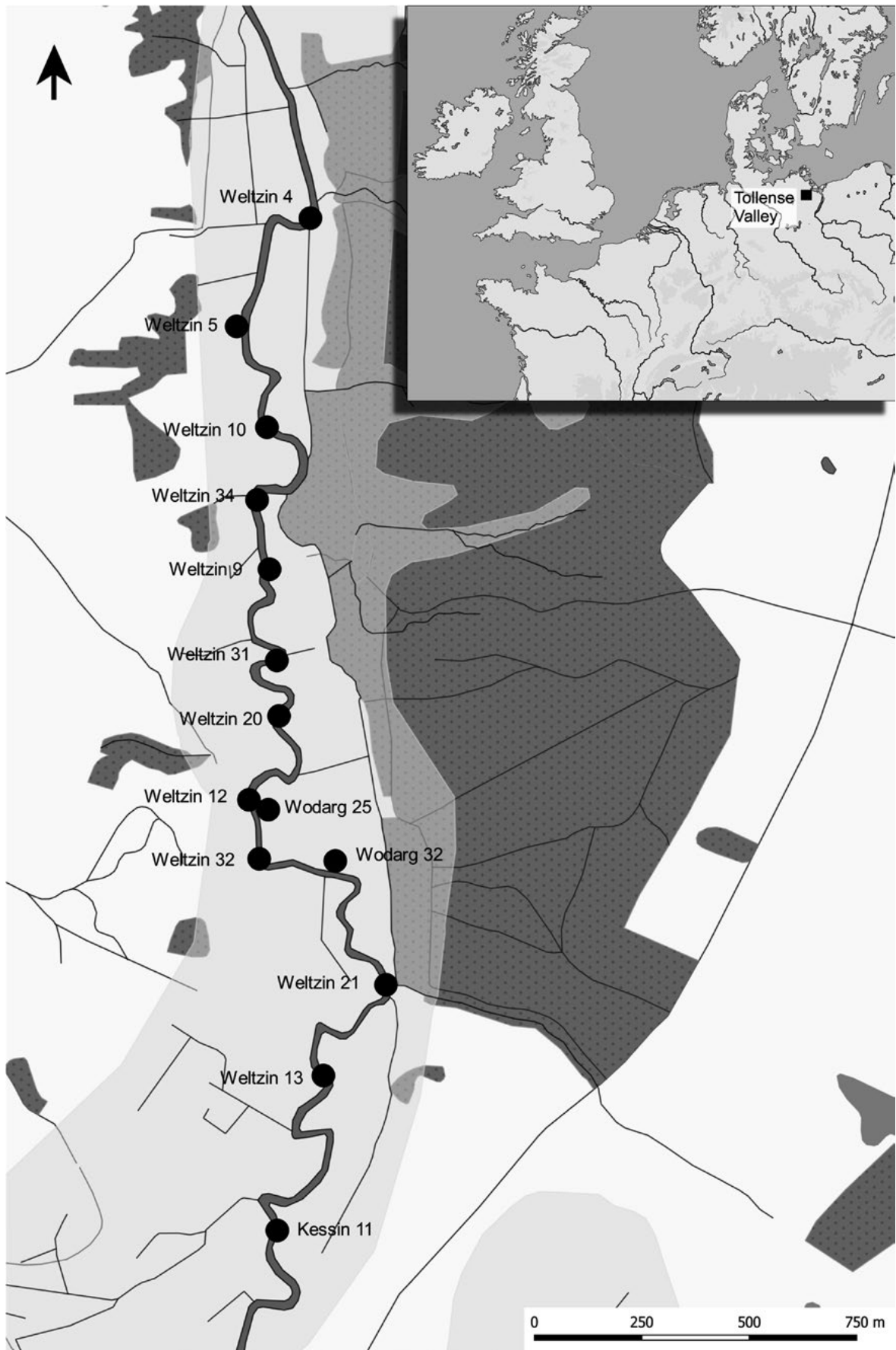


FIGURE 1. LOCATION OF THE BRONZE AGE SITES IN THE TOLLENSE VALLEY IN MECKLENBURG-WESTERN POMERANIA (GERMANY). MAP: D. SCHÄFFLER, USING DATA OF THE LAIV M-V © GEOBASIS-DE/M-V.

site 20 distinctly differ from those recorded for cemeteries (cf. Mays 2010). An explanation for the (atypically) missing skeletal elements could be fluvial processes that led to the erosion of the find layer and removal of bones. Likewise, an accumulation of body parts which were already partly disarticulated by fluvial transport or other taphonomic processes is conceivable. (cf. Brinker 2009; Brinker *et al.* 2014a; 2014b). So far there are few indications of preserved anatomical connections which would indicate the deposition of almost complete bodies or parts of bodies with only small-scale re-deposition e.g. by water level fluctuations or by post-depositional disturbance.

The existence of predominantly isolated bones makes comprehensive determinations of sex and age difficult. Nevertheless, demographic analyses, based on isolated skulls, pelvises, and femurs, suggest a strong dominance of young adult male individuals (e.g. Brinker *et al.* 2014a; Flohr *et al.* 2014). Numerous bones exhibit signs of blunt and sharp force trauma suffered at or around the time of death (peri-mortem). A number of healed traumata are also documented in the skeletal sample.

Although the find layer of site Weltzin 20 mainly contains of disarticulated bones, a few other objects were also documented, among them a few flint and socketed bronze arrowheads found close to the skeletal remains (Lidke *et al.* 2014b: 22, fig. 6; Lidke 2014c, figs 10, 14; Jantzen *et al.* 2014b: 243). Numerous findings of bronze arrowheads were detected in secondary positions in dredged sediments, which were deposited at different sites close to the river. So far 49 bronze arrowheads are known from the whole valley (cf. Jantzen *et al.* 2014b: 246; Dombrowsky 2014: 139-143; Dombrowsky in press). A few more flint arrowheads were also discovered during test trenches in these dredged sediments as well as during dive surveys along the riverbank (cf. Krüger *et al.* 2012: 5; Lidke *et al.* 2014b; Terberger 2014). Apart from arrowheads, two wooden clubs were found associated with the bone find layer (cf. Jantzen *et al.* 2008; Klooß and Lidke 2014) and different types of spearheads made of bronze, but also from bone (cf. Ulrich 2008; Dombrowsky 2014: 138f), axes (cf. Dombrowsky 2014: 141-144) as well as a sword, (assigned to Period III) have been recovered in the valley, mainly during metal detector or diving surveys.

It is currently assumed that the entire stretch along the Tollense valley represents a single site, originating from a common event (e.g. Brinker 2009; Brinker *et al.* 2014a). AMS-dating of the wooden clubs of several shaft remains from socketed bronze arrowheads and mainly of human bones from several sites in the valley dated the find layer with skeletal remains to approximately 1350-1250 cal BC, which corresponds to Period III of the Nordic Bronze Age (Jantzen *et al.* 2011; Terberger and Heinemeier 2014).

Current interpretations of the unusual find situation suggest that during and / or after a large scale battle several hundred victims were dumped into the river or remained in shallow water and in the floodplain, most likely at several locations. The decomposing corpses were fluvially transported and scattered, or decayed *in situ* in shallow water and in the floodplain. Parts of skeletons as well as single bones were deposited along the river banks and then probably relocated further by taphonomic processes (cf. Brinker *et al.* 2013; 2014b; Lidke *et al.* 2014b). However, many questions with respect to the site are still unanswered, including if there is any evidence of 'professional' warriors. Therefore, the aim of the present osteological study was to analyze to what extent traces of healed trauma on the bones point to various incidents of violence during these individuals' lives. Regarding the peri-mortem injuries the following questions should be answered: Are certain injury patterns recognizable? What weapons can be proven? Is there any evidence for a 'professional' handling of weapons?

3. Materials and Methods

In the present study nearly 7,500 human bones of the site Weltzin 20 were analyzed. A trauma was considered peri-mortem when no evidence of healing was recorded and when breakage characteristics were typical of fresh bone (e.g. Villa and Mahieu 1991; McKinley 2004; Boylston 2004; Buikstra and Ubelaker 1994: 160). Several bones exhibit clear traces of violence, e.g. impression fractures on

skulls (cf. Brinker *et al.* 2014a; 2014b) or embedded arrowheads – within a humerus (cf. Flohr *et al.* 2015) and a skull (in preparation) – as well as distinct cut marks caused by sword blows. In addition, minor traces in the shape of small-sized cut marks and notches, in particular on ribs, have also been identified.

For the differentiation of cut marks, the criteria of e.g. Greenfield (1999; 2006), Lewis (2008) and Kooi *et al.* (2012) were used. To identify projectile lesions, published experiments of e.g. Smith *et al.* (2007) and Letourneux and Pétilion (2008) were taken into consideration. In order to examine whether minor traces on the bones could be caused by arrowheads or stabbing weapons, experiments were conducted on pig carcasses with replicas of Bronze Age arrowheads and daggers (cf. Lidke *et al.* 2014a). Different types of injuries caused by these experiments were compared with the lesions found on the human bones using macroscopic examination as well as microscopic and radiological analysis. In order to find out which type of weapons could be responsible for trauma, the cross sections of the presumed weapons, e.g. different projectile types or stabbing weapons, were created in floral foam and then compared with the cross sections of the injuries.

4. Results

4.1. *Peri-mortem*

In total there are 65 peri-mortem lesions on bones from Weltzin 20 (status as of December 2013). Among them injuries caused by sharp force dominate. Injuries from blunt force trauma are also present, although less frequently. Some of them might be caused by weapons like the found wooden clubs (e.g. Brinker 2009; Jantzen *et al.* 2011; Brinker *et al.* 2014a). Considering the sharp force injuries, these are predominantly arrow shot and stab injuries, but a few blow injuries were also documented. In the following, different injury patterns of sharp violence with a special focus on cut marks and projectile lesions are presented by case studies.

Arrowhead lesions

Based on bow shot experiments with flint and bronze arrow heads (Lidke *et al.* 2014a) different types of injuries were identified on recent pig ribs and vertebrae, e.g. small impression fractures, discrete and coarse notches (Figs. 2-3) often caused by flint arrowheads, or tangential impacts that broke off bone fragments depending on the point of impact, as well as vertical passing shots and comminuted fractures, leading to a fragmentation of these ribs. The injuries patterns produced by these experiments are comparable to the Tollense bone assemblage, though not all can be attributed to arrow shots with certainty. Especially fragmentations of similar Bronze Age ribs as a result of passing shots and comminuted fractures are not clearly distinguishable from post-mortem taphonomic damage (see below).

However, apart from embedded flint- or bronze arrowheads in an upper arm (cf. Brinker *et al.* 2014a; Flohr *et al.* 2015) and a skull (publication in preparation), particularly small triangular or rhombic impression fractures, mainly found on the shoulder girdle, vertebral column, long bones as well as skull bones, are considerable further evidence of arrowhead lesions. A thoracic vertebra of an adult individual (Fig. 4) for example, exhibits a nearly triangular defect in profile which is located left of the spinous process on the vertebral arch. The lesion measures c. 6 x 3.5 mm on the outer face and is of funnel shape, narrowing inwards. The penetration depth is c. 4 mm. This defect possesses impressed bone fragments on the entry side. A fracture line laterally down on each side of the defect. The lesion indicates a shot from behind and slightly to the left side. The arrowhead has penetrated horizontally. Signs of healing are absent. This pattern is very frequent in the bone material, most likely caused from the small socketed bronze arrowheads that have been found in the Tollense Valley. Additionally, a large number of discrete traces also caused by arrowheads and partially comparable to discrete notches found in the shot experiments (see above) were identified. Coarser notches similar to those of the experiments have also been documented.

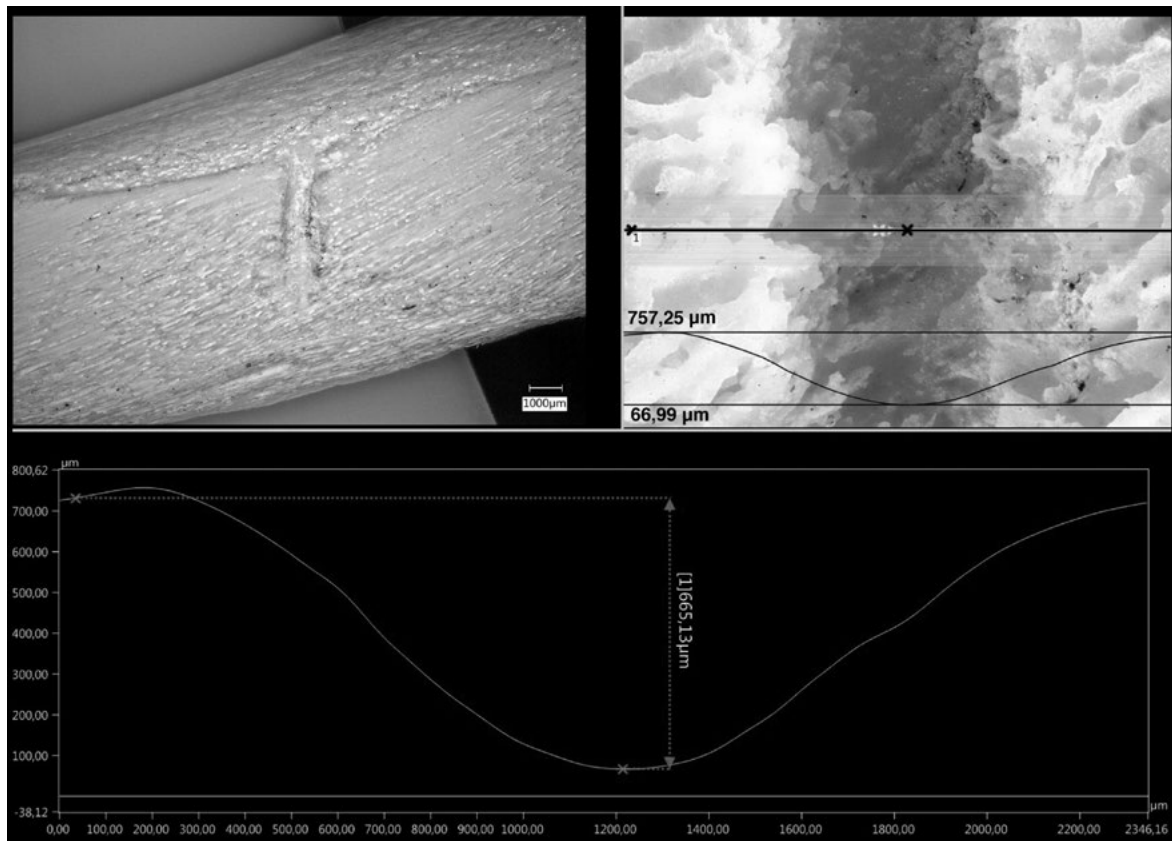


FIGURE 2. DISCRETE U-SHAPED NOTCH (CA. 1.8 MM WIDTH, 0.66 MM DEPTH) PRODUCED BY FLINT ARROW HEAD WHICH TOUCHED THE RECENT PIG RIB VERTICALLY. TOP LEFT: NOTCH (VIEW FROM CAUDAL), TOP RIGHT: ILLUSTRATION OF MEASUREMENT POINTS, BELOW: CROSS-SECTION AND AVERAGE DEPTH. IMAGE, USING DIGITAL MICROSCOPE VHX-5000: J. YEOH, © KEYENCE MICROSCOPE EUROPE.

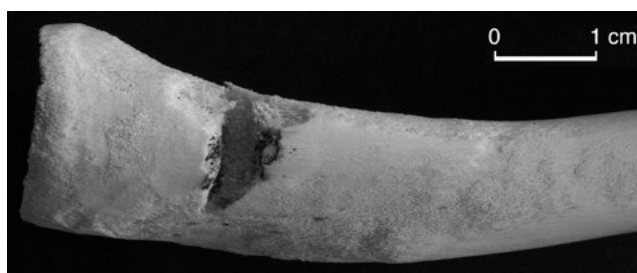


FIGURE 3. ACUTE-ANGLED COARSER NOTCH CAUSED BY FLINT ARROW HEAD ON A RECENT PIG RIB. TYPICAL ARE IMPRESSED BONE FRAGMENTS ON THE ENTRY SIDE, BROKE OFF BONE FRAGMENTS ON THE EXIT SIDE, IRREGULAR EDGES WITH FINE CHIPPING AND A LINEAR INDENTATION ON THE FLOOR. PHOTO: S. SUHR © LAKD M-V.

However, tangential impacts that broke off bone fragments were rarely detected because these injury patterns are difficult to identify. Due to the find situation the broken off bone fragments were lost, but would be necessary to ensure that the lesions were in fact caused by arrows and not by postmortem damage. The same applies for ribs passing shots and comminuted fractures. Although it must be noted that a high percentage of fragmented ribs is present within the whole bone assemblage, whether this fragmentation can be attributed to passing shots, comminuted fractures caused by arrow shots, or represents postmortem damage is not currently determinable with certainty.

Cut marks

Small-sized cut marks are also very common in the Tollense bone assemblage. The rib (Fig. 5) of an adult individual is an example of an impact from a sharp weapon. The two tiny cut marks visible on the caudal edge are oppositely oriented. In cross-section the cuts are smooth, narrow, and V-shaped, which is highly consistent with the characteristics of marks produced by metal blades like knives and daggers (e.g. Greenfield 1999; 2006; Lewis 2008; Kooi *et al.* 2012).

Similar patterns were also created on recent pig ribs with replicas of bronze daggers (Figs. 6-7). In this example of a joining pair of recent pig ribs two tiny, V-shaped cut marks – one at the lower edge of the upper rib (Fig. 6) and one at the upper edge of the lower rib (Fig. 7) – were produced during entry and extraction of a dagger held vertically between the ribs. Close inspection of the mark at the upper rib reveals the presence of bone feathering with small damage (fine chipping) to the surface at the medial (left) side and of a smooth, slightly oblique wall at the lateral (right) side (Fig. 6). The cross section profile of the cut on the outer side of the rib is more acutely angled and more sharply restricted than at the inner side and shows smooth edges, whereas fine chipping at the inner side of the rib was noted. These patterns as the result of a stabbing motion indicate the directionality of the stab from the outer to the inner side. However, the lower rib shows less bone feathering, only in a part of the cut mark and more on the inner side of the rib, with small damage to the surface of the lateral (right) side of the mark. The smooth, oblique wall is located on the medial (left) side of the cut mark (Fig. 7). In contrast to the upper rib, the cross section profile of the mark on the inner side of the rib shows smooth edges and is more sharply restricted than at the outer side, whereas a broadening of the cut mark in direction to the outer side of the rib caused by fine broken off bone fragments were noted. These patterns are therefore produced during extraction of the dagger.

Concerning the rib (Fig. 5), it can be assumed that the two tiny cut marks were most likely produced during entry and extraction of a stabbing weapon like a dagger due to the similar injury



FIGURE 4. THORACIC VERTEBRA (ALM 2013/0463-1531) OF WELTZIN 20 WITH SMALL TRIANGULAR IMPRESSION FRACTURE. PHOTO: S. SUHR © LAKD M-V.



FIGURE 5. INNER SIDE OF AN ELEVENTH RIGHT RIB OF WELTZIN 20 (ALM 2011/1145-0559) WITH TWO NARROW V-SHAPED CUT MARKS AT THE CAUDAL EDGE, MOST LIKELY PRODUCED DURING ENTRY AND EXTRACTION OF A STABBING WEAPON (PROBABLY A DAGGER). PHOTO: S. SUHR © LAKD M-V.

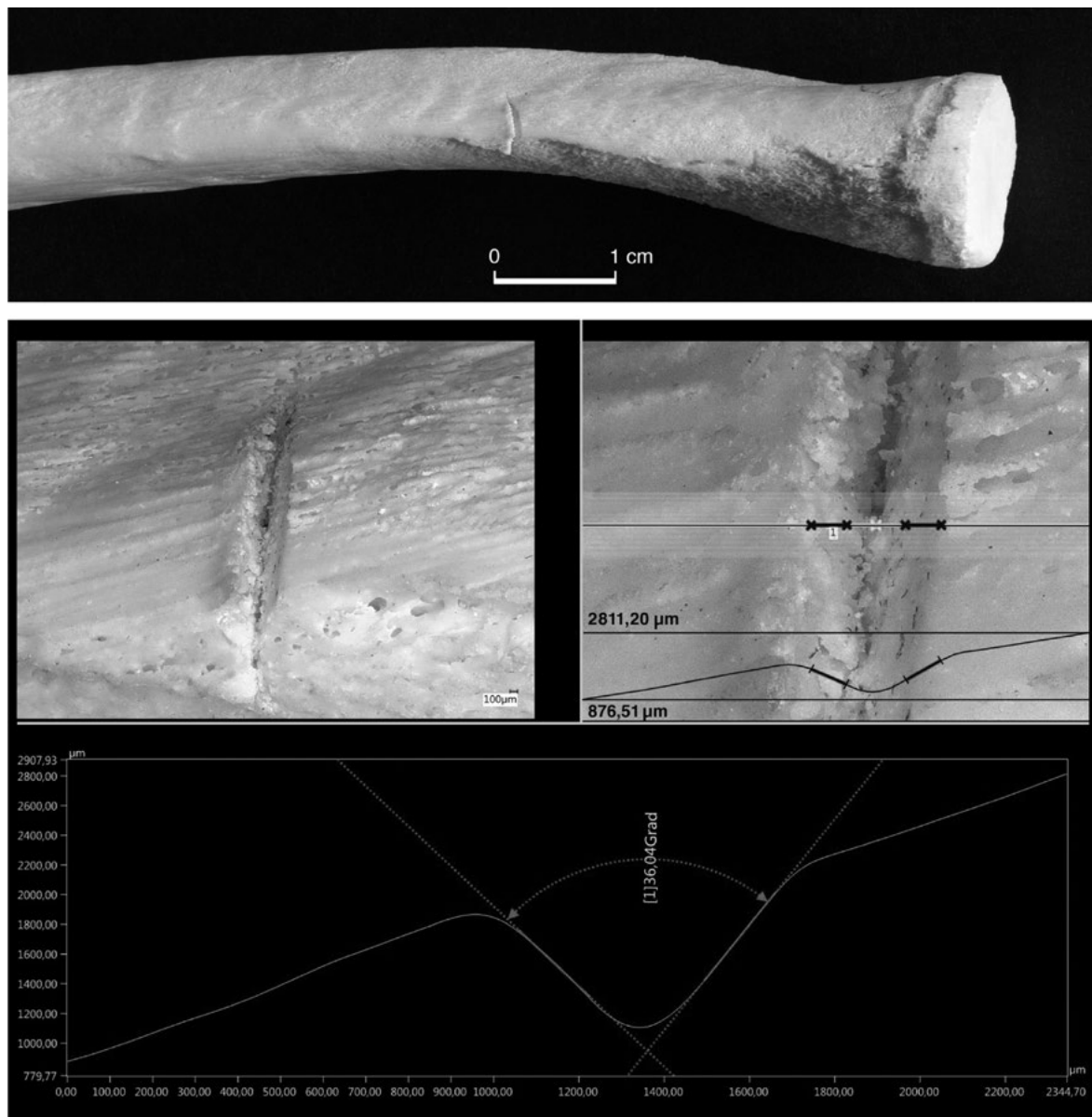


FIGURE 6. TOP: UPPER RIB OF A JOINING PAIR OF RECENT PIG RIBS WITH CUT MARK (VIEW FROM CAUDAL). MIDDLE LEFT: MICROSCOPIC ANALYSIS SHOWS NARROW V SHAPE WITH A SMOOTH, SLIGHTLY OBLIQUE WALL (LATERAL) AND BONE FEATHERING (MEDIAL). MIDDLE RIGHT: ILLUSTRATION OF MEASUREMENT POINTS. BELOW: CROSS-SECTION, AVERAGE DEPTH (CA. 800 μm) AND ANGEL (36°). PHOTO: S. SUHR © LAKD M-V. IMAGE, USING DIGITAL MICROSCOPE VHX-5000: J. YEOH, © KEYENCE MICROSCOPE EUROPE.

pattern on the recent pig ribs. The lesions indicate a stab from behind and to the right. Signs of healing are absent.

Both small-sized ‘single cuts’ and tiny ‘double cuts’ have often been identified on isolated ribs within the bone assemblage. In a few cases only ‘double cuts’ on joining pairs of ribs were registered due to the find situation. Because of the location on the skeleton of some of the small-sized cut marks as well as their characteristics, causation by daggers or knives can be ruled out. Therefore, in these cases stabs by swords and lances are also considered. This assumption is supported by recent experiments

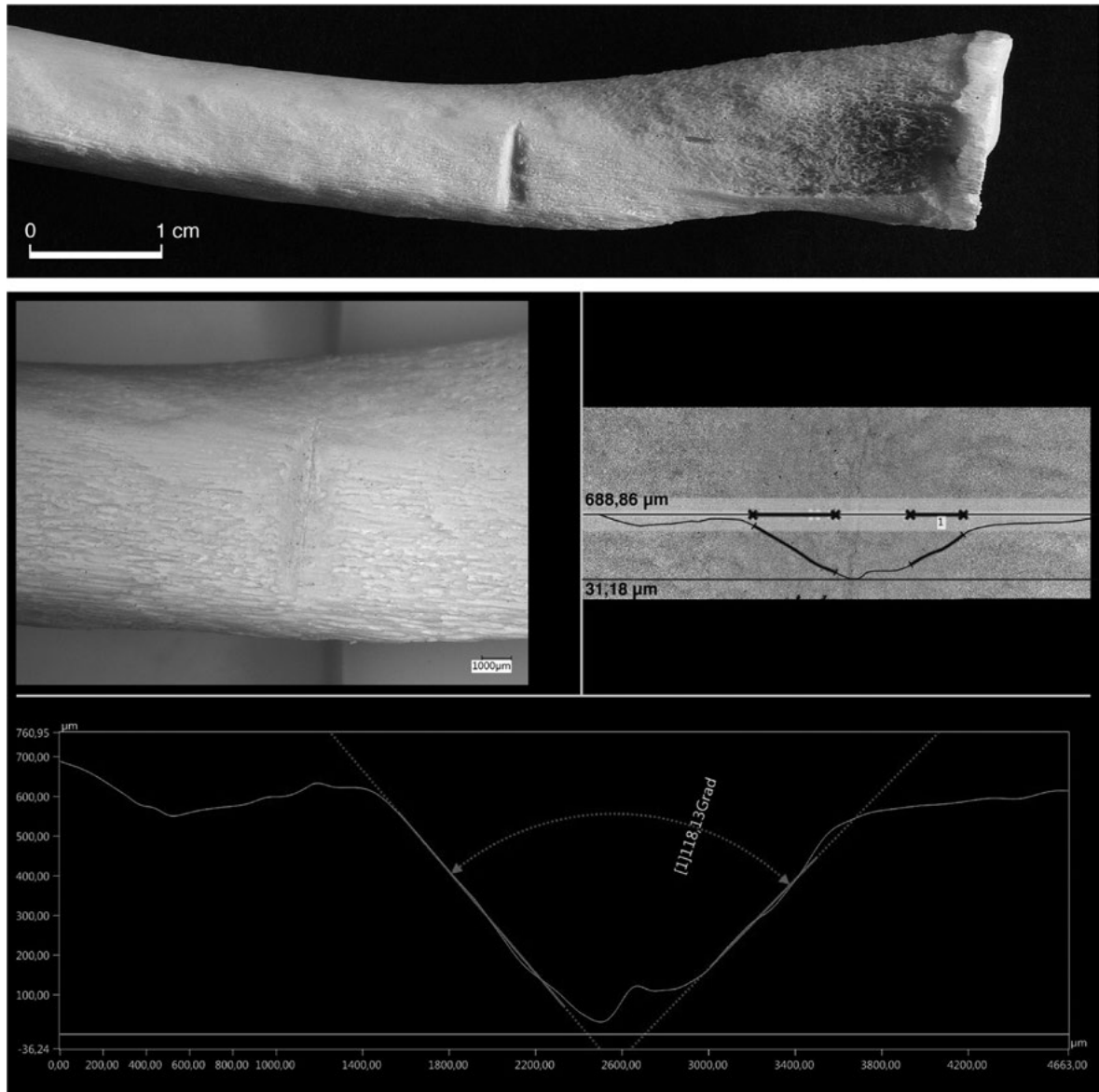


FIGURE 7. TOP: LOWER RIB A JOINING PAIR OF RECENT PIG RIBS WITH CUT MARK V-SHAPED CUT MARK (VIEW FROM CRANIAL). MIDDLE LEFT: MICROSCOPIC ANALYSIS SHOWS V SHAPE WITH A SMOOTH, SLIGHTLY OBLIQUE WALL (MEDIAL) AND BONE FEATHERING ONLY IN A SMALL PART (LATERAL). MIDDLE RIGHT: ILLUSTRATION OF MEASUREMENT POINTS. BELOW: CROSS-SECTION, AVERAGE DEPTH (CA. 500 μm) AND ANGEL (118°). PHOTO: S. SUHR © LAKD M-V, IMAGE, USING DIGITAL MICROSCOPE VHX-5000: J. YEOH, © KEYENCE MICROSCOPE EUROPE.

conducted on pig carcasses with replicas of bronze swords and lances with bronze tips, were in certain cases stabs from both weapons types led to only tiny incision lines on the recent pig bones.

In addition to the small-sized cut marks, a few strong cut marks, mainly found on long bones, are clearly caused by sword blows, as with the left scapula of an adult individual. The injury is located close to the acromion on the upper side of the spin of scapula (Fig. 8). The mark shows a length of 8 mm, is 14 mm deep, 24 mm wide, displays damage on the sides of the mark, and the kerf is straight. The mark typically has an uneven cross-section with one curved, smooth wall (on the lateral side) and one straighter, roughened wall (on the medial side) showing traces of damage such as flaking,

and is therefore similar to those described elsewhere (Greenfield 1999; Lewis 2008). This typically cross-sectional shape is attributed to the downward direction of the force from the sword strike (Lewis 2008: 2004). The trauma would have been caused by a blow coming from behind and slightly to the left. Signs of healing are absent.

Penetration

So far a singular but important case of an injury was noted at a left hip bone of a late juvenile male individual. The hip bone shows a rhombic penetration at the ilium next to the inferior iliac spine (Fig. 9). The defect measures about 15 x 6 mm on the outer face and about 11 x 4 mm on the inner face of the hip bone. The penetration depth is about 19 mm. On the outer face of the hip bone (entry side of the weapon) the defect possesses impressed bone fragments at the upper edge and outwardly directed bone fragments at the lower edge. A fracture line runs on each side of the defect, laterally upwards (left) and laterally down (right). On the inner face of the hip bone (exit side of the weapon) the defect possesses impressed bone fragments at the lower edge and outwardly directed bone fragments at the upper edge. A tiny fracture line runs from the middle of the upper edge laterally upwards to the left and one fracture line on the right side of the defect upwards. Inside and outside opposite impressed and outwardly directed bone fragments were caused by the entry and perforation of a sharp weapon's point. Signs of healing are absent. The lesion indicates an entry of the point to the outer face of the hip bone obliquely from above and slightly to the right side. This injury pattern was probably produced by a small bronze arrowhead of the typ that has been found in the Tollense Valley (Brinker *et al.* in preparation).

FIGURE 8. LEFT SCAPULA (ALM 2013/0463-0974) OF WELTZIN 20 WITH SWORD MARK CLOSE TO THE ACROMION ON THE UPPER SIDE OF THE SPIN OF SCAPULA (TOP RIGHT). SWORD MARK IN LATERAL VIEW (LEFT). PHOTOS: S. SUHR © LAKD M-V.



Distribution of the injuries to the skeleton

The overview of peri-mortem injuries (Fig. 10) shows that all regions of the body are affected. More than half of the injuries (55%) are found on the thorax, especially on ribs. One-third of the injuries (31%) affected the upper and lower limbs. The proportion of skull injuries is comparatively low (14%). There are nearly twice as many injuries to the front of the body (total=41)

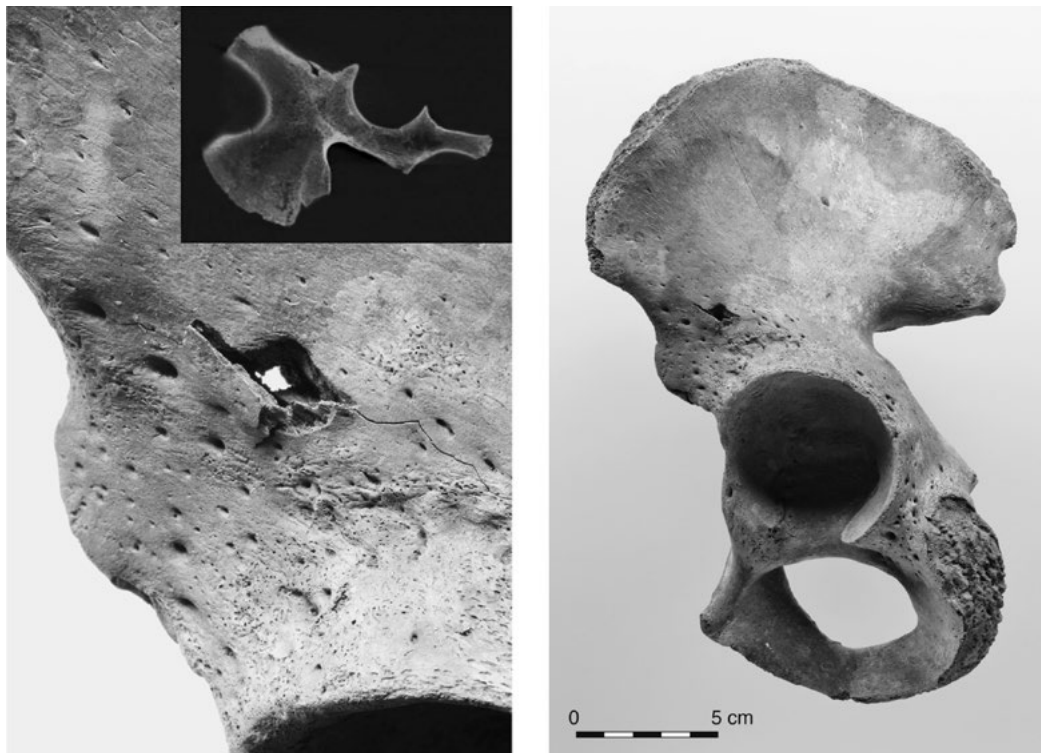


FIGURE 9. RIGHT: OUTER FACE OF A HIP BONE OF WELTZIN 20 (ALM 2008/0460-0036) WITH A RHOMBIC PENETRATION CAUSED BY A SHARP WEAPON'S POINT. LEFT: DETAIL PHOTO. TOP LEFT: CT IMAGE OF THE HIP BONE. PHOTOS: S. SUHR © LAKD M-V. CT IMAGE: K. HAUENSTEIN, INSTITUT FÜR DIAGNOSTISCHE UND INTERVENTIONELLE RADIOLOGIE © UNIVERSITÄT ROSTOCK.

than to the back (total=24). The majority of the injuries affect the right side of the body, anterior as well as posterior. The few blunt injuries only affect the skull; indicate a fight 'face to face' as well as fatal blows to the back of the skull using blunt weapons. Arrowhead lesions are common on both the front and back of the skeleton but mainly affect the upper part of the body (14% of the injuries are found on the head, 48% on the thorax, 19% on the upper limb and 19% on the lower limb). Maybe this is due to the fact that the torso was the preferred target in conflicts with bow and arrow, as known from the 19th Century Indian Wars in the USA, for example (Milner 2005: 146-148), where a similar distribution of arrowhead lesions focusing on the torso is reported (tab. 4). Concerning the distribution of stab injuries, probably caused by dagger, knife, sword or lance, these injuries affect the upper part of the body but the majority hit the front side. The few sword blows are found mainly on long bones. In two cases traces of blows were found on the back of the thorax.

4.2. Healed injuries

In total there are 27 healed injuries at site 20 (status as of December 2013). The overview of healed injuries (Fig. 11) shows a similar distribution to the unhealed injuries. All regions of the body are affected. Only a small proportion can be clearly attributed to blunt ($n=3$) or sharp force ($n=3$) related to interpersonal violence. These include both depressed skull fractures and scars from lance or arrowhead wounds to hip bones that indicate survival for a longer period of time (e.g. Brinker 2009; Jantzen *et al.* 2011) as well as forearm parry fractures – but even defensive fractures are rare in Weltzin 20.

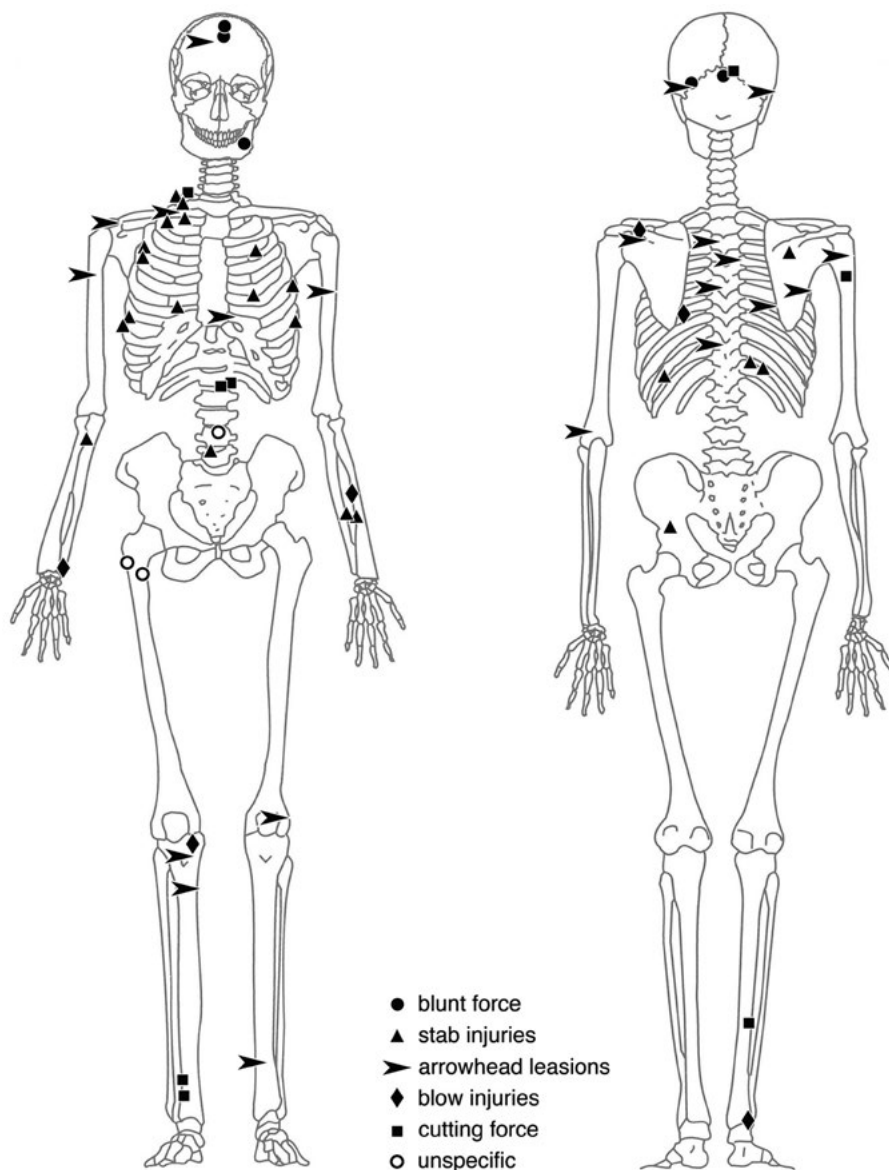


FIGURE 10. DISTRIBUTION OF THE PERI-MORTEM INJURIES TO THE ANTERIOR (LEFT) AND POSTERIOR (RIGHT) SIDE OF THE SKELETON (ALL INJURIES MARKED IN ONE SKELETON).
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Because the injuries are healed, their genesis is not clearly determinable in most cases. Therefore they are dominated by unspecific lesions (n=21). These include rib and clavicle fractures, limb fractures, fractures of hand and foot bones as well as so called ‘high speed traumas’ on vertebrae. It is currently not determinable with certainty whether these fractures were inflicted by everyday injuries or violence. Thus, both possibilities should be considered.

However, further depressed skull fractures are documented on the other Weltzin sites, e.g. Weltzin 13 (cf. Brinker 2009; Jantzen 2011) and Weltzin 32. Even a lesion probably caused by a spear- or arrowhead with signs of healing is proven on site Weltzin 13 (see Jantzen *et al.* 2011: fig. 7f). The projectile point penetrated the bone but traces of regeneration of the bone indicate survival for two to five years (Brinker 2009; Jantzen *et al.* 2011).

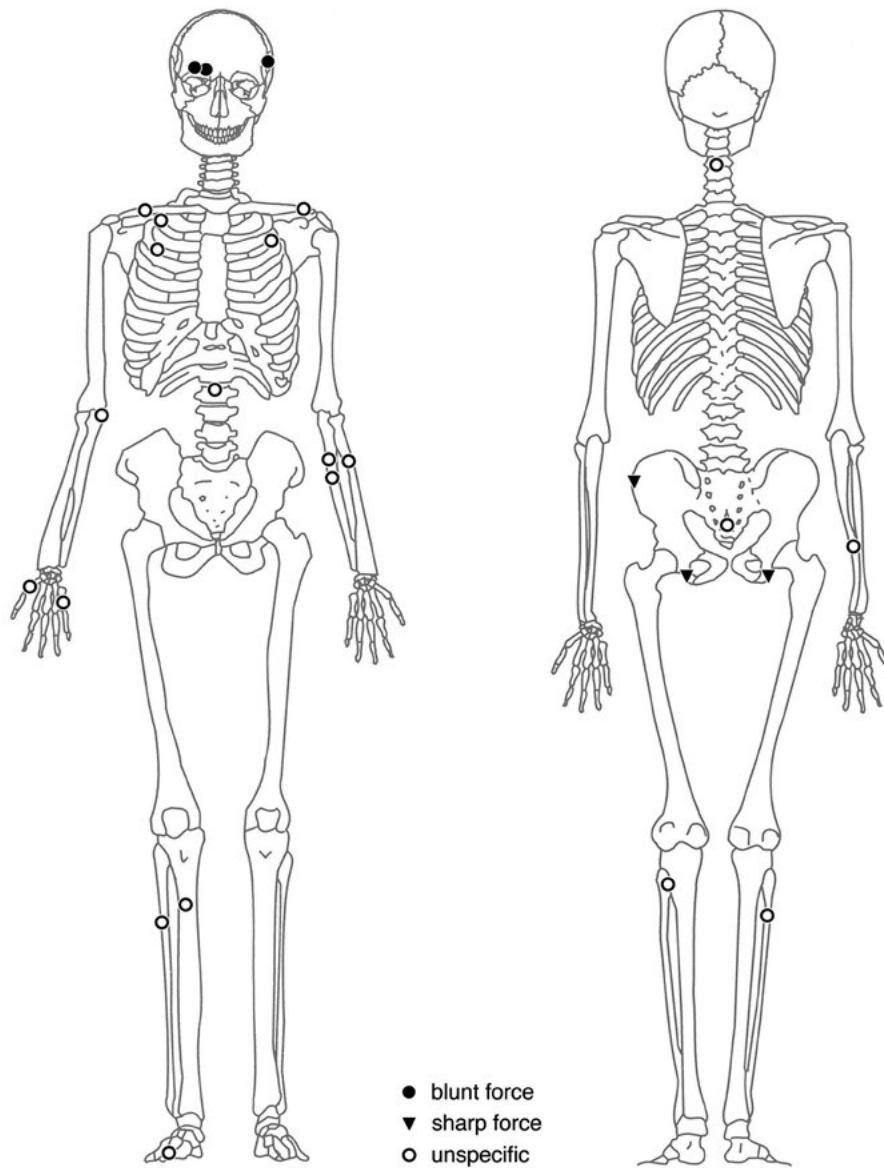


FIGURE 11. DISTRIBUTION OF THE HEALED INJURIES TO THE ANTERIOR (LEFT) AND POSTERIOR (RIGHT) SIDE OF THE SKELETON (ALL INJURIES MARKED IN ONE SKELETON).
IMAGES: U. BRINKER © LAKD M-V.

5. Discussion

The starting point of the present investigation was to analyze how far the osteological analysis of the human bones from site Weltzin 20 points to evidence of early warrior societies in northern Middle Europe. The aim of the trauma analysis was to clarify whether traces of healed as well as lethal trauma on the bones point to various incidents of violence during these individuals' lives.

The first arguments pointing to evidence of an early warrior society is the unusual demographic composition which reflects an armed conflict. There are mostly young adult males at site Weltzin 20. This is consistent with the fact that battles are mostly fought by young adult to middle adult males, and therefore the age and sex composition of battle victims typically differs from that of the

population from which they originated, as described elsewhere, e.g. Lambert (2002) and Kjellström (2005). As well, the high number of participants suggests a large violent conflict. Current research suggests the presence of thousands of additional bones along the river. According to extrapolations, more than 2000 participants are expected (Jantzen *et al.* 2014: 245f).

Considering the healed traumas, there are some cases where it is evident they were inflicted by violence. But it is actually not possible to conclude that these bones belong to individuals with a 'warlike' previous life, due to the find situation and the predominance of isolated bones. In order to obtain reliable statements, a more complete preservation of the skeletons e.g. as in the case of a mass grave or graveyard would be necessary, where several healed injuries can be associated with a single individual, but these conditions are not present in Weltzin 20.

The high number and the spectrum of peri-mortem injuries indicate considerable interpersonal violence. Different types of injuries, like blunt and sharp force were identified. The injury patterns includes mainly stabbing, blow, and arrow shot lesions. In particular, the remarkably high frequency of arrow head lesions suggests that the distance weapon bow and arrow obviously was of great importance in this conflict, especially since the experiments conducted on pig carcasses with replicas of Bronze Age arrowheads in the Tollense Valley showed that only about a third of the arrow shot wounds lead to traces on the skeleton (see also e.g. Milner 2005: 144). Therefore, the low proportion of wounds that are detectable on the skeleton tends to lead to an underestimation of the intensity of conflict (*ibid.*). In addition, traces of the arrow shots, especially on ribs, are often unobtrusive and rib fractures caused by projectiles are difficult to distinguish from postmortem fractures. Therefore, the actual number of injuries caused by projectiles in Weltzin 20 is most probably much higher. Presumably, the frequency of blunt force trauma in the assemblage is also underestimated, because in some cases related fractures currently are not determinable with certainty due to postmortem superimposing.

The range of weaponry visible from the injuries points to the use of simple but effective wooden weapons as well as to the professional use of specialized weapons like dagger, sword and lance, the latter usually associated with armed warriors (cf. Jockenhövel 2006; Falkenstein 2006/07). This suggests a scenario with both long distance and close combat, maybe involving archers on horseback. Since it cannot be assumed that local farmers were in possession of these weapons, the range of weaponry indicates planning and organization for this conflict.

This assumption is supported by the numerous weapons, found in the valley. Because bronze arrowheads are rare in northern Germany and unknown in Scandinavia, these finds represent a considerable concentration of bronze arrowheads in the valley and point to the use of long-distance weapons such as the bow and arrow in the conflict. On the other hand, close-combat weapon like adzes, lance heads, swords and wooden clubs were also found. Further, the numerous finds of horse bones may indicate the presence of highly specialized combat units.

This indicates a Bronze Age group conflict of supraregional significance. This can be interpreted as evidence of early warrior societies in northern middle Europe in the Middle Bronze Age and is supported by the changes in this time visible in larger geographical areas.

In short, the change of weaponry (in the shape of specialized weapons, advanced fighting techniques, defensive weapons), of social classes (e.g. graves of outstanding individuals, see Endrigkeit 2014) and the appearance of fortified settlements, in the second half of the second millennium BC in north and central Europe indicate an increased potential conflict. Additionally a specialized warrior class had emerged during the Bronze Age in Northern and Central Europe (Abels 2002, Falkenstein 2006/7; Jockenhövel 2006; Schmidt 2004; Kuhlmann and Segschneider 2004). These changes possibly played an important role in the formation of the features that have been found in the Tollense Valley.

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The Late Bronze Age two-piece cuirasses of the Danube region in the Carpathian Basin

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Abstract

Geographically, the appearance of two-piece cuirasses can be noted in three main regions: Greece, the Carpathian Basin and Western Europe. The earliest two-piece cuirasses appeared in the Aegean during the LH II-III A2/B1 period (Dendra, Thebes). After the Aegean, the Danube region (Pilismarót/H, Čaka/SK, Ducové/SK, Čierna nad Tisou/SK, Nadap/H, Farkasgyepű-Pöröserdő/H, Pázmándfalu/H, Bratislava-Devín/SK) became a major centre of cuirass production during the Late Bronze Age (Bz D-Ha A1). The cuirass recovered from the Danube at Pilismarót served as the model for the piece from Saint-Germain-du-Plain (Ha A2-B1 period). This example represents the link between cuirasses from the Danube region and Western Europe.

Keywords: Late Bronze Age, defensive weaponry, warriors' graves, two-piece cuirasses from the Danube region, miniature cuirass from Brandgraben (Styria), Aegean cuirasses, cuirass from Saint-Germain-du-Plain, chronological position

Résumé

Géographiquement, l'apparition de deux pièces cuirasses peut être indiquée dans trois régions principales: la Grèce, le bassin des Carpates et en Europe occidentale. Les premières cuirasses en deux pièces apparues dans la mer Egée au cours de la période LH II-III A2 / B1 (Dendra, Thèbes). Après la mer Egée, la région du Danube (Pilismarót/H, Čaka/SK, Ducové/SK, Čierna nad Tisou/SK, Nadap/H, Farkasgyepű-Pöröserdő/H, Pázmándfalu/H, Bratislava-Devín/SK) est devenu un centre majeur de la production de cuirasse pendant l'âge du bronze tardif (Bz D-Ha A1). La cuirasse récupérée du Danube à Pilismarót a servi de modèle pour la pièce de Saint-Germain-du-Plain (Ha période A2-B1). Cet exemple représente le lien entre les cuirasses de la région du Danube et de l'Europe occidentale.

Mots clés: Âge du Bronze Récent; Armement défensif; cuirasses en deux pièces du Danube; Cuirasse en miniature de Brandgraben (Styria); Cuirasses Egéennes; Cuirasse de Saint-Germain-du-Plain; Position chronologique

The Danube region played a prominent role in the improvement of defensive weaponry during the late Tumulus and early Urnfield period (Bz D, Bz D-Ha A1), as shown by the concentration of various articles that were part of defensive armour such as greaves, shields, helmets and cuirass fragments, most of which have been discovered in various hoards.

Several lavishly outfitted warrior graves from the Čaka culture have been found in Slovakia, Austria and Hungary (Čaka, Grave II¹/SK (Fig. 1.A), Siegendorf²/A, Zurndorf /A, Grave 2 (?)³ (Fig. 2.C), Farkasgyepű-Pöröserdő II⁴/H (Fig. 3.1-7), Bakonyjákó /H, Tumulus IV, Grave 1⁵ (Fig. 2.B), Tumulus VI, Grave 2⁶ (Fig. 2.A.) and Bakonyszűcs-Százhalom/H, the latter featuring several fine warrior graves: Tumulus VIII (Fig. 1.B), Tumulus X,⁷ Tumulus 160⁸ (Fig. 1.C). The rich grave inventories

¹ Točík – Paulík 1960, 59-124.

² Kaus 1975, 49.

³ Helgert 1995, 206 Taf. 11. B. 3-6.

⁴ Jankovits 1992, 40-41 Abb. 28. 1-2, 5-7, Abb. 30.

⁵ Jankovits 1992a, 312 Abb. 52. 1-6.

⁶ Jankovits 1992a, 319 Abb. 62. 1-9.

⁷ Jankovits 1992, 6-10 Abb. 3. 1-8, Abb. 4. 3-4.

⁸ Patek, 1970, 41-49 Taf. 1-4.

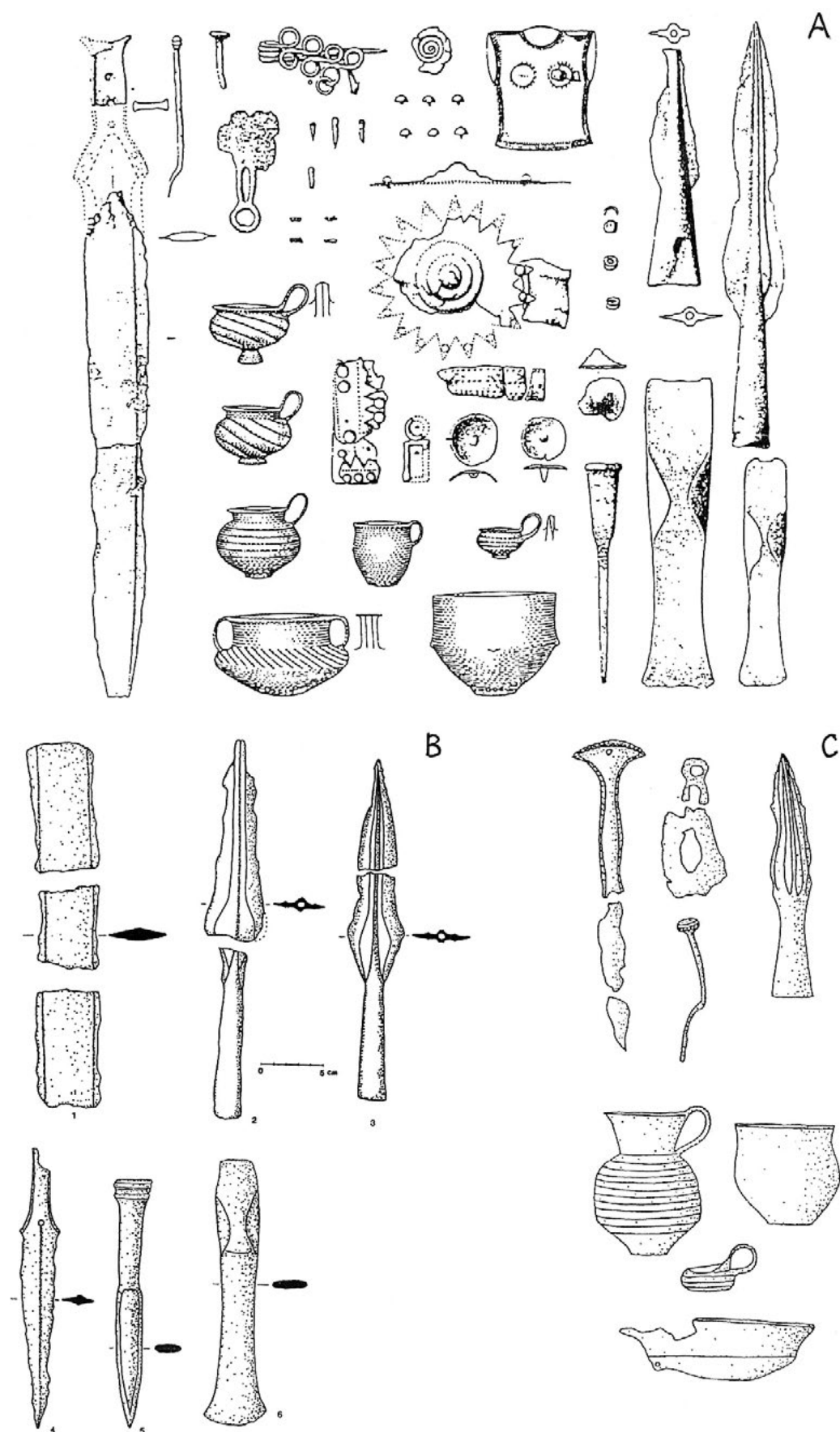


FIGURE 1. A. ČAKA/SK, GRAVE II (AFTER TOČÍK – PAULÍK 1960), B. BAKONYSZÚCS – SZÁZHALOM/H, TUMULUS VIII (AFTER JANKOVITS 1992), C. BAKONYSZÚCS – SZÁZHALOM/H, TUMULUS 160 (AFTER PATEK 1970).

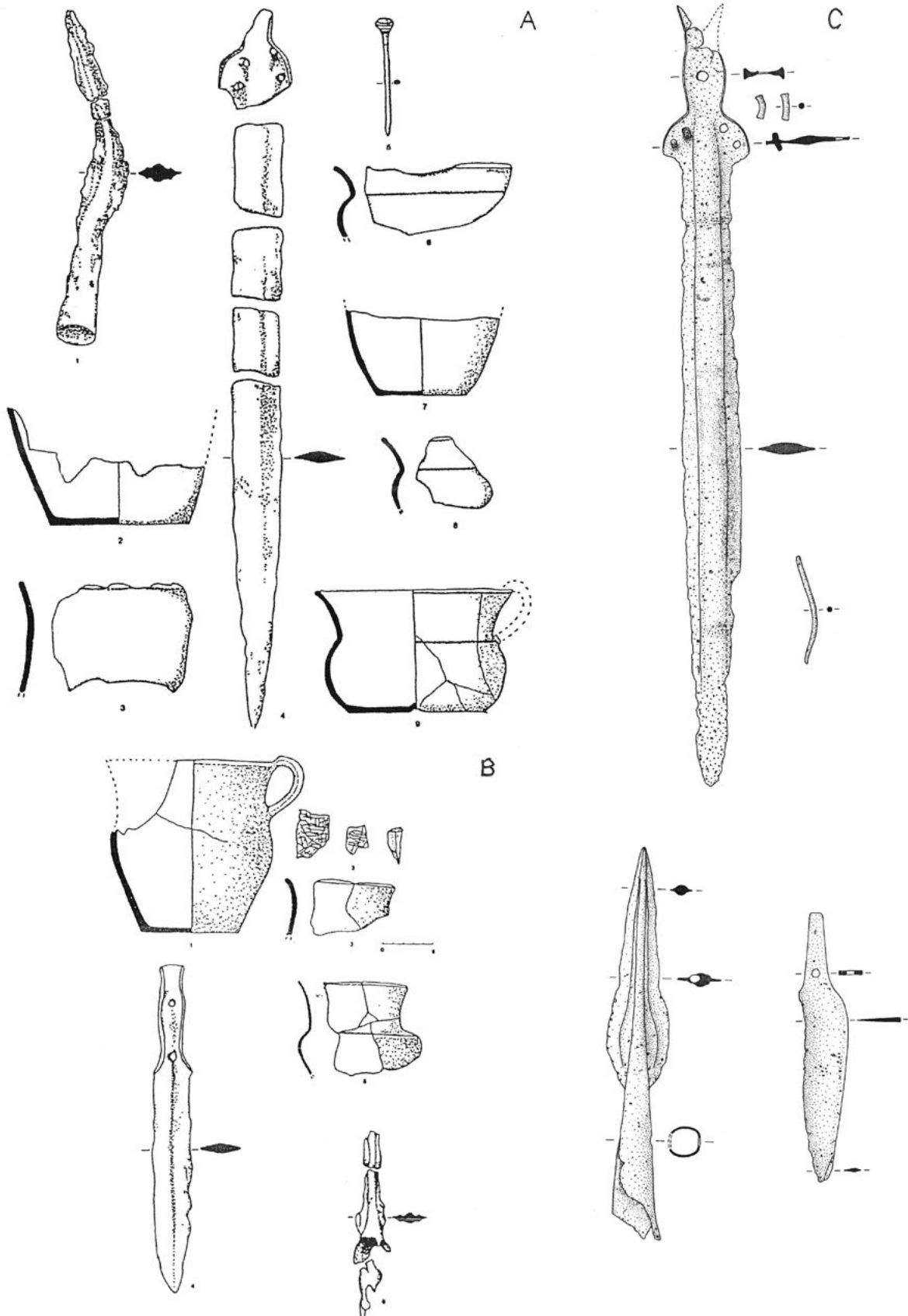


FIGURE 2. A. BAKONYJÁKÓ/H, TUMULUS VI, GRAVE 2, B. BAKONYJÁKÓ/H TUMULUS IV, GRAVE 1 (AFTER JANKOVITS 1992A), C. ZÚRN DORF/A, TUMULUS, GRAVE 2 (?) (AFTER HELGERT 1995).

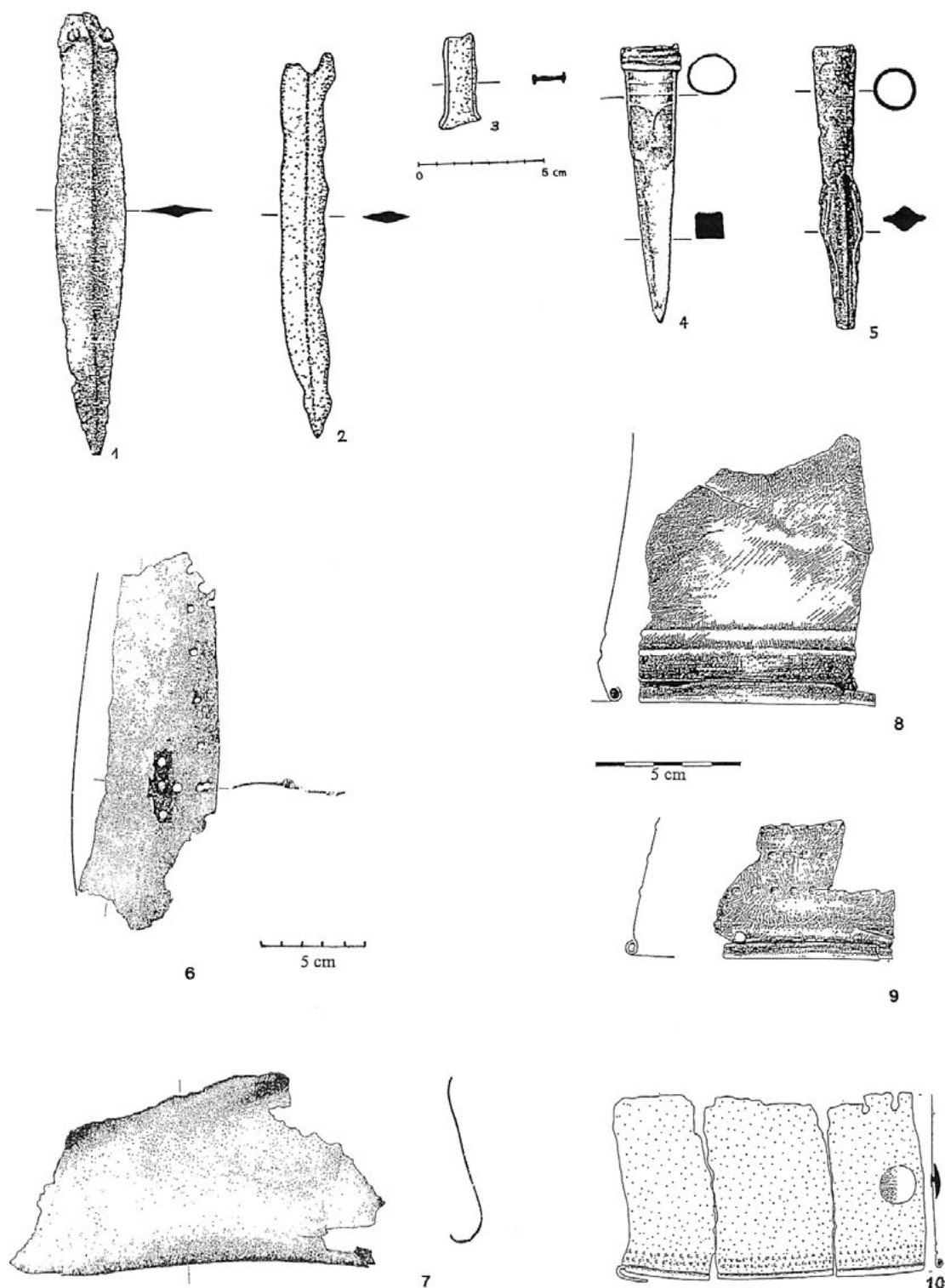


FIGURE 3. 1-7. FARKASGYEPŰ – PÖRÖSERDŐ II/H, TUMULUS (AFTER JANKOVITS 1992A),
8-9. NADAP/H (AFTER F. PETRES 1982), 10. WINKLSASS/D (AFTER MÜLLER-KARPE 1959).

of these burials (swords, daggers, spearheads, winged axes and cuirass fragments) are an indication of the one-time presence of a significant warrior elite (perhaps mercenaries) in this region. The

simultaneous use of offensive and defensive weapons reflects sophisticated combat tactics in the Danube region. It also suggests that the region was part of the period's extensive long-distance cultural and trade networks.

The two-piece cuirasses made from bronze plates first appear during the Bz D and Bz D-Ha A1 period in the Danube region. Cuirass finds are known from the following sites:

(1) Pilismarót (County Komárom-Esztergom, H) from the Danube

The two-piece bronze cuirass recovered from the Danube in the Pilismarót area is the best-preserved piece known from the Carpathian Basin⁹ (Figs. 4-6). It is made up of two parts, a breast plate and back plate, both of which finish in a high neck guard. The breast and back plates were both made from a single bronze sheet and fashioned through hammering and embossing. The sheet's thickness varies (0.7-1.1 mm), and is thicker at the edges and at the fastening mechanism. The breast and back plates of the cuirass were fastened by four flat-headed rivets on the left side (Fig. 4.3) of which three survived (the lowermost rivet is missing); an additional rivet hole can be seen on the left shoulder, for a rivet that was also used to fasten the two plates. The fastening mechanism was at the waist on the right side: a rectangular slot on the breast plate and two rivet holes on the back plate, indicating the location of the loop used for fastening. A small bent loop attached with two rivets can be found on the right shoulder on the back plate (Fig. 4.4). The breast plate is fragmentary and thus the exact means of fastening remains unknown.

The breast plate (Fig. 4.1, Fig. 5) is decorated with a semicircle motif of tiny dots embossed from the reverse, recalling phalerae, and three concentric circles, each enclosing a larger dot. The musculature of the chest is indicated by inverted V-shaped rib, likewise embossed from the reverse. The lower half of the breast plate is decorated with a semicircle motif made up of two lines and executed with a fine punch and a double dotted line underneath, which extends to the back plate; the two ends curve upwards into a semi-circle enclosing a larger dot in the centre. This motif could perhaps be interpreted as a stylised depiction of a boat.

The back plate (Fig. 4.2, Fig. 6) of the cuirass similarly mirrors the human anatomy with a prominent line marking the spine and a groove for the rib, resembling the style of the miniature cuirass from Brandgraben¹⁰ (Fig. 8.3).

A row of holes extends along the edge of the plates, evidencing proving that the cuirass was lined with organic material (leather or textile).

Although the breast and the back plate of the cuirass reached the museum separately, their identical decoration and the bronze patina are clear indications that they were part of the same armour, which has also been confirmed by archaeometallurgical analysis.¹¹

There are no signs of repair on the cuirass.¹² The surviving plates are slightly damaged: the arm-hole and the lower parts are broken. A roughly 4 cm long cut mark can be seen on the neck guard of the back plate (Fig. 4.2), perhaps from a sword blow.¹³ B. Molloy¹⁴ and M. Uckelmann¹⁵ observed similar marks on bronze shields. Smaller areas of damages are visible in several spots on the breast plate, made by either a sword or a spearhead.

⁹ F. Petres – Jankovits 2014, 43-71.

¹⁰ Windholz-Konrad 2008, 48-52 Abb. 54-55.

¹¹ F. Petres – Jankovits 2014, 56-57 Abb. 12.

¹² F. Petres – Jankovits 2014, 47.

¹³ F. Petres – Jankovits 2014, 47.

¹⁴ Molloy 2009, 1052-1064.

¹⁵ Uckelmann 2004-2005, 244-247 Abb. 1; Uckelmann 2011, 252-254; Uckelmann 2012, 173-175.

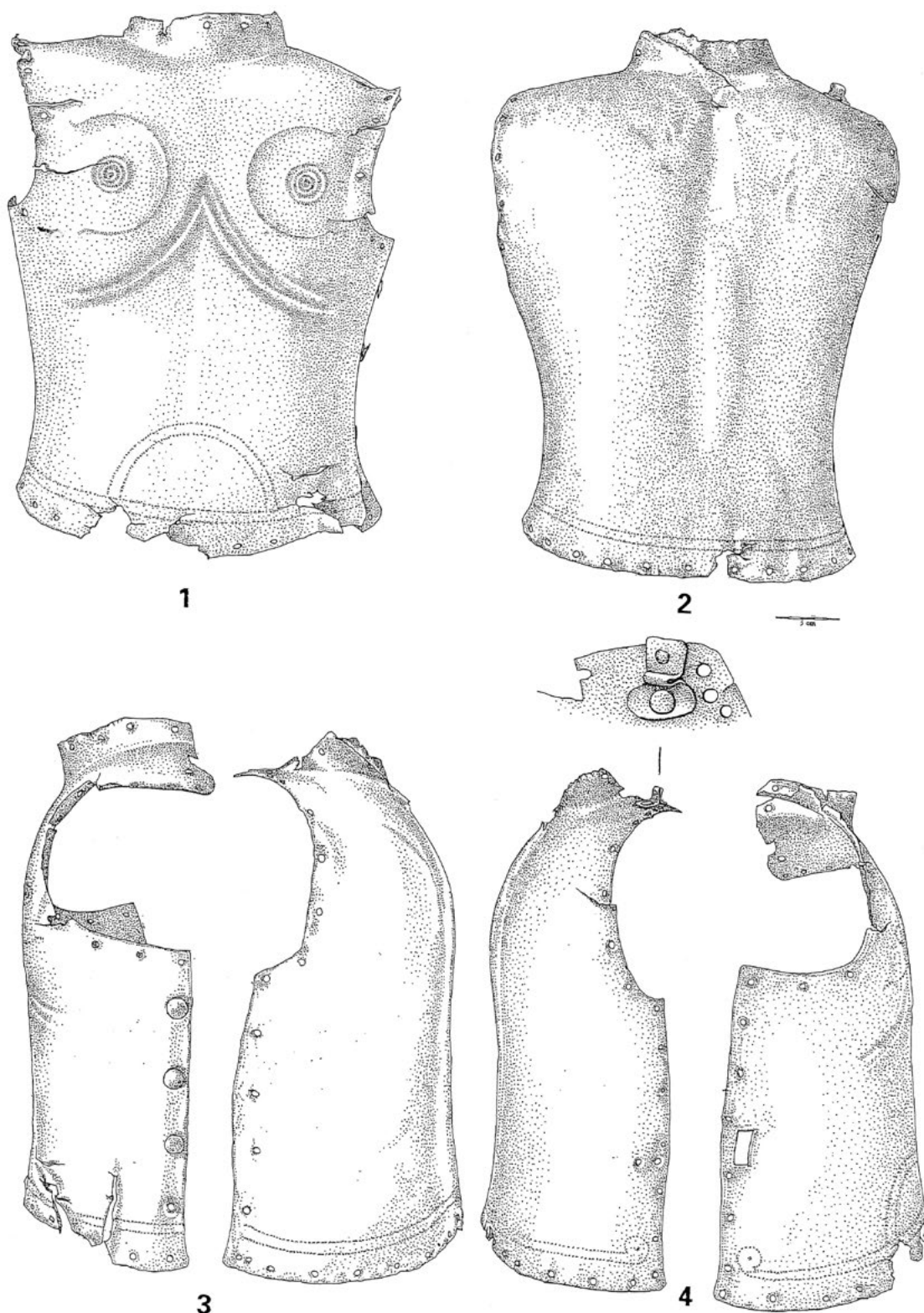


FIGURE 4. 1-4. PILISMARÓT/H, FROM THE DANUBE (AFTER F. PETRES – JANKOVITS 2014).

The cuirass was found in the Danube, unaccompanied by other finds, and thus it cannot be securely dated. However, analogous finds and its stylistic traits clearly assign it to the group of cuirasses from



FIGURE 5. PILISMARÓT/H, FROM THE DANUBE
(AFTER F. PETRES – JANKOVITS 2014).



FIGURE 6. PILISMARÓT/H, FROM THE DANUBE
(AFTER F. PETRES – JANKOVITS 2014).

the Danube region, which can be dated to the Bz D, Bz D-Ha A1 period.¹⁶ J. Paulík has discussed these finds in detail in a study covering the cuirasses from Slovakia (Čaka/Cseke, Ducové/Ducó and Čierna nad Tisou/Ágcsernyő).¹⁷

(2) Čaka (Levice District, SK)

A cuirass fragment was discovered in Grave II (Fig. 1.A), the burial place of a warrior of the warrior aristocracy.¹⁸ The other grave goods (a grip-tongue sword, two spearheads, two median-winged axes, a socketed chisel, a razor, two pins, a Čaka type brooch, a belt fragment (?) and two ring pendants and channelled pottery) date the site to the Bz D, Bz D-Ha A1 transitional period. The cuirass (Fig. 7.1) was placed on the funerary pyre together with the deceased's body and thus only the fragments deposited in the grave survived. There are rivets along the two edges of the cuirass, while a plate with zig-zag edges was used for reinforcing the sides. The chest region is adorned by two star-shaped plaques decorated with concentric circles, which were fixed to the breast plate with tiny rivets. An inverted V-shaped raised rib can be seen on the lower part.

(3) Ducové (Piešťany District, SK)

The hoard discovered in the fortified hillfort of the Velatice-Baierdorf culture contained a cuirass fragment alongside various other finds (a sickle fragment, a median-winged axe, a Peschiera type

¹⁶ F. Petres – Jankovits 2014, 66-67.

¹⁷ Paulík 1968, 41-61.

¹⁸ Točík – Paulík 1960, 75 Abb. 15-17, 27 Taf. 8. 7-10, Taf. 14. 1-4; Paulík 1968, 50. Abb. 7. C; Müller-Karpe 1962, 279, 282 Abb. 9. 1; Schauer 1978, 115-125 Abb. 3-4; Müller-Karpe 1980, Taf. 386A; Bouzek 1985, 109-110 Abb. 49. 1; Schauer 1990, 387; Hansen 1994, 11-12.

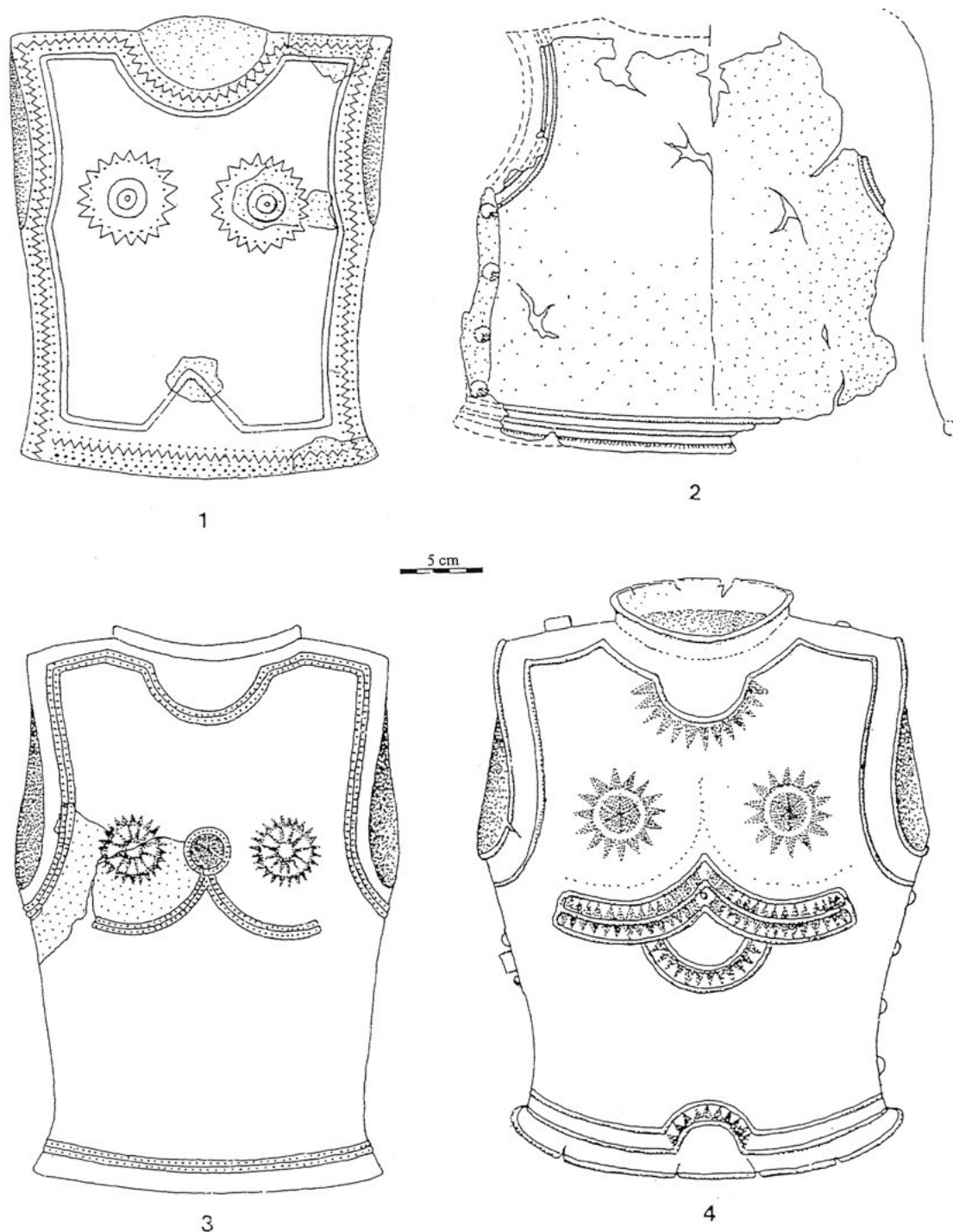


FIGURE 7. 1. ČAKA /SK (AFTER TOČÍK – PAULÍK 1960), 2. ČIERNA NAD TISOU/SK (AFTER PAULÍK 1968), 3. DUCOVÉ /SK (AFTER PAULÍK 1968), 4. SAINT-GERMAIN-DU-PLAIN/F (AFTER VON MERHART 1969).

dagger, a globular-headed pin and bronze scrap).¹⁹ The hoard can be dated back to the Bz D, Bz D-Ha A1 period. The cuirass fragment (Fig. 7.3) was rolled up. It comes from the right arm and the chest

¹⁹ Paulík 1968, 46-49 Abb. 4, Abb. 7/B Taf. 2; Müller-Karpe 1980, Taf. 385A. 1; Schauer 1978, 118-119 Abb. 5; Bouzek 1985, 109-110 Abb. 49. 3; Schauer 1990, 387; Hansen 1994, 11-12.

part of the armour. Two parallel ribs decorated with delicate punching run near the arm-hole, while part of a punched star motif adorns the chest and two semicircular ribs extend from a circle motif. The edges are missing and how the plates were fastened remains unknown. The hoard can be dated back to the Bz D, Bz D-Ha A1 period.

(4) Čierna nad Tisou (Trebišov District, SK)

Back plate of a two-piece cuirass (Fig. 7.2), the most intact cuirass find from Slovakia to date.²⁰ It was unaccompanied by other finds. The back plate was attached to the breast plate with four conical-headed rivets on the left side. The shoulder is decorated with a double rib, while three horizontal ribs adorn the lower part of the cuirass. The rolled-over lower edge was probably reinforced with wire in the interior. It is not easy to date this cuirass because it was not accompanied by other finds. B. Novotný suggested that it may be from the later Urnfield period,²¹ although we cannot exclude the possibility that this fragment may also be from the Bz D, Bz D-Ha A1 period like the pieces from Čaka and Ducové.²²

(5) Nadap (County Fejér, H)

The Nadap hoard was extremely rich in findings, and contained bronze vessels, various tools and implements, defensive and offensive weapons (greaves, a helmet and a shield fragment), costume articles, jewellery and bronze scrap.²³ It can be dated to the Kurd horizon, corresponding to the Bz D-Ha A1 period.

There is a consensus among Bronze Age scholars that the four bronze sheet fragments found in the Nadap hoard may have come from a cuirass.²⁴ However, in my view, the two fragments with parallel ribs and a row of rivet holes underneath may equally well have been part of a helmet.²⁵ The two fragments (Fig. 3.8-9) with ribs and a rolled-over lower edge reinforced with wire inside come from the lower parts of cuirasses.²⁶

(6) Farkasgyepű-Pöröserdő II (County Veszprém, H)

The two, roughly 1 mm thick bronze sheet fragments (Fig. 3.6-7) bearing traces of burning were unearthed during research into the mound in the early 20th century. They probably come from the side of a breast or back plate.²⁷ A bronze band attached with three rivets and two horizontally positioned rivet holes can be seen on the fragments, the latter probably marking the place of the loop with which the two plates were fastened. A third bronze sheet with a bent lower part had probably also been part of a cuirass. The other artefacts recovered from the burial mound [a spearhead, two daggers and a socketed chisel (Fig. 3.1-5)] are typical of warrior burials.²⁸ However, the exact find context of the assemblage is not known. The finds can be dated back to the Bz D, Bz D-Ha A1 period.

(7) Pázmándfalu (County Győr-Moson-Sopron, H)

The cuirass fragments come from a hoard. The plate fragments with a zig-zag edge and the rivets clearly indicate that the bronze plates were parts of a Čaka-type cuirass, even though the rivets were

²⁰ Novotný 1966, 27-34 Abb. 1-2; Paulík 1968, 41-45 Abb. 2 Taf. 1; Schauer 1978, 118, 124-125 Abb. 9; Bouzek 1985, 109-110 Abb. 49. 2; Hansen 1994, 11-12; Harding 2007, 123.

²¹ Novotný 1966, 27.

²² Paulík 1968, 41 Anm. 2; Hansen 1994, 12.

²³ F. Petres 1982, 57-80; Makkay 2006, 135-184.

²⁴ F. Petres 1982, 61-62, 71 Abb. 10 a-h; Makkay 2006, 7 Pl. V. 10-11, Pl. VI. 12-13; F. Petres – Jankovits 2014, 60 Abb. 15. 4-7.

²⁵ Makkay 2006, 7 Pl. V. 10-11; F. Petres – Jankovits 2014, 60 Abb. 15. 6-7.

²⁶ Makkay 2006, Pl. VI. 12-13; F. Petres – Jankovits 2014, 60 Abb. 15. 4-5.

²⁷ Jankovits 1992, 37, 40 Abb. 30; Jankovits 2008, 86-87 Abb. 3. 6.

²⁸ Jankovits 1992, 37, 38 Abb. 28. 1-2, 5-7.

arranged into a single row. This fragment is still unpublished. The hoard can be dated back to the Ha A1 period.²⁹

(8) Bratislava/Pozsony-Devín (SK)

The bronze sheet fragments found on the settlement from the Čaka culture probably came from different cuirasses (or perhaps from a composite cuirass).³⁰ They include the edge part of a cuirass with the rivets for fastening and fragments with a zig-zag edge, perhaps from a Čaka type cuirass. The finds from the settlement can be assigned to the Bz D-Ha A1 period.

(9) Winklsaß (Landshut District, Lower Bavaria, D)

The hoard found at this site contained a cuirass fragment, a cuirass edge fragment with a slightly conical rivet for fastening and the fragment of the cuirass' lower half decorated with a delicately punched double line (Fig. 3.10). The latter fragment is rolled back along the lower edge and has a reinforcement wire inside.³¹ The hoard can be dated to the Bz D-Ha A1 period.

(10) Brandgraben, Kainisch Valley (Styria, A)

This unique find, a miniature cuirass worn as a pendant (Fig. 8.3), came to light as part of a hoard.³² It is a two-piece cuirass with a high neck-guard, modelled on the human anatomy. The pectoral muscles are prominently shown on the breast plate; the lower part of the cuirass thickens in imitation of the ribs. A raised line marks the spine on the back plate, while the ribs are indicated by a groove. The form of the miniature bronze cuirass is best matched by the piece recovered from the Danube at Pilismarót. It is clear that the pendant was worn for a considerable length of time, as is indicated by the heavy traces of wear on the suspension part. The pendant was made in a bivalve mould; there are two perforations on the back by the neck and the spine, the remnants of casting flaws. The pendant was made of high-tin bronze, with its lustre resembling sparkling silver. The other finds in the hoard (weapons, tools, jewellery, various other artefacts and scrap bronze) assign the assemblage to the Kurd horizon, although the earliest objects date from the early Urnfield period, from the 14th-13th centuries BC. The swords, daggers, axes, a shield boss, a greave (?) and perhaps a helmet fragment were part of a warrior's outfit. The two harness ornaments were most likely parts of a harness set.³³

* * *

Although the location of the cuirass found at Winklsaß³⁴ lies beyond the Carpathian Basin, it is best matched by the pieces from this region and it was thus possibly an import from the Carpathian Basin. The cuirass found in the Saône at Saint-Germain-du-Plain³⁵ likewise has more in common with the pieces from the Danubian region in the Carpathian Basin than with the ones of the Western European group.

Although a possible interpretation as cuirass fragments has been proposed for other finds of sheet bronze from Szentgáloskér (County Somogy, H),³⁶ Keszőhidegkút (County Tolna, H)³⁷ and Kisapáti (County Veszprém, H),³⁸ this seems unlikely.

²⁹ V. Szabó 2013, 811-812 Abb. 17.

³⁰ Plachá – Paulík 2000, 45-55, 83 Obr. 5-8, Obr. 10. A, Obr. 11. 2, 4.

³¹ Müller-Karpe 1959, 285 Taf. 148. 60; Bouzek 1985, 110; Weiss 1998, 537 Abb. 2.

³² Windholz-Konrad 2008, 48-52 Abb. 54-55.

³³ Windholz-Konrad 2008, 51 Abb. 53.

³⁴ Müller-Karpe 1959, 285 Taf. 148. 60; Bouzek 1985, 110; Weiss 1998, 537 Abb. 2.

³⁵ Deonna 1934, 118 Abb. 26-28; von Merhart 1969a, 162 Abb. 3-4; Paulík 1968, 47, 56 Abb. 6; Müller-Karpe 1962, 280; Müller-Karpe 1980, Taf. 471. D; Schauer 1978, 125-126, 129; Schauer 1982, 336 Abb. 1; Goetze 1984, 45-46; Bonnamour – Mordant 1988, 367; Hansen 1994, 11-12.

³⁶ Hampel 1886, Taf. CXVIII. 27-28; Mozsolics 1985, 26 Taf. 145. 6, 9-10; F. Petres – Jankovits 2014, 60-61 Abb. 15. 1.

³⁷ Mozsolics 1985, 26, 135-137 Taf. 35. 33-34.

³⁸ Mozsolics 1985, 26, 138 Taf. 34B. 5-a, 11.

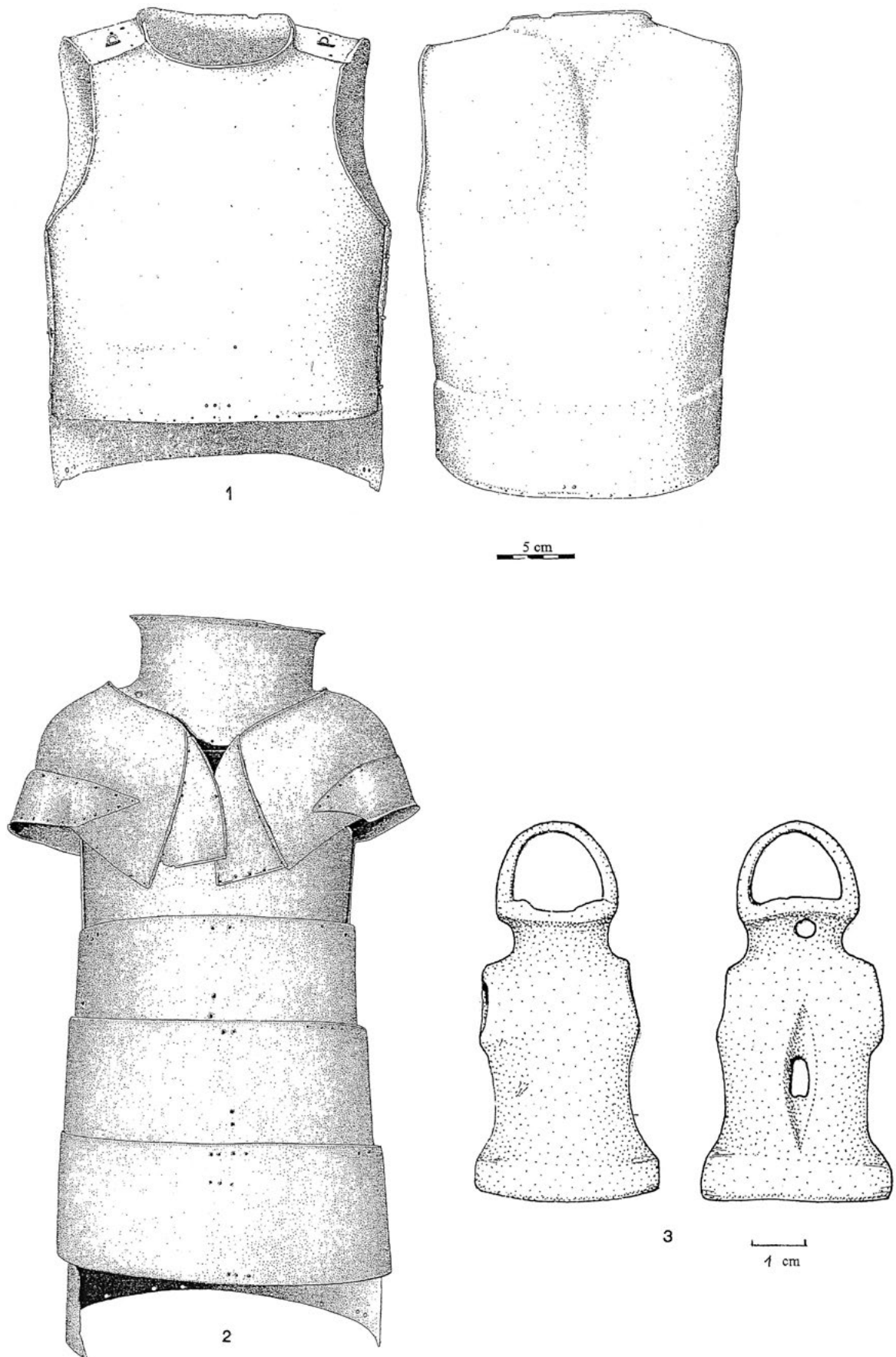


FIGURE 8. 1-2. DENDRA/GR, GRAVE 12 (AFTER ÅSTRÖM – VERDELIS 1967 AND MÜLLER-KARPE 1980),
 3. BRANDGRABEN/A (AFTER WINDHOLZ-KONRAD 2008).

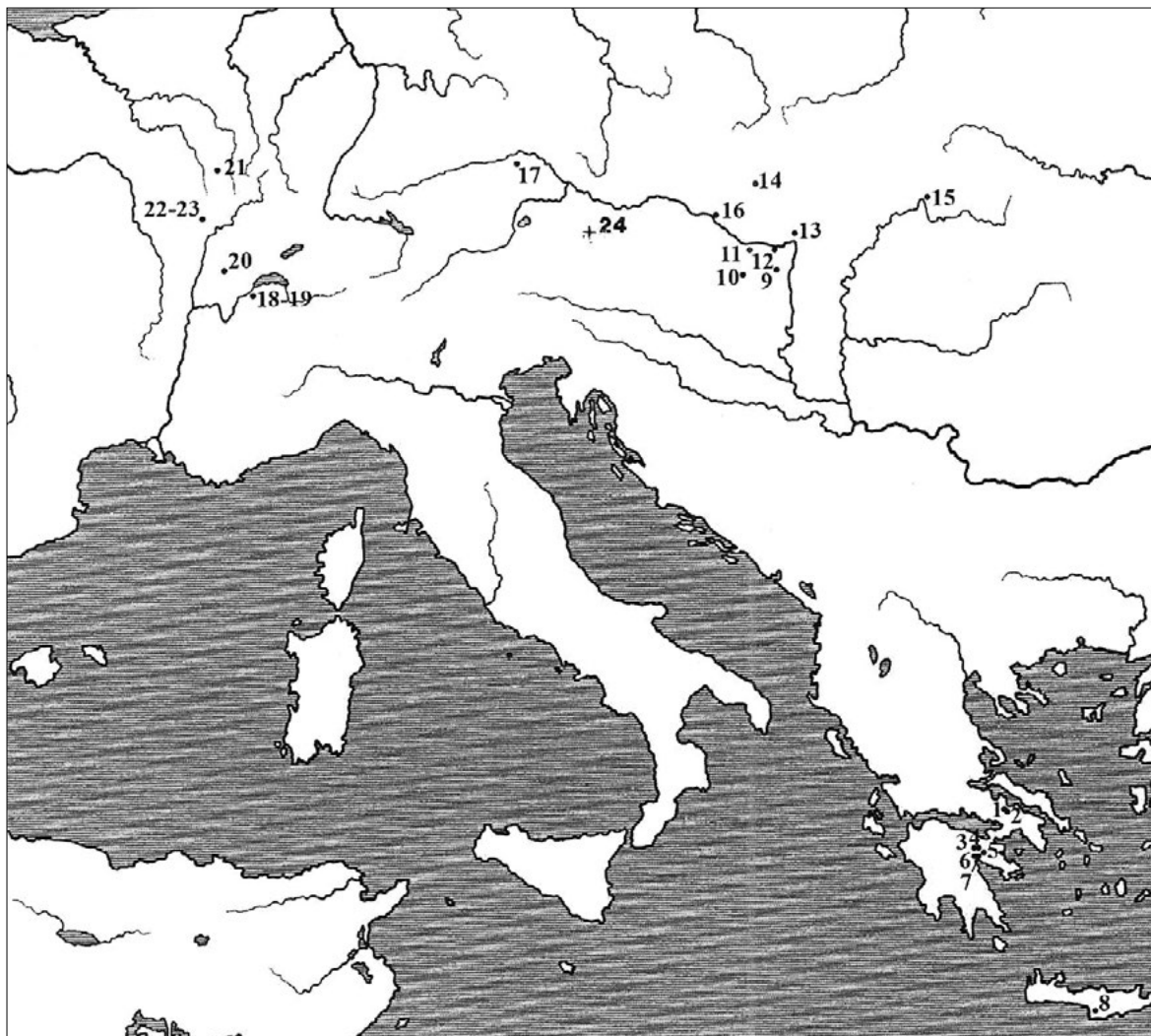


FIGURE 9. DISTRIBUTION AREA OF CUIRASSES: 1-2. THEBES/GR, 3-4. MYKENE/GR, (GRAVE 15, 69), 5. ARGOS/GR, (GRAVE 45), 6-7. DENDRA/GR, (GRAVE 8, 12), 8. PHAISTOS/GR, 'TOMBE DEI NOBILI', 9. NADAP/H, 10. FARKASGYEPŰ/H, 11. PÁZMÁNDFALU/H, 12. PILISMARÓT, FROM THE DANUBE/H, 13. ČAKA/SK, GRAVE II, 14. DUCOVÉ/SK, 15. ČIERNA NAD TISOU/SK, 16. BRATISLAVA-DEVÍN/SK, 17. WINKLSASS/D, 18-19. GRAYE-ET-CHARNEY OR VÉRIA/F (FORMER GRENOBLE AND NAPLES), 20. FILLINGES /F, 21. MARMESSE/F, 22-23. UNKNOWN, 24. BRANDGRABEN/A (MINIATURE).

J. Paulík interpreted the star motifs on the figurines from Kličevac and Pančevo in the Lower Danube region (13th-12th centuries BC) as cuirass representations and linked them to the star motif on the Čaka and Ducové cuirasses.³⁹

In addition to the bronze cuirasses, composite cuirasses of leather and bronze plates⁴⁰ are also known from the Danube region. It is possible that the bronze phaleræ so often found in the hoards of the Kurd and Gyermely horizon were parts of composite cuirasses.⁴¹

³⁹ Paulík 1963, 324 Abb. 43. 2-4.

⁴⁰ Schauer 1982, 335-349; Kytlicová 1988, 306-321 Obr. 1-3; Kytlicová 1991, 23 Taf. 26, Taf. 27/B.

⁴¹ Hampel 1896, Taf. CCXI. 13-15; Mozsolics 1985, Taf. 24. 1-2: Kurd (County Tolna, H); Hampel 1886, Taf. CXVIII. 13-14; Mozsolics 1985, Taf. 114. 3-5: Szentgáloskér (County Somogy, H); Makkay 2006, 37 Pl. XXI. No. 196-198, 44 Pl. XXVIII. No. 293-298, 45 Pl. XXIX. No. 299-310: Nadap (County Fejér, H); Mozsolics 1985, Taf. 40. 6-7: Bonyhád (County Tolna, H); Mozsolics 1985, Taf. 237. 1: Biatorbágy (County Pest, H).

The composite cuirasses of leather and bronze band found at the burial site of a warrior (Grave A) at Kallithea.⁴² The composite cuirass of two larger and twelve smaller bronze phalerae found at the inhumation burial site of a warrior (Grave 59) at Liatovouni in Epirus would support this interpretation (the other grave goods were a grip-tongue sword of Sprockhoff's Type II/a, a short sword of Sandars' Type F and two spearheads).⁴³

The bronze cuirasses from the Danube region can be divided into different types.⁴⁴ The following classification is based on the form of the edge and its reinforcement:

Group A: The edge of the cuirass was reinforced with a bronze band with zig-zag edges, fixed to the cuirass with tiny rivets. Cuirasses of the Čaka type can be assigned here, represented by the pieces from Čaka, Grave II (Fig. 7.1) and the Pázmándfalu hoard.⁴⁵ One of the cuirass fragments found at the Bratislava/Pozsony-Devín settlement of the Čaka culture⁴⁶ can perhaps also be assigned to this group.

Group B: The lower edge of the cuirass was rolled over a bronze wire for extra reinforcement: the pieces from Nadap (Fig. 3.8-9), Čierna nad Tisou (Fig. 7.2) and Winklsau (Fig. 3.10) represent this type.

Group C: The edge of the cuirass was not reinforced with bronze bands, a type represented by the pieces from the Danube at Pilismarót (Fig. 5) as well as the miniature piece from the Brandgraben (Fig. 8.3) hoard.

Group D: A series of perforations runs along the edge of the cuirass, indicating that it had been lined with leather or a thick-spun textile. This detail could only be observed on the cuirass recovered from the Danube at Pilismarót (Fig. 4.1-4), although similar perforations have been documented on other pieces of defensive equipment, such as greaves and helmets.

The other known cuirass finds (Ducové (Fig. 7.3), Farkasgyepű-Pöröserdő II (Fig. 3.6-7), Bratislava/Pozsony-Devín⁴⁷) are too fragmentary to assign them to a particular type.

Aside from the Danube region in the Carpathian Basin, Late Bronze Age cuirasses have so far only been found in Greece and Western Europe. The earliest bronze body armour came to light from Graves 8⁴⁸ and 12⁴⁹ (Fig. 8.1-2) of the Dendra /GR cemetery; they can be dated back to the 15th century BC. Grave 8 yielded the shoulder guard of the armour, which was earlier believed to be part of a helmet.⁵⁰ A well-preserved, complete set of armour was recovered from Grave 12, made up of a cuirass, separate neck, shoulder and arm guards and a series of belt-like plates. The cuirass under the belt plates was made up of a plain front and back plate. P. Åström dated the grave to the LH II B-III A period.⁵¹ Fragments of a Dendra type cuirass were discovered together with bronze vessels during the excavation of the Arsenal in Thebes/GR.⁵² The assemblage was dated back to the LH III A-B period. Additional cuirass fragments were unearthed in 1997, during the investigation of the Municipal Conference Centre plot in Thebes/GR, and were assigned to the LH III B1 period in view of their context.⁵³ The archaeological finds thus indicate that Dendra type cuirasses were used for a

⁴² Yaloris 1960, 52-54 Taf. 29; Papazoglou – Manioudaki 1994, 182; Douzougli – Papadopoulos 2010, 34.

⁴³ Douzougli – Papadopoulos 2010, 22-35 Abb. 6-9.

⁴⁴ F. Petres – Jankovits 2014, 67.

⁴⁵ F. Petres – Jankovits 2014, 67.

⁴⁶ Plachá – Paulík 2000, 52 Obr. 11. 2, 45 Obr. 5. A-B.

⁴⁷ Plachá – Paulík 2000, 45-55, 83 Obr. 5-8, Obr. 10. A, Obr. 11. 2, 4.

⁴⁸ Persson 1940, 214-215 Abb. 49-50; Persson 1942, Taf. I, Abb. 14; Verdelis 1967, 15, 21 Beil. 32. 2; Catling 1977, E 98 Anm. 765-767; Matthäus 1980, 15 Anm. 52; Steinmann 2012, 66 Kat. Nr. 49 Taf. 26. j.

⁴⁹ Verdelis 1967, 21; Åström 1967; Müller-Karpe 1962, 280; Snodgrass 1967, 28-30 Fig. N9; Snodgrass 1971, 33; Cassola Guida 1973, 52-53 Taf. 15. 1-2; Schauer 1975, 306; Catling 1977, E 96-99; Schauer 1978, 121; Bouzek 1985, 107.108; Matthäus 1980, 15 Anm. 52; Andrikou 2007, 402; Steinmann 2012, 66 Kat. Nr. 99 Taf. 12.d.

⁵⁰ Persson 1940, 214-215 Fig. 49-50.

⁵¹ Åström 1967, 66

⁵² Verdelis 1967, 21; Catling 1977, E 99, Not. 770-771; Matthäus 1980, 14; Steinmann 2012, 66.

⁵³ Andrikou 2007, 401-410; Steinmann 2012, 66.

fairly long period, from the LH II A to the LH III B1 period, corresponding to the 15th-13th centuries BC.

The cuirasses from Western Europe date from the later Urnfield period [Fillinges⁵⁴ (Dép. Haute-Savoie, F), Marmesse⁵⁵ (Dép. Haute-Marne, F), Graye-et-Charnay or Véria (Dép. Jura, F)].⁵⁶ Their findspot was formerly specified as Grenoble⁵⁷ and Naples⁵⁸ (alongside two unprovenanced pieces, one in the Metropolitan Museum of New York,⁵⁹ the other in the Museum für Kunst und Gewerbe of Hamburg⁶⁰). The single exception is the piece from Saint-Germain-du-Plain (Dép. Saône-et-Loire, F), which was dredged up from the Saône, but is more closely related to the specimens from the Danube region in the Carpathian Basin in view of its structure and ornamentation. The cuirass from Saint-Germain-du-Plain has been dated back to the Ha A2-B1 period.⁶¹ It had perhaps been made in the Danube region and had reached Western Europe as an import, although it could equally well reflect the influence of the Danubian workshops in Western Europe.⁶²

The structure of the cuirasses of the Danube region in the Carpathian Basin

The overall structure of the Late Bronze Age two-piece cuirasses from the Danube region in the Carpathian Basin shares many similarities with the body armour from Dendra (Fig. 8.1-2). The rivets for fastening the breast plate and the back plate can be found on the left side on the cuirasses from the Danube region: four flat-headed rivets can be found on the cuirass from the Danube (Fig. 4.3), and conical-headed rivets on the pieces from Čierna nad Tisou (Fig. 7.2) and Saint-Germain-du-Plain (Fig. 7.4). Four rivets on the left side were used for fastening the two plates in Western European cuirasses (e.g. Fillinges and Marmesse). One of the rivet holes on the left shoulder of the cuirass from the Danube similarly served for fastening the two plates.

How the breast and the back plates were fastened can only be observed on the cuirass recovered from the Danube at Pilismarót (Fig. 4.4): there was a simple loop riveted to the right shoulder with two rivets on the back plate, and a rectangular slot in the waist region on the right side of the breast plate and two rivet holes opposite it on the back plate marking the position of the bronze loop for fastening. A similar solution was used on the plate from Grave 12 at Dendra, the cuirass from the Municipal Conference Centre plot in Thebes, the cuirass from Saint-Germain-du-Plain and the cuirasses of the western group (Fillinges, Marmesse).

A separate high neck guard was made for the cuirass from Grave 12 of the Dendra (Fig. 8.1-2) cemetery. The cuirass recovered from the Danube at Pilismarót had been similarly made with a high neck guard (Fig. 4.1-2), as had the piece from Saint-Germain-du-Plain (Fig. 7.4), the miniature cuirass from the Brandgraben (Fig. 8.3) hoard and the cuirasses of Western Europe.

The decoration of the cuirasses of the Danube region

The star motif and the motifs resembling phalerae on the breast plate probably symbolise the Sun.⁶³ The phalera motif on the Čaka cuirass (Fig. 7.1) was embossed and was riveted to the plate. The cuirass from the Danube (Fig. 4.1) is decorated with delicate repoussé lines of dots embossed from

⁵⁴ Deonna 1943, 93-117; von Merhart 1969a, 156-157 Abb. 2. 2-3; Schauer 1978, 92-130; Mottier 1988, 1-145; Goetze 1984, 45-46; Jensen 1999, 254 Abb. 148.

⁵⁵ Schauer 1982, 336 Abb. 1; Goetze 1984, 45-46; Mohen 1987, 47-49; Giraud – Mohen 1989, 192 Abb. 104; Jensen 1999, 91, 254 Abb. 4; Steuer 2001, 336-339; Huth 2013, 96 Abb. 5.

⁵⁶ Descamps 2005, 100.

⁵⁷ von Merhart 1969a, 152 Abb. 1. 3; Schauer 1978, 127 Abb. 11.

⁵⁸ von Merhart 1969a, 152 Abb. 1. 1; Schauer 1978, 126 Abb. 10.

⁵⁹ von Merhart 1969a, 157 Abb. 2. 1.

⁶⁰ Schauer 1982, 128 Abb. 12.

⁶¹ Bonnamour – Mordant 1988, 367; Hansen 1994, 12.

⁶² F. Petres – Jankovits 2014, 67.

⁶³ Müller-Karpe 2006, 681 Fig. 1. 1, 21, 31, 41, 51; Bettelli 2012, 196-202.

the reverse, while the decorative motifs were engraved on the cuirasses from Ducové (Fig. 6.3) and Saint-Germain-du-Plain (Fig. 7.4).

The portrayal of the pectoral muscles with prominent ribs can be seen on some cuirasses: a double rib on the pieces from Ducové (Fig. 7.3) and Saint-Germain-du-Plain (Fig. 7.4), and a single rib on the cuirass from the Danube (Fig. 4.1) and the Čaka (Fig. 7.1) fragment. It would appear that in contrast to the reconstruction proposed by J. Paulík⁶⁴ (Fig. 7.1), this rib was an inverted V-shaped motif on the breast plate of the latter.

A raised rib can be found on the cuirass from Saint-Germain-du Plain (Fig. 6.4) instead of the semi-circular double line on the lower half of the breast plate of the cuirass from the Danube (Fig. 4.1), created by embossing from the reverse.

The cuirasses from the Danube region (Čaka, Ducové, Pilismarót and Pázmándfalu) are typically adorned with delicate repoussé lines.⁶⁵ The cuirass from the Danube (Fig. 4.1, 4) has a larger dot in the centre of the concentric circles in the chest region. The double repoussé line on the lower half of the breast plate curves upward and encloses a larger dot, a motif that can perhaps be interpreted as the stylised depiction of a boat with bird protomes at the two ends, an image that occurs on the greaves of the Bz D-Ha A1 period, for example on the pieces from Malpensa (I),⁶⁶ Desmontá di Veronella (I)⁶⁷ and Esztergom-Szentgyörgymező (H).⁶⁸

Decoration with repoussé lines occurs on other defensive armour too, such as greaves (Rinyaszentkirály,⁶⁹ Nadap,⁷⁰ Lengyeltóti,⁷¹ and Nagyvejke⁷²) and helmets (Passleug⁷³ and Tiryns⁷⁴); one shared trait of these depictions is a larger dot in the centre of the repoussé circles.

The find contexts of Late Bronze Age cuirasses

Owing to their immense value, cuirasses were rarely deposited in the grave of deceased warriors. The few burials existing in the Carpathian Basin are represented by Grave II of the Čaka tumulus⁷⁵ and the Farkasgyepű-Pöröserdő II tumulus.⁷⁶ In the Aegean, burials of this type include Graves 8 and 12 of Dendra,⁷⁷ Graves 15 and 69 of Mycenae,⁷⁸ and the 'Tomba dei Nobili' of Phaistos,⁷⁹ indicating that the warrior aristocracy enjoyed a prominent social status in both regions.

Most cuirass fragments became parts of hoards after a long use (Ducové, Nadap and Pázmándfalu). The wear-marks on the miniature cuirass from Brandgraben are similarly a reflection of this practice.

⁶⁴ Paulík 1968, 50 Abb. 7. C.

⁶⁵ Jockenhövel 1974, 39.

⁶⁶ Mira Bonomi 1979, 125 Fig. 1. 1 a-b, 2 a-b; Schauer 1982 a, 136 Abb. 13. 1-2.

⁶⁷ Salzani 1986, 386-391.

⁶⁸ Mozsolics 1985, 118 Taf. 138. 16; Jankovits 1997, 6 Fig. 5.

⁶⁹ Hampel 1896, Taf. CCXV; von Merhart 1969b, 181 Abb. 2. 2; Mozsolics 1985, 27 Taf. 98.

⁷⁰ Petres 1982, 58-63 Abb. 3. a-d; Jankovits 1997, 4 Fig. 2. 1-2; Makkay 2006, 18 Pl. II, 19 Pl. III.

⁷¹ Honti 2010, 27 with Fig.

⁷² Jankovits 1997, 7 fig. 4.

⁷³ von Merhart 1969, 129 Abb. 8. 3; Müller-Karpe 1962, 274 Abb. 8. 1; Hencken 1971, Fig. 31; Borchhardt 1972, 72 135 Taf. 39. 2.

⁷⁴ Müller-Karpe 1962, 274 Abb. 8. 2; Hencken 1971, Fig. 8-9; Borchhardt 1972, 72 Abb. 6.

⁷⁵ Točík – Paulík 1960, 59-124.

⁷⁶ Jankovits 1992, 37 Abb. 30.

⁷⁷ Persson 1940, 214-215 Abb. 49-50; Persson 1942, Taf. I, Abb. 114; Verdelis 1967, 15, 21 Beil. 32. 3; Catling 1977, E 98 Not. 765-767; Matthäus 1980, 15 Anm. 52: Grave 8; Verdelis 1967, Åström 1967; Müller-Karpe 1962, 280; Snodgrass 1967, 28-30 Fig. N 9; Snodgrass 1971, 33; Cassola Guida 1973, 52-53 Taf. 15. 1-2; Schauer 1975, 306; Catling 1977, E 96-E 99; Schauer 1978, 121; Bouzek 1985, 107-108; Matthäus 1980, 15 Anm. 52; Steinmann 2012, 66 Kat. Nr. 99 Taf. 12.d: Grave 12.

⁷⁸ Verdelis 1967, 22 Nr. 5; Catling 1977, E 102 Not. 781-783; Steinmann 2012, 66 Anm. 312, Kat. Nr. 102, Kat. Nr. 106.

⁷⁹ Verdelis 1967, 21 Nr. 3; Catling 1977, E 101 Not. 777; Steinmann 2012, 66 Anm. 313.

The best-preserved and most intact cuirasses were recovered from water: from the Danube at Pilismarót and from the Saône at Saint-Germain-du-Plain. The deposition of the cuirasses in water could have been part of a sacrificial ceremony, but the possibility that the cuirassed warrior had fallen into the water during battle cannot be wholly excluded. Many weapons (swords, daggers, spears, helmets and cuirasses) have been recovered from the Danube.⁸⁰

The 4 cm long damage mark by the neck on the back plate (Fig. 4.2) was probably caused by a sword blow. B. Molloy⁸¹ and M. Uckelmann⁸² have noted similar marks of damage on the shields they have examined, while P. Schauer⁸³ identified damage caused by arrowheads on the three cuirasses from Fillinges. He suggested that this might be associated with the sacrifice of the warriors.

Conclusion

Advances in the manufacture of offensive weaponry, and the appearance of long double-edged swords and of new battle tactics all led to the emergence of defensive weapons such as helmets, cuirasses, greaves, arm-guards and shields in the Bronze Age.

Geographically, the appearance of two-piece cuirasses can be noted in three main regions: Greece, the Carpathian Basin and Western Europe.

The earliest two-piece cuirasses appeared in the Aegean during the LH II-III A2/B1 period (Dendra, Graves 8 and 12, Arsenal of Thebes, Municipal Conference Centre plot of Thebes). These cuirasses are undecorated. The Linear B tablets found in the Aegean palaces (for example at Pylos) provide some information on the use of cuirasses, suggesting that the costly cuirasses crafted from bronze plates were only worn by the warrior aristocracy, while the cuirasses of the rank-and-file were made from organic material (leather, textile or wool). This period saw the appearance of composite cuirasses made from leather and bronze such as the pieces from Kallithea (Grave A) and Liatovouni (Grave 59).

The appearance of defensive weapons in the Carpathian Basin during the Late Bronze Age (Bz D-Ha A1) can be linked to cultural and trade contacts between the Aegean and the Carpathian Basin, and the interaction between the two regions. Neither can we exclude the possibility that the warriors (or perhaps mercenaries) from the Carpathian Basin acquired the first cuirasses as war booty. After the Aegean, the Danube region became a major centre of cuirass production.

The structure of the cuirasses from the Danube region such as the piece recovered from the Danube at Pilismarót, the Čierna nad Tisou cuirass and the miniature piece from the Brandgraben hoard shares many similarities with the cuirasses known from the Aegean, although the high neck guard is no longer a separate element as in the case of the Dendra cuirass. One main difference compared to the Dendra cuirass is that the decoration of the Danubian pieces draws from the ornamental repertoire typical for the region's workshops: the motifs resembling phalerae on the breast plate made with delicate repoussé lines embossed from the reverse (Čaka, Pilismarót and Pázmándfalu), the engraved decorative patterns (Ducové and Saint-Germain-du-Plain), and the indication of the pectoral muscles with one or two prominent ribs. Decorative motifs created from delicate repoussé lines embossed from the reverse also appear on other defensive weapons of the Danube region such as greaves and helmets. The wheel-shaped motif and the repoussé lines embossed from the reverse on the greaves found in the warrior grave uncovered on the Acropolis in Athens⁸⁴ suggest that they can be assigned

⁸⁰ Mozsolics 1975, 3-24; Torbrügge 1972, 3-146; Soroceanu 1995, 15-80; Schauer 1996, 381-416; Hansen 1997, 29-34; Gaál 2001, 41-50; Szathmári 2005, 143-166; Falkenstein 2005, 491-504; Sperber 2006, 195-214; Sperber 2006a, 359-368.

⁸¹ Molloy 2009, 1057-1060 Fig. 3, 5-6.

⁸² Uckelmann 2004-2005, 244-247 Abb. 1; Uckelmann 2011, 252-254; Uckelmann 2012, 173-175.

⁸³ Schauer 1978, 103.

⁸⁴ Platon 1966, 36 Fig. 1, 2, Pl. 59-60; Mountjoy 1984, 135 Fig. 2-3.

to the same type as the greaves from the Carpathian Basin and northern Italy, and that they may have been an import from this region. The pattern on the cuirass recovered from the Danube (a larger dot enclosed by three concentric circles of smaller dots) resembles the ornamentation of the Passleug helmet⁸⁵ as well as the decorative design of the Tiryns helmet⁸⁶ in the Aegean. These ornamental motifs reached the Aegean from the Carpathian Basin, a reflection of the contact between the two regions.

The cuirass recovered from the Danube at Pilismarót served as the model for the piece from Saint-Germain-du-Plain (Ha A2-B1 period). In this case, two scenarios are possible: the cuirass from Saint-Germain-du-Plain was either an import from the Danube region, or the manufacture of cuirasses in the West was influenced by Danubian workshops. The Western European cuirasses (Fillinges, Marmesse) can be dated to the later Urnfield period (9th-8th century BC), and they are distributed in one particular geographic area, where the manufacture of cuirasses commenced under cultural impacts from the Danube region. The cuirass from Saint-Germain-du-Plain represents the link between the two regions.

It seems likely that the major bronze-working centres maintained contact with each other and that they used similar metalworking techniques. These workshops produced weapons for the elite, for the warrior aristocracy.

We may assume that the type of defensive weaponry deposited in a grave depended on the deceased's rank and status within the warrior community, and possibly also on his personal wealth.

Warriors with cuirasses were undoubtedly high-status individuals within their community, held in the highest regard in the warrior aristocracy, both in the Aegean and the Danube region and Western Europe. Like other articles of defensive armoury, bronze cuirasses represented an immense value and were therefore only deposited in graves on exceptional occasions, both in the Aegean and in the Danube region.

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⁸⁵ von Merhart 1969, 129 Abb. 8. 3; Müller-Karpe 1962, 274 Abb. 8. 1; Hencken 1971, Fig. 31; Borchhardt 1972, 72-135 Taf. 39. 2.

⁸⁶ Müller-Karpe 1962, 274 Abb. 8. 2; Hencken 1971, Fig. 8-9; Borchhardt 1972, 72 Abb. 6.

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Warfare in Valcamonica rock art, new emerging data from Paspardo area

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Abstract

Warrior engravings represent nearly 25% of the entire Iron Age carvings corpus in Valcamonica rock art (Zanetta, 2009a). They appeared in Valcamonica rock art tradition in the last centuries of the Bronze Age (XII-IX century BC), becoming the most common figures in the 1st millennium (Anati, 1982). Armed anthropomorphs are depicted: standing alone with raised arms; duelling, sometimes there is a third standing and supervising figure, which can be complete or not; riding horses; hunting (Fossati, 2007). Most of the scenes involving warriors are supposed to be representation of duels. There are few scenes which are thought to be war and violent activities depictions: see rock 34 in Luine, rock 4 in In Valle, rock 1 and 50 in Naquane (Fossati, 1991; Bevan, 2005; Sigari, 2011). The site of In Valle, in Paspardo, has been systematically studied between 2008 and 2011, 30 years after the first systematic study, taken in the Eighties (Abreu & Fossati, 1988; Fossati, 2007; Sigari, 2011). The big rock of In Valle, labelled as rock 4, has been divided into nearly 20 panels to better study the engraving and the rock itself. Sector C is the northern part, under the upper channel. Its figurative complex is very simple and highly readable. Eight fighting warriors named C05, C06, C07, C09, C10, C11, C12 and C13 are the main subject of this panel. The scene, into which they are grouped, is highly dynamic thanks to the different position the warriors stand. The uncommon number of involved subjects, their position, the different weapons they handle, the analysis of the overlapping parts of the figures has questioned whether the scene is a common duel scene or not. Is it an animated scene like a comic strip? Or does it portray a fight involving more people? Could it be a war scene? Archaeological and rock art data from Valcamonica, comparative rock art and archaeo-anthropological data from the rest of the world do not exclude the idea of a war representation, thus indicating the first example of a battle depiction in Cammunian rock art repertory. However this interpretation does not explain why a battle would be represented and what it would mean for the ancient population. Certainly Valcamonica engravings belong to a new social context, which differs from other warfare rock art scenes, such as the Spanish or the Saharan ones. The whole rock art complex suggests the emergence of a new social class, the warrior class. Their power involves different aspects of social and cultural life. In this sense, once more, the possibility of a real fight representation on rock 4 in In Valle cannot be avoided.

Keywords: Warriors, Valcamonica, Iron Age, Warfare, Rock Art

Résumé

Gravures de guerriers représentent près de 25% de l'ensemble de l'âge du fer du corpus de gravures de l'art rupestre de la Valcamonica (Zanetta, 2009a). Ils sont apparus dans la tradition de l'art rupestre en Valcamonica dans les derniers siècles de l'âge du bronze (XII-IX siècle avant JC), devenant chiffres les plus courantes dans le 1er millénaire (Anati, 1982). Sont représentées anthropomorphes armées: seul deux anthropomorphes, les bras levés; duel, il ya parfois un troisième et supervisionant figure, qui peut être complète ou non; équitation et chasse sont aussi représentés (Fossati, 2007). La plupart des scènes impliquant des guerriers qui sont entre une supposé représentation de duels. Il ya quelques scènes qui sont pensés pour être des représentations de la guerre et les activités violentes: voir la roche 34 dans Luine, rock 4 Dans Valle, rock 1 et 50 dans Naquane (Fossati, 1991; Bevan, 2005; Sigari, 2011). Le site de In Valle, dans Paspardo, a été systématiquement étudié entre 2008 et 2011, 30 ans après la première étude systématique, prise dans les années quatre-vingt (Abreu & Fossati, 1988; Fossati, 2007; Sigari, 2011). Le grand rocher de In Valle, étiqueté comme roche 4, a été divisé en près de 20 panneaux pour mieux étudier la gravure et la roche elle-même. Le secteur C est la partie nord, sous le canal supérieur. Son complexe figuratif est très simple et très lisible. Huit guerriers combattants nommés C05, C06, C07, C09, C10, C11, C12 et C13 sont le sujet principal de ce panneau. Le nombre inhabituel de sujets impliqués, leur position, les différentes armes qu'ils manipulent, l'analyse des parties se chevauchant des chiffres a demandé si la scène est une scène de duel commune ou non. Est-ce une scène animée comme

une bande dessinée? Ou faut-il dépeindre un combat impliquant plus de gens? Pourrait-il être une scène de guerre? Les données archéologiques d'art rupestre et de Valcamonica, l'art rupestre comparative et les données archéo-anthropologique du reste du monde ne excluent l'idée d'une représentation de la guerre, indiquant ainsi le premier exemple d'une représentation de la bataille dans le répertoire de l'art rupestre Cammune. Toutefois, cette interprétation ne explique pas pourquoi une bataille serait représenté et ce que cela signifierait pour la population ancienne. Certes gravures de la Valcamonica appartiennent à un nouveau contexte social, qui diffère des autres scènes de guerre de l'Art Rupestre, comme les Espagnols ou ceux du Sahara. L'ensemble du complexe d'art rupestre suggère l'émergence d'une nouvelle classe sociale, la classe des guerriers. Leur pouvoir implique différents aspects de la vie sociale et culturelle. En ce sens, une fois de plus, la possibilité d'une représentation réelle de combat sur le roc 4 de In Valle ne peut pas être évitée.

Mots clés: Guerriers, Valcamonica, Age du Fer, Art de la Guerra, Art Rupestre

Introduction

Anthropomorphic figures that handle weapons have appeared in Valcamonica rock art tradition since the last centuries of the Bronze Age (12th-9th century BC), becoming the most common figure in the 1st millennium BC (Anati, 1982). However they have been represented during Iron Age, presenting differences in styles depending on the chronology (Montanari, 2011).

It has been estimated that during the Early Iron Age the average of warrior depictions is 28% of the total, during the Middle Iron Age it is 25% and in the Late Iron Age it is 20% (Zanetta, 2009a).

Warriors are, generally, represented standing alone or coupled as duellists, sometimes with a third one overlooking (Fig. 1).

Warrior figures of the Iron Age have been divided into five typologies which permit to establish a relative chronology too and which correspond to two periodizations of the so called IV style (Anati 1975, 1982; De Marinis, 1989; Fossati, 1991).



FIGURE 1. DUELLING WARRIORS, FROM DOS SULIF, PASPARDO. BOTH FIGURES ARE ENGRAVED IN A PECULIAR STYLE ATTRIBUTED BY FOSSATI (2011) TO A 'MASTER OF PASPARDO' (PHOTO: D. SIGARI).

The IV style of Cammunian rock art clashes with the local Iron Age and has been subdivided by scholars into five phases (Fossati, 1991; Morello, 2011):

- IV 1: IX-VIII century BC. Warriors have a simple body with their arms stressed perpendicularly. Their legs have an upside-down V shape. They can be engraved either duelling or drawing up. Duellists have a curved arm and they handle a dagger or a stick and no shield. They are naked and wear a helmet. Drawn up warriors wear helmets too, but they handle different weapons: usually spears, rarely axes or swords, and in the other hand they have a round shield (Fossati, 1991, 2011; Montanari, 2011; Morello, 2011).
- IV 2: VII-VI century BC. Warriors have raised arms with identified muscles. Legs are more defined and muscles are drawn too. Their bodies are no longer simple lines, but assume triangular or trapezoidal shape, sometimes quadrangular contour. Some warriors are depicted with contour lines. Duellists have the same weaponry of the previous style. Contrary swords and axes with square blade increase in their number. Artists try to give more dynamism to the figures, representing bent legs and better defining the arm with curved elbow (Fossati, 1991, 2011; Montanari, 2011; Morello, 2011).
- IV 3: V-first half of the IV century BC. This style is also defined as *descriptive naturalism*. Warriors have a trapezoidal breast. Legs and arms muscles are depicted, and noses and chins are figured too. Engravings are very dynamic, thanks to some figurative expedients such flexing legs, giving the idea of a walking warrior (Fossati, 1991, 2011; Montanari, 2011; Morello, 2011).
- IV 4: second half of the IV-III century BC. Warriors are more static with short and linear legs, rectangular body. At the end of the phase their body are depicted with a contour line. Helmets are no more figured, shields are in frontal view. Warriors brandish axes (Fossati, 1991, 2011; Montanari, 2011; Morello, 2011).
- IV 5: II-I century BC (De Marinis & Fossati, 2011). The warriors bodies are traced with a contour line and filled with a St. Andrea cross motif. Their legs are very schematic and their dimensions are relatively small, between 10 and 20 cm, even though sometimes they can reach a height of 90 cm. The brandished weaponry is composed of swords, sticks, spears, shields, both in frontal and lateral view. Helmets are very rare (Fossati, 1991, 2011; Montanari, 2011; Morello, 2011).

Most of the scenes involving warriors are supposed to be representation of ritual duels. However there are three scenes which are believed to show war scenes: rock 34 in Luine and rock 4 in In Valle, with chained prisoners which are escorted too; and rock 50 in Naquane where a horseman stands above an enemy on his knees (Fossati, 1991; Sigari, 2011).

Rock 4 of In Valle

The site of In Valle, in Paspardo, has been systematically studied between 1985 and 1988. From 2008 to 2011, rock number 4 of In Valle has been studied again to review and better complete the previous tracing (Abreu & Fossati, 1987, 1988; Fossati, 2007; Sigari, 2011).

Rock number 4 is a wide, smoothed and polished sandstone outcrop, facing westward. The surface had been modelled by the glacier of the Last Maximum Glacial, which formed three vertical surfaces, interposed by two channels (Sigari, 2011) (Fig. 2).

The most ancient engravings date back to middle Neolithic and the entire figurative palimpsest covers a time range until Iron Age. The chronology is readable not only through different styles, but even through different categories of images: spirals, shovels, hunting and music scenes, deer, warriors, weapons, dwelling (Fossati, 2007; Sigari, 2011).

Nearly 700 engravings have been counted on this rock.

Sector C

Sector C is just under the upper channel, in the northern part of the rock, and lays in the shade given by the chestnut trees which grow beside it (Fig. 3).



FIGURE 2. ROCK 4, IN VALLE, PASPARDO (PHOTO D. SIGARI).



FIGURE 3. SECTOR C, ROCK 4, IN VALLE, PASPARDO. SIX FIGHTING WARRIORS (FROM LEFT TO RIGHT: C07, C09, C10, C11, C12, C13) (PHOTO: D. SIGARI).

The figurative complex is very simple. There are four couples of duellists, a superimposed concentration of peckings in the shape of sub-circular spot on two warriors, four cup-marks, sparse pecking and in the southern most limit of the sector there is a warrior which overlaps a female praying figure (Fig. 4). This last superimposition was not noticed in the eighties (Sigari, 2011).

The warrior composition

The eight warriors, labelled, from left to right, as C05, C06, C07, C09, C10, C11, C12 e C13, are grouped into four couples. The scene is highly dynamic thanks to the different positions in which the warriors stand: some have bent legs, some raised arms, and one seems to run, since one of his legs is 90° flexed.

The dimensions of the figures are between 16 and 22 cm width and between 12 and 15 cm height.

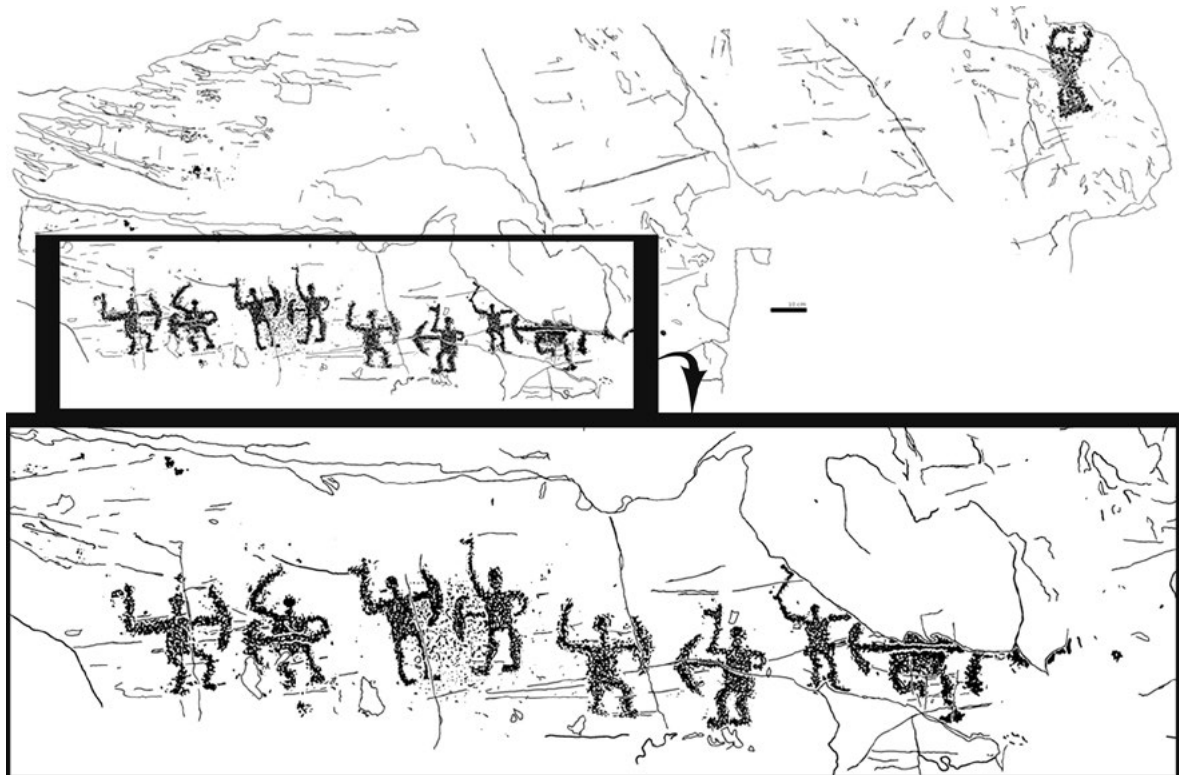


FIGURE 4. TRACING OF SECTOR C. IN THE ZOOMED AND FRAMED AREA ARE THE EIGHT FIGHTING WARRIORS, FROM LEFT TO RIGHT, C05, C06, C07, C09, C10, C11, C12 E C13 (TRACING: D. SIGARI).

Duellists C06, C09, C11 and C13 have the arm holding the shield which is curved (Figs. 5, 6). Observing the superimposition of the pecking, C06 and C13 have their arm over the body, thus C06 seems to brandish the sword with the right hand, whilst it is not possible to say the handled weapon of C13 since the figure is interrupted by a crack which has broken the rock. Contrary to that, C09 and C11 hold the shield with the arm curving under the body, thus supposing it is the right one, and brandish axes with the left hand. C09 has its right hand raised.

Duellists C05, C07, C10 and C12 have their arms almost perpendicular to the body, except C12 which has the supposed right arm raised and lightly bent at the elbow height. C05, C07 and C12 brandish an axe, whilst C10 holds a sword.

All the duellists, except C07 and C09, have bent legs. C09, C10, C12 and C13 have their leg muscles figured.

Grouping the figures into the four couples, it is possible to notice two couples duelling sword versus axe (C05-C06 and C10-C11), one couple axe versus axe (C07 and C09). Concerning the last couple C12-C13 it is not possible to say which is the weaponry adopted.

The entire sequence is 1.5 m long.

Interpretation

The hold of the weaponry has been stated in the previous paragraph. It is assumed that the stylisation of the figures needs graphic expedients to show things that would not be represented (Keyser, 2011).



FIGURE 5. WARRIOR C06. SINCE HE HOLDS THE SHIELD WITH THE HAND WHICH OVERLAPS THE BODY, HE IS SUPPOSED TO BE RIGHT HANDED (TRACING: D. SIGARI).

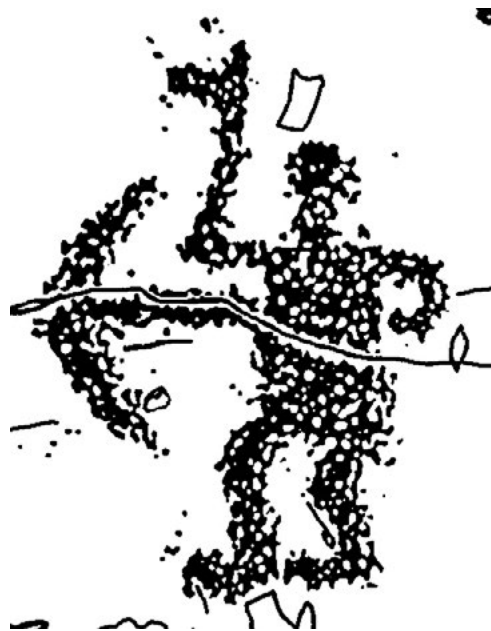


FIGURE 6. WARRIOR C11. SINCE HE HOLDS THE SHIELD WITH THE HAND WHICH IS OVERLAPPED BY THE BODY, HE IS SUPPOSED TO BE LEFT HANDED (TRACING: D. SIGARI).

Thus depicting the body in front view and the open arms suggests the front arm is the one that would be further from the viewer (Anati, 1975; Fossati, 2008; Keyser, 2008). Moreover, in this dynamic, scenes would express a motion in the sense the warrior is attacking the enemy.

Contrary to that, the warriors with a rounded arm would figure a profile view, expressing a defence position. The need to represent the arm over or under the body may respond to the necessity of showing whether the warrior is left or right-handed and giving to the viewer a more realistic effect of the scene.

If all these observations are correct, all the warriors would be different from each other, depending on the weaponry and the hold of the weapons.

From a chronological point of view, all the figures may stylistically belong to IV2-IV3 style.

Iron Age in Valcamonica

The people who lived in Valcamonica during Iron Age, the *Cammuni*, are commonly defined as one of the *ethnos* of *Raeti* population (Metzger 1992; De Marinis 1992).

Nowadays the social structure of the *Cammuni* is possible to be supposed by comparisons from nearby regions and very few local evidences from archaeological excavations (De Marinis, 1992; Poggiani-Keller, 2004). What emerges is the achievement of control and power by those local aristocracies enriched by the control of natural resources and communication and trade routes (Poggiani-Keller, 2004). In this sense, new emergent aristocracies in Valcamonica tended to represent themselves and their power through symbols used in rock art, whose imagery seems to be mainly linked with initiation rites for the Iron Age aristocratic youth (Fossati, 2000; Zanetta, 2009b).

A general idea of the social organisation of this society and so of the common imagery might be given by the iconographic representations. The *situlae art* offers another valid example to be combined with rock art. This kind of art, which is typical of the Hallstatt culture and northern Italy, figures the way of life of people who lived between the 5th and the 7th century; it figures armed men on parade, warfare scenes and banquets or cult rites (Bosi, 2004).

At the same time it is plausible that symposium is a celebration of the power itself, through specific images, the high class stresses its value and social role.

Last, from the 4th century the ‘militarisation of cults’ became a common process among alpine populations, *Raeti* and *Veneti*, with the deposition of weapons in sacred sites (Egg, 2004).

The exalted richness was the consequence of the control of trade routes for metals, such as tin, or amber and other exotic raw materials. Hence at the same time the control of the trade routes became important and this kind of supervision was ruled by alliances and partnerships (Bosi, 2004). So if Lévi-Straus is right, arguing that ‘*war is an exchange gone wrong*’ (Lévi-Straus, 1996) it is easy to understand why the necessity of warriors, and why this kind of social character became so important in the cultural ideology too. Indeed, the advent of metallurgy led to social segregation, increasing male activities and putting differences in status between a small number of privileged people and the rest of the group (Egg, 2004; Guilaine & Zammit, 2005). The most specialised activities, providing the means to produce tools for men, led to an increase in the sacred value of weapons, with the appearance of more and more war-related symbols.

From the 4th-3rd millennium BC, weapons became social markers (Guaitoli, 2004), putting in evidence those who gained a powerful position in the society. The ways someone could reach the most influencing position in the group were very different from each other; however conflicts and fights were the easiest, most simple way to acquire it. Fights ruled social relations, mainly during Iron Age when the abundance of the primary resource gave the possibility to possess weapons to a wider range of people (Guaitoli, 2004; Egg, 2004).

Having weapons and fighting represented different ways of celebrating the male aristocratic power, even though it was just a celebration and not a real conflict (Egg, 2004; Frontini, 2004; Bosi, 2004; Zanetta, 2009b).

Thus emerging hierarchies began to manage the control of resources due to the status they previously achieved gathering symbolic tools (Bosi, 2004) and, thanks to the tools and their cultural and symbolic value, men gained social power and control.

From the iconography of the *situlae*, it is possible to notice even how much warriors, big men and princes were concerned about showing fights to celebrate themselves, the idea of violent control of the group and their influence (Bosi, 2004) (Fig. 7).

Trades enriched people who began to use wealth as a power instrument. The need for new resources and their control led to the research of raw material outcrops which could support the needs of the group. Therefore, to guarantee resources, war and conflicts can be a simple, but useful, way to gain or lose everything immediately (Bosi, 2004; Guilaine & Zammit, 2005).

War and violence representation in Valcamonica rock art

Iron Age Valcamonica rock art is generally defined as ‘warrior art’. Most of the anthropomorphic figures represent armed men, even though very few scenes are linked with warfare and violence situations.

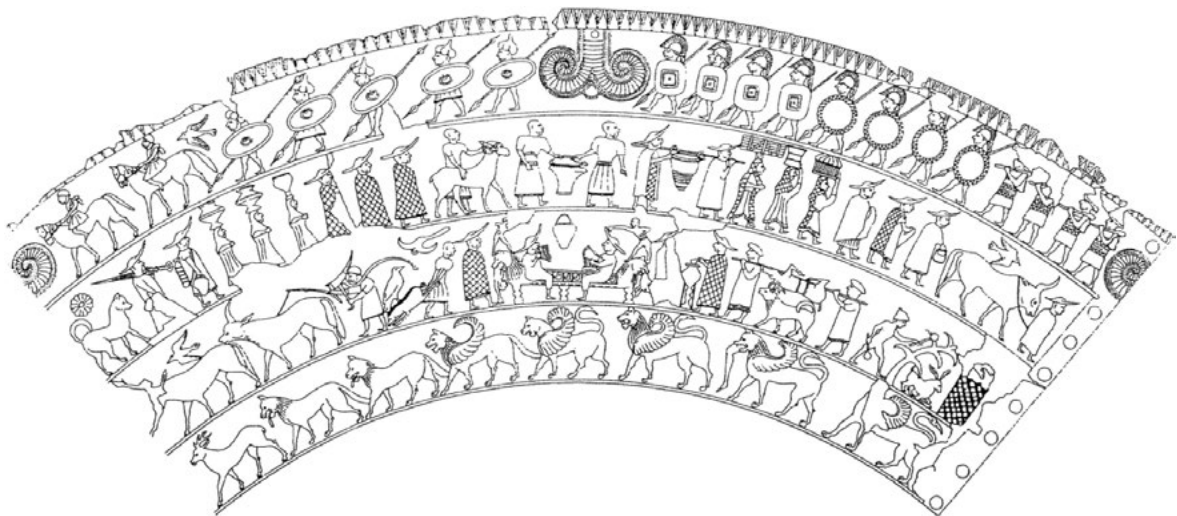


FIGURE 7. SITULA DELLA CERTOSA. IN THE UPPER PART THERE IS A MILITARY PARADE (AFTER BOSI, 2004).

The proliferation of warrior depictions, often engaged in duels, is directly connected with the new warrior class and the scenes are interpreted as ‘jousting tournament’ or initiation rites for young aristocrats to attain the warrior status (Fossati 1991; Bevan, 2005; De Marinis & Fossati, 2004).

However, as already stated, in Valcamonica, there are at least four scenes generally associated with warfare: rock 34 in Luine, rock 1 and 50 in Naquane and rock 4 in In Valle (Fossati, 1991; Bevan, 2005; Sigari, 2011).

On rock 34 in Luine and rock 4 in In Valle there are two similar scenes with chained escorted prisoners (Fig. 8). The scenes on rocks 1 and 50 in Naquane, respectively, figure a warrior spearing a smaller one, and a horseman who dominates the defeated enemy.



FIGURE 8. CHAINED ENEMIES. ROCK 4, IN VALLE, PASPARDO.
THEY HAVE CHAINED BOTH LEGS AND ARMS (PHOTO: D. SIGARI).

Representation of defeated and chained enemies is figured on archaeological findings too (e.g. Situla Benvenuti) and seems to be part of the symbols world of the new warrior class (Fossati, 1991; Bosi, 2004).

The presence of warrior depictions undoubtedly testifies the definition of a different social structure, with the warrior class at the top, or in a high place in the social pyramid, and agrees with the idea of a powerful class that exalts itself through imaginaries, invading many cultural aspects.

Conclusions

In conclusion, warfare was probably practiced by people who lived in Valcamonica during the Iron Age. For sure, those societies changed their organisation towards a more stratified hierarchy, with the predominance of a newly emerging class, which is the warriors' one.

The idea of conflict, violence and war entered the imagery pervading rock art and generally art symbols.

The acceptance of new members in a specific social class became ruled by special initiation rites, which sometimes required military skills too.

Thus, if Valcamonica rock art is a 'warrior art', that means that it has been produced by that class to reproduce itself and that the figurative heritage is expected to represent their symbols, ways of life and rites linked with the class itself.

It is probable that the scene on rock 4 from In Valle is a warfare one, however it is not the real representation the main meaning of that. Rock art is not an artistic form that represents reality, but a medium, a collection of symbols defining a cultural complex and denouncing social relationships (Keyser, 2011), and in this view Sector C is a panel which stresses the idea of the new social relationships in Valcamonica Iron Age. It is the representation of the newly emerging class, which has the power. And this new social stratigraphy is ruled by war and/or conflicts. It might be supposed that if the fighting scenes are ritual clashes, they may '*be compared to a kind of game or sport in which it is necessary to adhere to very specific conventions*' (Guilaine & Zammit 2005, p. 27).

Even though Sector C represents a ritual fight, the figured conflict involves more people and suggests the possible existence of real conflicts involving several persons divided into two deployments, lead by a chief, who shows specific skills and may gain goods thanks to war activities.

The idea of the new emerging and dominant class in the Iron Age is confirmed by the isolated warrior C16 which overlaps the Bronze Age feminine praying figure C15. It is likely that the author wanted to erase and forget ancient symbology to confirm the new one.



FIGURE 9. THE WARRIOR C16, IN BLACK, OVERLAPPING THE FEMININE PRAYING FIGURE C15, IN GREY. IN THIS PICTURE, THE AUTHOR HAS HIGHLIGHTED C15, EVEN THOUGH IT IS RECOGNISABLE JUST BY FEW THINNER PECKINGS UNDER-IMPOSED TO C16'S THICKER ONES (TRACING: D. SIGARI).

So what definitely emerges is a social hierarchy, defined by power and control on other individuals, that is proportional with hoarding goods. These two elements became the main objective of people composing a group, and keeping them is possible by creating and adopting a specific symbolic language.

The representation on the rocks of warriors and fighting scenes testifies that warriors now enhance their power invading any aspects of life, including ritual symbology. The existing similarities between funerary artifacts and rock art imagery confirm the tendency of fusing several celebrating aspects, to keep power and social control.

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Model of metalwork and scrap's bronze circulation during Late Bronze Age in the Middle Tagus

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Abstract

In Central Portugal bronze metallurgy appears only in the Late Bronze Age (since the 13th century BC). The Middle Portuguese Tagus Valley is a strategic region in Central Portugal that is poor in copper ore and with inexistent tin ore resources, but the region is rich in gold alluvial ore. Dating, typologically, from the Late Bronze Age, there are now in the region several bronze objects in different contexts: scraps hoards, workshop in walled settlements, some bronze scraps in agricultural farms. Evidences in ancient territory management, in contextual situation of bronze objects and local gold resources show a overview where local human communities trade both local gold both passage along the Tagus and along the Early Metamorphic Massif, in exchange for bronze scraps to can recycling and made new bronze artifacts. In the circulating from outside, is massive the presence of scrap by bronze type typical of Beira Interior and Atlantic Facade, but there are also present bronze scraps of Mediterranean types. The overview indicates a network of scraps bronzes managed by walled hilltop settlements, open also at open lowland farms.

Keywords: Middle Portuguese Tagus, Final Bronze Age II, Atlantic Metallurgy, Bronze Recycling, Exchange of goods

Résumé

Dans le centre du Portugal métallurgie du bronze apparaît seulement dans l'âge du bronze tardif (depuis le 13ème siècle avant JC). La Vallée du Moyen Tage Portuguese est une région stratégique au centre du Portugal qui est pauvre en minerai de cuivre et avec des ressources de minerai d'étain inexistantes, mais la région est riche en minerai d'or alluvial. Il ya maintenant dans la région de plusieurs objets de bronze typologiquement datant à l'Âge du Bronze Final, dans différents contextes: dépôts de, débris, atelier dans peuplés fortifiés, quelques débris de bronze dans les petits peuplés agricoles. Dans la gestion du ancien territoire, en situation contextuelle d'objets en bronze et des ressources d'or locales, plusieurs évidences montrent un aperçu où les communautés humaines locales commercent soit l'or local, soit le passage au long du Tage et du Massif Métamorphique Ancien, en échange de débris de bronze pour le recyclage et aussi même artefacts de bronze. Dans la circulation de l'extérieur, on peut voir la présence massive de débris de bronze des objets typiques de la Beira Interior et de la Façade Atlantique, mais il ya aussi des restes de bronze des types méditerranéens. La vue d'ensemble indique un réseau d'échange des débris et d'objets de bronzes géré par les peuplé d'hauteur fortifiées, mais aussi ouverte à les peuplés ouverts agricoles de la plaine de la Vallée du Tage.

Mots clés: Moyen Tage Portugues; Age du Bronze Final II; Métallurgie Atlantique; Recyclage du bronze; Echange des produits

Introduction

The Middle Portuguese Tagus Valley is a region between *Estremenho* Limestone Massifs on the west, southern limit of Tagus basin on the south, Metamorphic Early Massif on the east and mid Zêzere River/ Alvaizere Mountains on the north. Geological diversity and cross between rivers (Tagus, Zêzere, Nabão, Ocreza) had been since Late Prehistory a human interest factor to settle in that region

(Oosterbeek 1993; 1997; Cruz 1997). Very important, as a communication way, is the Tagus River: in this region that important water way between Atlantic coast and Meseta inland, is also navigable with a small ship until Abrantes (where the effective Tagus plane ends) and with a boat several kilometers inland. In this sense, the region is a strategic area for communication between the Atlantic coast and Meseta (in the West-East sense) by river, and between Beiras and Alentejo (in the North-South sense) by river (Zêzere) and ridge roads along the crests of Metamorphic Early Massif. Human evidences from the Bronze Age are more numerous in the Late Bronze Age, the second period of Bronze Age in the Tagus Valley, according to the chronological phases detectable by material culture, absolute dating and strategy of land occupation (Tab. 1).

Period	Chronology
Full Bronze Age	18th-12th cent. BC
Late Bronze Age I	12th-9th cent. BC
Late Bronze Age II	End of 9th-8th-cent. BC

TABLE 1. CHRONOLOGY OF BRONZE AGE IN MIDDLE PORTUGUESE TAGUS, (ACCORDING TO DELFINO *ET AL.* 2014: 189-197).

The majority of the evidence of human activities in the territory occurs during Late Bronze Age II, affecting mainly the area of the Metamorphic Early Massif, with groundwater sources and alluvial gold deposits, and the Tagus alluvial plane (Fig. 1).

In that overview, a particular focus in the system of territory management emerges (now still in study progress), based on hilltop walled settlements (Castelo Velho do Caratão, Cerro do Castelo and Castelo de Abrantes), hilltop walled stations (Castelo Velho da Zimbreira, Castro do

Santo, Castro de Amêndoa, open-plane familiar farms (Quinta da Pedreira) and bronze hideouts (Porto do Concelho, Senhora da Moita and Barreiras do Tejo) (Delfino *et al.* 2014: 192-197).

Cultures around and its metallurgy in Late Bronze Age

During the Late Bronze Age (13th-7th c. BC) the areas around the Middle Portuguese Tagus Valley are interested, generally, by two main cultures: Cogotas I, in central-northern Spanish Meseta, and the so-called Atlantic Bronze Age in Galicia and Northern and Central Portugal (Fernandez-Posse 1998: 24). But Atlantic Bronze Age, whose real existence as a uniform archaeological culture is controversial (Oliveira Jorge 1998), in central Portugal is divided in more real regional cultural groups, as Baiões/Santa Luzia in the Beira Alta (Senna Martinez 2000, 2013), of Beira Interior (Vilaça 1995; 1998) and Extremadura (Avila de Melo 2000: 84; Cardoso 2007: 360-367, 383).

Cogotas I (16th-9th c. BC) (Fernandez- Posse, Montero Ruiz 1998), characterized by open and seasonal settlements, in plane with agricultural subsistence economy, not a high degree of social hierarchy, no major role in trade metals; types of metals of the settlements other than those of metals in hideouts, but the technology between the metals of the two contexts is not different or there are only slight changes between the types of artefacts. Society is more complex starting with the Late Bronze Age II with Soto I phase. That overview of Cogotas I is contested by some researchers (Celis Sánchez *et al.* 2007) on the basis of opulence of hideouts and metals in general, justifying a more stratified society. The production level of metallurgical techniques is local, but the level of artefact types reveals features either Atlantic, either Mediterranean Bronze alloy is binary (Cu-Sn) until Late Bronze Age I (12th-9th c. BC), ternary alloy (Cu-Sn-Pb) seems to be characteristic of the Late Bronze Age II (9th c. BC), already Soto I, and specifically in Atlantic axes as a heel with two rings. The increase in the production of metals in the Atlantic area and a more complex society (with more stable and fortified settlements), is probably due to the entry interests in the Phoenician BFII (9th-8th c. BC), when the 'golden moment' of the Atlantic trade of metals appears (*ibid.*: 200).

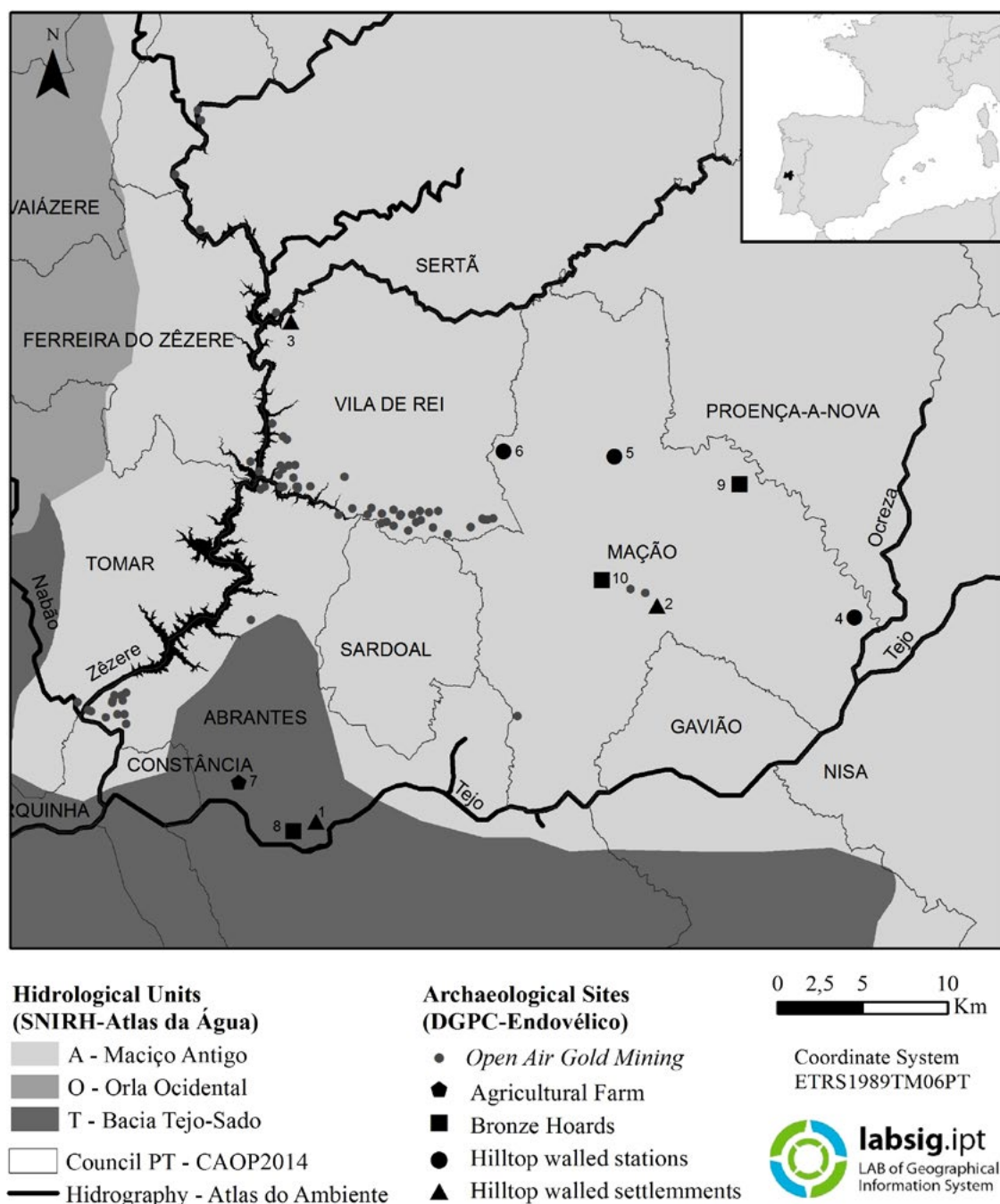


FIGURE 1. LATE BRONZE AGE II HUMAN EVIDENCES IN MIDDLE PORTUGUESE TAGUS. (MAP ELABORATED BY RITA ANASTÁSIO, 2015, AND WAS AVAILABLE BY CENTRO DE PRÉ-HISTÓRIA OF INSTITUTO POLITÉCNICO DE TOMAR).

Baiões/Santa Luzia (13th-6th c. BC) shows a hierarchy between settlements with the purpose of controlling the landscape and land routes (ridge roads), absence of belligerence between dominant settlements, also by the poor presence of weapons in bronze production (Canha, Valério, Araujo 2007: 164); metallurgy, may be exploring small local copper resources in a region that is rich in tin (*ibid.*: 174), is widespread even in small settlements with small production in each settlement, with a point of product concentration in big settlements (like Senhora da Guia de Baiões) Bronze does not appear to be used for commercial pure purposes, but as a manifestation of prestige or power through

the use of the gift (Senna Martinez 2007: 265-274; Senna Martinez *et al.* 2011) and the Group Baiões/Santa Luzia is placed in a network to exchanging copper and tin (Canha, Valério, Araujo 2007: 174). In general it is known what is the number of bronze artifacts in small settlements, as Canedotes with 68 bronze fragments (Canha, Valério, Araujo 2007: 172) or in Santa Luzia de Viseu with 34 bronze artifacts (Senna Martinez 2007: 267), and in biggest settlements, like Senhora da Guia with 398 bronze artifacts and fragments (*ibid.*). Bronze production is characterized by circulation of model from Atlantic and Mediterranean area, with a clear predominance of the first. In all the Final Bronze Age bronze alloying in binary (copper and tin) (*ibid.*: 175).

Beira Interior (13th-7th cent. BC), in this period the region shows a large opening and a remarkable cultural involvement in the interregional network systems, while not having a hierarchy between settlements which show circulation of Atlantic and Mediterranean models, not being however mining settlements but only metallurgical (Vilaça 1995; 1998). Metallurgy is in general domestic and not in large quantities (Vilaça 1998).

Portuguese Estremadura (13th-9th c. BC), in general is characterized by a territorial system based on open settlements linked to hilltop settlements, with intensive agriculture above all in the Tagus estuary, and delimitation of territory (Cardoso 2007: 357-361); tin or copper are absent in the region. Metallurgy shows a large difference between settlements or graves (very poor objects) and hoards (numerous and with several objects), with circulation of Atlantic and Mediterranean models (Avila de Melo 2000: 84).

Metallurgy in Middle Portuguese Tagus region: the hideouts

Three bronze hideouts are known in the region: one small hideout in rock pit (Porto do Concelho) and two big hideouts inside a pot (Senhora da Moita and Barreiras do Tejo). Unfortunately only the hideout of Porto do Concelho has survived, and the other two are only known through oral information.

Porto do Concelho (Mação), discovered in 1943 during the works to open a new road, was published twelve times with a job exclusively dedicated: from an archaeological point of view (Jalhay 1944) and from a archaeometallurgical and chemical point of view (Bottaini *et al.* 2013). Several other works approached these findings from the perspective of the hoards phenomenon in Portugal (Avila de Mello 2000: 59-76; Vilaça 2006: 84-85), or regarding an overview and question about the Atlantic Bronze Age (Coffyn 1985, 1998: 75) or about Bronze Age in Middle Tagus (Delfino *et al.* 2014), or including bronze objects of that hoard in classification of axes (Monteagudo 1977) or sword (Brandherm 2007: 14, 92, 116) in overview of typology Iberian Peninsula Bronze Age, or, finally, in a work about Heritage of Mação (Horta Pereira 1970: 180-206). Porto do Concelho hoard has been found in a rock pit, covered by a stone, having all the bronze fragments or object huddled together (probably originally closed in a bag of organic matter that is gone). The workers, who discovered it, gave back initially 42 bronzes (Jalhay 1944: 6) and along decades total bronzes amounted 45, after regain by Calado Rodrigues and M. A. Horta Pereira.

Observing the types that it are possible to recognize (2 axes type 36a of Monteagudo, 1 carpe tongue sword fragment, 3 Atlantic type spearheads, 1 knife of Porto das Mós type, 2 sickles of the Rocanes type and 1 fibula fragment), the set in the hoard is datable at the phase Ewart-Park/Vénat/Sá Idda, according to Brandherm (2007: 14) and including several Atlantic type and only one Mediterranean type (fibula). Typological and condition overview of bronze (Tab. 2 and Figs. 2 and 3) show a very different conservation and types. But dating is quietly uniform (according to the recognizable objects). Archaeometallurgical data shows different metalworking between the different objects in the hoard (Bottaini *et al.* 2013), and chemical data shows a binary alloy in several objects and ternary alloy only in rings (*ibid.*). That overview shows a Porto do Concelho hoard as a small reserve of bronze scraps, from different production points, composed by several Atlantic types and only one Mediterranean type (fibula), produced with typical binary metallurgy of the central-southern

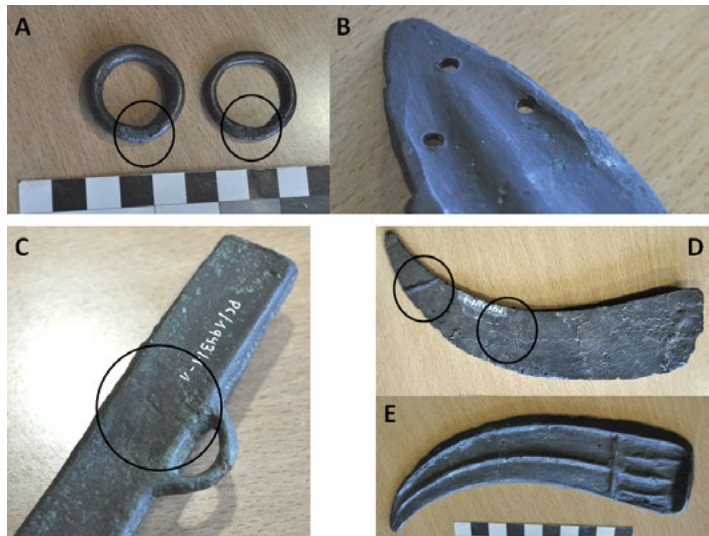
Type	Several scrapped objects	Lightly scrapped objects	Whole used objects	Whole objects (scrapped in the time of find in 1943)	Whole and never used objects
Axes		2			
Swords	6				
Spearhead		3			
Knives	1				1
Bracelets	2	1			
Rings	8	1	9		
Sickles				2	
Fibula	1				
Undefined	5				2

TABLE 2. TYPOLOGICAL COMPOSITION AND CONDITION OF BRONZE OBJECTS IN PORTO DO CONCELHO HIDEOUT.

FIGURE 2. BRONZE HIDEOUT OF PORTO DO CONCELHO (SOURCE PREHISTORIC ART MUSEUM OF MAÇÃO AND STUDENTS OF M.A. IN PHOTOGRAPHY OF INSTITUTO POLITÉCNICO DE TOMAR).



FIGURE 3. CONDITIONS OF SOME OBJECTS FROM PORTO DO CONCELHO. A: RINGS WITH USE MARK; B; DAGGER PORTO DE MÓS TYPE WITH: NO EVIDENCE OF FINISHING WORK AFTER REMOVAL FROM THE CASTING MOLD, AND BARBETTES AROUND THE HOLES FOR THE RIVETS RESULTING FROM THE DRILLING OF THE WAX MODEL FOR THE MOLD TO LOOSE-WAX TECHNIQUE; C: AXES TYPE MONTEAGUDO 36A BROKEN IN SITU AND REASSEMBLED AFTER THE DISCOVERY; D: SICKLE OF THE ROCANES TYPE WITH BROKEN MARKS AND EVIDENCES OF FAST COOLING IN A OPEN MOLD; E: THE SAME SICKLE OF THE ROCANES TYPE WITH EVIDENCE OF NO GOOD TEMPERATURE MELT IN MOLD.



Portugal in Final Bronze Age II and containing some ternary bronzes, typical metallurgy of Cogotas I and Central Northern Portugal in Final Bronze Age II (Montero Ruiz *et al.* 2003), as the rings.

Senhora da Moita (Carvoeiro-Mação)

In the 60s, M. A. Horta Pereira (from Museum of Mação), during a research for archaeological evidences in the municipality of Mação, requested some information from the elder people living around some points of archaeological interest. The owner of a field in Encosta da Serra locality, near Senhora da Moita, talked about a finding some decades before in his field: a pot vessel with a several number of bronze pieces. Unfortunately, nobody ever knew what happened to it (Horta Pereira 1970:166). Hideouts in pot are diffused in Recent (13th century) and Late (12th-8th century) Bronze Age (Ialongo 2010: 320; Delfino 2014: 128, 133), both in votive that in storage to recycling context.

Barreiras do Tejo (Abrantes)

In a private land near the actual street ‘Rua da Barca’ in the fifties, a bowl with careen was found, full of bronze pieces such as axes, swords and sickles’ (Batista 2010: 10 and Batista pers. com.). Probably the set is also in the possession of the land owner and the sickles inside at the pot are of the Rocanes type (Late Bronze Age II) (personal communication of Álvaro Batista).

Metallurgy in Middle Portuguese Tagus region: metals in settlements

Castelo Velho do Caratão

Along the quartz ridge that runs between Mação, Envendos, Amêndoa, and Vila de Rei some hilltop walled sites are installed, some of these more identifiable as walled stations, others as walled settlements (Fig. 1) like Castelo Velho do Caratão (Fig. 4).

The settlement, installed in a strategic hill between two rivers and with excellent visibility, is composed by two massive_dry stone walls, that forming terraces and some circular huts inside the terraces. Inside the terrace were found, first by Calado Rodrigues and later by Horta Pereira & Bubner, during the respective excavations (in 1946 and in 1983/1984), 42 bronze finished objects, scraps and ingots and one minuscule gold ring (Fig. 5 and Tab. 3) (Delfino *et al.* 2014: 170), with two fragmented casting molds (one in stone and one in clay) and a bellow’s terminal part in ceramic (Delfino *et al.* 2013: 185).



FIGURE 4. WALLED HILLTOP SETTLEMENT OF CASTELO VELHO DO CARATÃO (MAÇÃO) (SOURCE: MUSEU DE ARTE PRÉ-HISTÓRICO, MAÇÃO).



FIGURE 5. BRONZES SET FROM CASTELO VELHO DO CARATÃO.

Type	Several scrapped objects	Lightly scrapped objects	Whole used objects	Whole and never used objects
Axes		1		1
Gouge	1			
Swords	1			
Spearhead	1 (in 5 fragments)			
Knives				
Daggers		1		
Armlets	5	2		2
Founding bars		11		
Founding drops		4		
Weight				1
Fibula	1			
Props	3			1
Undefined	3			

TABLE 3. TYPOLOGICAL COMPOSITION AND CONDITION OF BRONZE OBJECTS IN CASTELO VELHO DO CARATÃO.

The artefacts' typology shows a clear metalworker workshop, that during its activity, or at least during the last phase (that is, the one that remained in the archaeological record), used mainly recycled scrap: they probably mixed bronze scraps with new copper (it's possible to appreciate a rough amount in one of the founding drops) or with lead/tin (it's possible to appreciate a lead/tin bar between the others 11 melting bars- Pers com. Paolo Piccardo), to balance the content in tin or copper in the bronze from the scraps (Delfino 2014: 123, 137-139). The chronology of the bronze types shows a lack of uniformity; there are two objects typologically older: a copper (or arsenical copper) dagger, which shape is linked to Argaric daggers dating from the 16th-14th c. BC (Delfino *et al.* 2013: 186), an axe lightly scrapped of the Bujões/Barcelos type, dating between 1750 and 1250 BC (Senna Martinez *et al.* 2013: 596). Other objects, whose type is recognizable, date along the Late Bronze Age II, that covering from the 10th until the 8th centuries BC (Delfino *et al.* 2013: 186): between them a Monteagudo type 36A axe, an Atlantic type spearhead (fragmented in 5 parts), a gouge, a fragment of skewer support and, finally, a fragment of Pantalica type fibula (arc). Interesting is a bronze little sphere, interpreted as a weight, basing on parallels in other Late Bronze Age contexts in Portugal (Vilaça 2003): that would strengthen the hypothesis of the use to balance the bronze of the scraps with small quantities of copper or lead / tin.

Quinta da Pedreira (Rio de Moinhos – Abrantes)

Among all the sites in the floodplain of the Tagus that were the subject of prospecting and where some possible Bronze Age agricultural farms are identified, Quinta da Pedreira is the only one that has been excavated and where it was ascertained to exist a Late Bronze Age farm (Félix 2006: 72-74). In that small familiar settlement, one found during the excavations a terminal part bellow of in ceramic (*ibid.*: 73) and two bronze scraps during survey: scraps consist in a fragment of Porto de Mós type knife and a probable Bujões/Barcelos type axe (Candeias, Batista, Gaspar 2009).

Other evidences in settlements

Other evidences of metallurgy in settlements, even if only sporadic, are present in Cerro do Castelo (Vila de Rei) where one found a fragment of an armlet (Batata, Gaspar 2013: 46) and a stone mould of a probable sword (Batata, Gaspar 2000: 63); in Castelo de Abrantes, hilltop walled settlement in a hill directly near of the Tagus, in 1988, one found bronze drops in the same context of a hut structure and pottery dating from the Late Bronze Age (Candeias, Batista, Gaspar 2009); in the same settlement, under the modern fortress of Abrantes, there was a structure of dry stone wall with sediments containing Late Bronze Age and First Iron Age with Phoenician influences pottery in the same sediments (Portocarrero *et al.* in press).

Metallic natural resources in Middle Portuguese Tagus

No cupriferous resources are present in the region, while parallel to the ridge of quartzite that runs between Mação-Envendos-Amêndoa-Vila de Rei there are small outcrops characterized by pyritic schist: that can show a presence of possible sulfide mineralization of iron or of copper (bornite or chalcopyrite) in very little resources and, if explored in Prehistory or in Protohistory, disappeared today, although there are no visible mines or even historical documentation about mines about copper resources in the region. The main metal resource is gold, present in alluvial deposit of fossil river terraces transformed in conglomerate containing gold sands: this is the case of Codes, Zêzere, Tagus, Boas Eiras and Caratão rivers. Evidence of exploration in Roman times is visible today in mounds of cobblestones (named in portugues *conheiras*), that in Middle Portuguese Tagus Valley amount to 94 (Batata 2006; Delfino, Gaspar 2014), in many cases in close proximity to hilltop walled settlements (Cerro do Castelo, Castelo de Abrantes, Castelo Velho do Caratão). Not be to excluding mining works in pre and protohistoric times, that may have been erased by the most intensive Roman period works.

Model of management and production of metals

In the light of archaeological data on the type and location of hilltop walled settlements (Castelo do Caratão, Castelo de Abrantes and Cerro do Castelo) and hilltop walled stations (Castelo Velho da Zimbreira, Castro do Santo, Castro de Amêndoa), on the type and location of the bronze hoards compared to mayor settlements with traces of metallurgical activities (Castelo de Abrantes and Castelo Velho do Caratão), on the main waterways (Tagus, Zêzere, Ocreza and Pracana rivers) and on the metallurgical resources (alluvial gold sands in conglomerates), it is possible to hypothesize the possible model of management of territory of Middle Portuguese Tagus, according to metals and metallurgy.

Nature of hoards

Here it is believed that the bronze hoards in the region cannot be ritual: Porto do Concelho is full of scrap bronzes (with a general high fragmentation level and, so, generally does not offer ‘garbage’ to divinities, but whole objects or with a certain dignity like the objects in Lama de Chã or Beleirão Portuguese hoards), containing all the big types of bronze objects (weapons, tools, ornaments, props) and reveal no selection in the depositing, and is placed at an insignificant point in terms of the ritual

(it is placed near a ford in the Ribeira das Eiras river, of course, but is 180 m away from the ford and already on the slopes of a hill). Regarding the other two hoards, in Senhora da Moita, unfortunately is unknown the amount or types of metal contained in the ceramic vase, but the hoard certainly was not set in a place with special natural features related to the sphere of the sacred; in Barreiras do Tejo, the place of Rua da Barca is a place more useful for transporting goods between the Tagus and the hill of Castelo de Abrantes and the contents of the hoards are typologically mixed (weapons and tools).

The time of that model: the Late Bronze Age II (9th-8th c. BC)

The general overview is also probably related to a specifically chronological phase, Late Bronze Age II, corresponding to the phase Ewart-Park/Vénat/ Sá Idda (930-750 BC), according to the typology of the most recent bronze pieces in Porto do Concelho hoards (in a hideouts the datation is given by the more recent piece found there, com pers. R. C. de Marinis), to the relative chronology of the pottery (burnished decoration) and the general typology of the bronzes in Castelo Velho do Caratão, and to the absolute dates in Cerro do Castelo (990-821 ca. BC) and in Castelo Velho da Zimbreira (805-775 cal. BC) (Delfino *et al.* 2014: 162, 173).

Bronze scraps or whole bronze artefacts in exchange for gold and passages

So, taking into account these elements, there probably was a local network managed by the main hilltop settlements, especially along the waterways of Tagus (Castelo de Abrantes), when collected bronze scraps or whole bronze objects were imported, probably from the Central-Northern Portugal, Beiras, when the bronze metallurgy in Final Bronze Age is binary- only with copper and tin- (Canha, Valério, Araujo 2007: 174) as the bronzes of Porto do Concelho hideout, where correspond both the technology of the bronze that the type of the objects. The recycling of scraps and direct re-use to produce new bronze artefacts is really too clear in the metalworker workshop in Castelo Velho do Caratão settlement and is probably in the other big hilltop walled settlement of Castelo de Abrantes and in agricultural farm of Quinta da Pedreira. That shows an overview, in that the main settlements have an important part in the business of the bronzes scraps, due to the proximity of the hoards with scrap bronzes, but in the small open villages (agricultural farms) they are not excluded. In that way, it is similar at the overview of the Beira Interior (near at the Middle Portuguese Tagus Valley) characterized by a 'familiar' metallurgy in small settlements, but is also much similar at the overview in Beira Alta, characterized by small settlements with 'small' metallurgy and few big settlements collecting bronzes. But the regional context is different in respect to these two near areas (Tab. 4).

According to this situation, it's possible to think about the Middle Portuguese Tagus like a region with a management model similar to Beira Alta, with the main role of few big hilltop settlements to be in control of the network of minerals (gold) and bronze goods (scraps and whole artifacts). In the Tagus

Region	Copper resources	Lead resources	Gold resources	Control of waterways	Control of ridge roads
Beira Interior	Weak	Few	Few	Inexistent	High
Beira Alta	Weak	Presents	Inexistent	Few (high Mondego)	High
Middle Portuguese Tagus	Inexistent	Inexistent	Abundant	Very high (lower Zêzere and Tagus)	High

TABLE 4. TERRITORIAL FEATURES BETWEEN MIDDLE PORTUGUESE TAGUS, BEIRA INTERIOR AND BEIRA ALTA.

valley it's more plausible that the bronze 'raw material', the scraps, appears in main settlements and from there they were also redistributed to small agricultural villages (like Quinta da Pedreira) were also there is possible, with common fire technology that does not require large facilities or human resources, and could be recovered and re-melted to make new objects. It's also possible that the main settlements manage the exploration and the network of gold by the local alluvial sediments to the Atlantic coast (using Tagus water way). Regarding the use of scraps to produce new artifacts, it is not mandatory to have a 'crisis' in raw material to use the bronze scraps for recycling. Is possible that was a choice, not a constraint: to produce new artifacts, it is faster and more economically convenient to re-melt already existing bronze alloy scraps, rather than produce the bronze alloy starting from copper and tin minerals, putting in motion the entire operating chain with the implied expense in labor and management.

Atlantic and Mediterranean bronze models

Given the insignificant amount of Mediterranean models, two fibulae, in respect to the amount of Atlantic models, some dozens between swords, axes, gouge, daggers and knives (counting the potential number present in the hidden two hoards of Senhora da Moita and Barreiras do Tejo), it is sensible to say that Mediterranean metallurgy is really insignificant inside one area strongly inserted in a Atlantic metallurgical region. The presence of Mediterranean objects in hoard (Porto do Concelho) and in metalworker workshop in the settlement (Castelo Velho do Caratão), is very insignificant; also because the type of objects in question (fibulae), being neither weapons nor tools (but part of clothing 'kit'), were significantly less prone to breaking during use, unlike the majority of objects of Atlantic filiations (axes, knives, swords, daggers, gouge). This explains the rare occurrence in the 'founder's hoards' of Mediterranean types: in Portugal, the metallic models of Mediterranean array are virtually represented only by fibulae, therefore it is likely that the cause that they are infrequent in the deposits doesn't relate to the fact that they are considered very valuable, but rather to the fact that they are very little subjected to wear, unlike tools and weapons, and so collecting scraps are under-represented.

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Settlements and Houses in Galicia in the Middle and Late Bronze Age

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Abstract

Settlements from the second half of the second millennium BC and the first few centuries of the first millennium BC are relatively unknown in Galicia. The best-studied sites are metallic deposits and burials, while less attention has been paid to the settlements, a problem that is further aggravated by having practically no datings. However, in recent years a number of studies have been published that deal with the record from these types of sites. Based on the data that is now available, we believe it is possible to offer a preliminary summary of the basic features of certain elements from these settlements, such as studies concerned with how their domestic space was organised, or regarding their emplacement. A great deal of work still has to be done on the internal organisation of these settlements, as only very small areas have been excavated, but our aim is to offer a general overview of the current situation. Our empirical base is quite small (9 sites), although we do have radiocarbon datings for most of them, and it is possible to clearly define the typical structures found in the settlements. The province of Pontevedra contains the majority of these sites (5), which are Carballeira do Espírito Santo (Silleda), Monte Buxel (Pazos de Borbén), Os Pericos (Ribeira), Setepías (Cambados) and Chan das Pozas (Campolameiro). In the region's other three provinces we have a considerably smaller number, with two sites in Ourense: O Fuxiño (Piñor) and O Cepo (San Cibráo de Viñas); one in Lugo, the petroglyph of Pena Fita (Lugo) and another in the province of A Coruña, the fortified settlement of Punta de Muros (Arteixo). Based on the existing data we have found clear similarities with other European regions, both in the Atlantic and Mediterranean areas, especially with regard to the layout of the dwellings in the settlements. As a result, in addition to identifying similarities between the metallurgy and pottery, we can demonstrate a connection between Galicia and other regions through studying these settlements. Our aim is to identify and offer an initial definition of the features that make it possible to identify connections between Galicia and other parts of Europe, and from there to try and understand a number of possibly European influences not only on the organisation of the dwellings, but also the families in this part of the north-west Iberian Peninsula.

Keywords: Second millenium BC, longhouse, NW Iberia Peninsula

Résumé

Les peuplés de la seconde moitié du deuxième millénaire avant JC et les premiers siècles du premier millénaire avant JC sont relativement inconnus en Galice. Les sites les plus étudiés sont les dépôts métalliques et les sépultures, tandis que moins d'attention a été accordée aux peuplés, un problème qui est encore aggravé par avoir pratiquement pas de datations. Cependant, au cours des dernières années un certain nombre d'études ont été publiées qui traitent avec l'enregistrement de ces types de sites. Basé sur les données qui sont maintenant disponibles, nous croyons qu'il est possible d'offrir un résumé préliminaire des caractéristiques de base de certains éléments de ces peuplés, telles que des études concernées par la façon dont leur espace domestique a été organisé, ou en ce qui concerne leur mise en place. Beaucoup de travail doit encore être fait sur l'organisation interne de ces peuplés, desquels seules de très petites zones ont été fouillées, mais notre objectif est d'offrir un aperçu général de la situation actuelle. Notre base de données empiriques est assez petit (9 sites), bien que nous ayons datations au radiocarbone pour la plupart d'entre eux, et il est possible de définir clairement les structures typiques, dans les colonies. La province de Pontevedra contient la majorité de ces sites (5), qui sont Carballeira do Espírito Santo (Silleda), Monte Buxel (Pazos de Borbén), Os Pericos (Ribeira), Setepías (Cambados) et Chan das Pozas (Campolameiro). Dans trois autres provinces de la région nous avons un nombre considérablement plus petit, avec deux sites à Ourense: O Fuxiño (Piñor) et O Cepo (San Cibrao de Viñas); l'un à Lugo, le pétroglyphe de Pena Fita (Lugo) et un autre dans la province de La Corogne, le village fortifié de Punta de Muros (Arteixo). Basé sur les données existantes, nous avons trouvé des similitudes évidentes avec d'autres régions européennes, à la fois dans les régions Atlantique et Méditerranéenne, en particulier en ce qui concerne la disposition des logements dans les peuplés. En conséquence, en plus d'identifier les similitudes entre la métallurgie et la poterie, nous pouvons démontrer un lien entre la Galice et d'autres

régions à travers l'étude de ces peuplés. Notre objectif est d'identifier et de proposer une première définition des caractéristiques qui permettent d'identifier les liens entre la Galice et d'autres parties de l'Europe, et d'ici essayer de comprendre un certain nombre d'influences européennes éventuellement non seulement sur l'organisation des peuplés, mais aussi les familles dans cette partie du nord-ouest de la péninsule ibérique.

Mots clés: *Seconde Millénaire BC; Maisons Longues; Nord Ouest de la Péninsule Ibérique*

1. Introduction

Megalithic funerary sites are the contexts that have been studied the most from the Late Prehistory of Galicia (NW Iberian Peninsula), perhaps because they are more obvious to identify and characterise. On the contrary, open-air sites are less well known and more difficult to define, as only a few sites have been excavated to any major extent, making it possible to clearly define the structures they contain that form domestic spaces.

There are still few publications on this theme in this region, although several have appeared since the 1990s (see Tables 1 and 2 in the References section). Most of the studies on prehistoric habitats have focused on aspects associated with the territory, more than on the internal distribution of settlements, due to the limited number of sites of this kind that have been excavated to any significant degree. Landscape Archaeology has proposed models of emplacement for these types of sites, based on the study carried out in the area of Bocelo-Furelos (Criado Boado *et al.* 1991). Other zones have been studied intensively, such as the Morrazo peninsula (Criado Boado and Cabrejas Domínguez 2006), the Baixa Limia (Eguileta Franco 1999) or the area around the city of Santiago de Compostela (Parcerro and Cobas 2005). Studies of this kind are now rarely carried out, and new approaches have been proposed using GIS as a supporting methodology, in particular the recent study by González-Insua (2013).

Based on the existing publications and a number of unpublished reports to which we have had access, we have been able to make a selection of 34 prehistoric sites in our region which have provided us with partial but interesting information on these types of contexts (Figure 1, Table 1). In particular, we will focus on the settlements that were clearly occupied during the Bronze Age (Figure 2), as these are the sites that can provide us with more complete information about their characteristics, allowing us to offer a preliminary insight into how the habitat was organised in Galician prehistory.

Therefore, an archaeology of these prehistoric settlements is still pending. Territorial studies have to continue which do not only define the patterns of distribution and emplacement of the sites, but also their relationships with the surrounding environment and possible long-distance relationships. Nevertheless, there is also an urgent need to characterise the domestic space at internal level, delimit the sites, describe the dwellings, define the existence of areas used for specialised functions and how they were articulated within the sites, and even to attempt to identify the possible existence of different levels of complexity in the formation of the sites, something which may possibly reflect their hierarchisation. In this case we have to use as a reference the areas in which studies of the site at this level have been carried out successfully in the last 20 years, including a number of recent studies such as those carried out in Denmark (Artursson 2009), Holland (Fokkens 2003), Central Europe (Müller *et al.* 2009) or the Spanish Meseta (Morín and Urbina 2012), amongst many others.¹

2. Problems with the record

The main obstacles that are hindering the development of an archaeology of prehistoric settlements in Galicia are the small surface area excavated per site, the lack of suitable funding, the scarcity of publications that appear once the archaeological excavation is complete, and the nature of the

¹ There is a vast amount of literature on this subject in Europe and the rest of the Iberian Peninsula, and so we have only selected a few titles that have recently been published for this study.

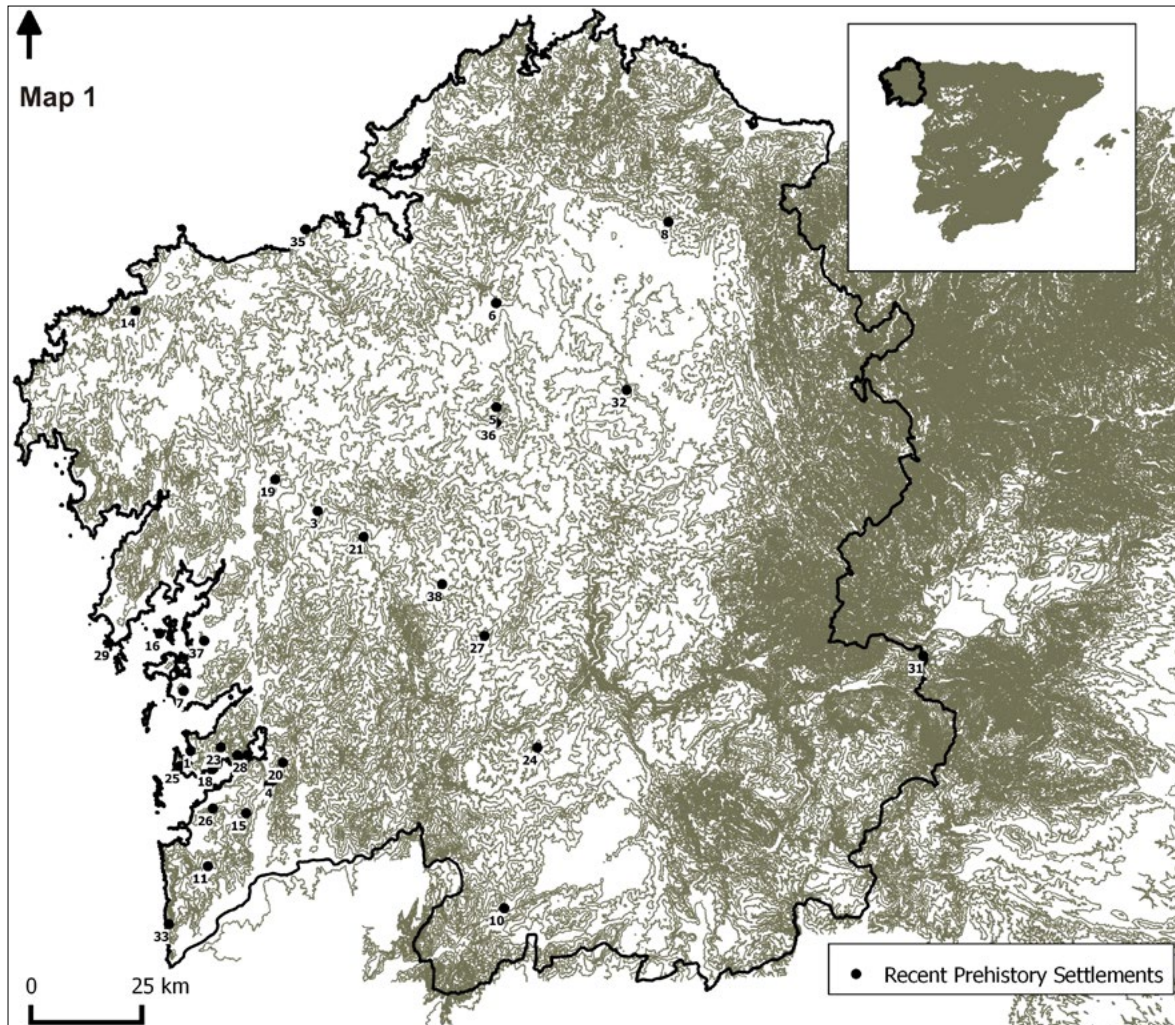


FIGURE 1. MAP SHOWING THE DISTRIBUTION OF SITES FROM LATE PREHISTORY.

archaeological structures that are documented. This last reason strongly limits a deeper understanding of the archaeological record:

- Settlements are invisible sites, which means that they are difficult to detect during the prospecting stage. They do not stand out in the topography, and tend to be identified as a result of material appearing on the surface, as a result of prospecting work or monitoring public works. For this reason only a small surface area is excavated in these sites, and in most cases they are only catalogued as surface findings.
- Once they can be excavated, they provide structures without any stratigraphic connections and with a horizontal stratigraphy that is difficult to interpret. It is very difficult to comprehend the stratification of a site comprised of wooden structures occupying a large surface area. Archaeologists are increasingly aware of the problems connected with the horizontal stratigraphy, and this way of presenting the record continues to cause dilemmas when it comes to reconstructing these sites (Aboal *et al.* 2005).
- During the research stage, a small number of samples are selected for dating. The radiocarbon results available for the sites that have been investigated usually indicate that they are highly complex, usually having lasted for a long period of time, and normally corresponding to a variety of functions depending on the period of prehistoric activity (something we could refer to as diachronic multifunctionality).

LATER PREHISTORY TO THE BRONZE AGE: 1. THE EMERGENCE OF WARRIOR SOCIETIES

Nº	Place Name	Council	Province	AN	MN	FN	EB	LB	Typology	Dating	Bibliography
1	A Cunchosa	Bueu	Pontevedra	X				X	SH		Suárez 1997
2	A Devesa de Abaixo	Moaña	Pontevedra		X	X	X	X	FC	X	Vázquez and Prieto 2011
3	A Devesa do Rei	Vedra	A Coruña		X		X	X	OAAA-CM	X	Aboal <i>et al.</i> 2005
4	A Gándara	Mos	Pontevedra		X	X			PF (enclosure)	X	Lima 2002
5	A Lagoa	Toques	A Coruña				X	X	H	X	Prieto 2011
6	As Cruces/Reborica	Aranga	A Coruña		X	X			P	X	Bonilla 2011
7	As Mamelas	Sanxenxo	Pontevedra			X	X		P		Cano 2011
8	As Pontes	Abadín	Lugo	X	X				SS	X	López <i>et al.</i> 2003
9	Saídos de As Rozas	Campolameiro	Pontevedra			X	X		OAAA+T+PG	X	Prieto 2001
10	Barxés/Illa de Pazos	Muiños	Ourense	X		X			OAAA		Aira 1989-1990; Eguileta 1999
11	Carballeira do Espírito Santo	Silleda	Pontevedra					X	V	X	Blanco and Prieto 2010
12	Cartas de Vilar 4	Mos	Pontevedra			X			V	X	Lima 2000; Prieto 2001
13	Chan das Pozas	Campolameiro	Pontevedra	X	X	X	X	X	V	X	Bonilla and César 2013; Martín 2013; Méndez and López 2013
14	Dombate-settlement	Cabana de Bergantiños	A Coruña				X	X	OAAA-P		Bello <i>et al.</i> 2011; Cebrián <i>et al.</i> 2011
15	Entrepineiro	Mos	Pontevedra				X		OAAA-T		Vázquez 1993
16	Guidoiro Areoso	Vilanova de Arousa	Pontevedra				X		C	X	Rey 2011; Rey and Vilaseco 2012
17	Lavapés	Cangas	Pontevedra			X	X		P	X	Peña 1981-1982
18	Mesa de Montes	Cangas	Pontevedra			X		X	HP		Fábregas 2011; Gorgoso <i>et al.</i> 2011; Suárez 2002
19	Milladoiro-Lamas de Abade	Ames	A Coruña			X	X	X	P	X	Martin <i>et al.</i> 2011; Parga 2001
20	Monte Buxel	Pazos de Borbén	Pontevedra					X	P	X	Lima & Prieto 2002; Prieto 2001
21	Monte dos Ecurros-settlement	Silleda	Pontevedra			X			OAAA-T		Parga and Prieto 2010
22	Monte dos Remedios	Moaña	Pontevedra	X(EP)	X(PF)	X	X	X(OAAA)	OAAA	X	Bonilla & César 2005; Bonilla <i>et al.</i> 2006; Bonilla <i>et al.</i> 2011; Fábregas <i>et al.</i> 2007
23	Montenegro	Moaña	Pontevedra			X	X	X	P	X	Gianotti <i>et al.</i> 2011
24	O Cepo	Vigo	Pontevedra					X	SH-V		Parga 1996; Prieto 2001
25	O Fixón	Cangas	Pontevedra				X	X	H	X	Eguileta 1999; García-Lastra 1984; Suárez 1995
26	O Folón	Vigo	Pontevedra			X			CV		Alonso <i>et al.</i> 1996; Costas <i>et al.</i> 1998; Hidalgo <i>et al.</i> 1996-97
27	O Fuxiño	Piñor	Ourense				X	X	P	X	Vidal 2011
28	O Regueiriño	Moaña	Pontevedra	X			X		AB		Fábregas & Suárez 1999; Prieto 2010; Suárez 1997
29	Os Pericos	Ribeira	A Coruña				X	X	SH+HP	X	Criado & Vázquez 1982; Vilaseco & Fábregas 2008; Vilaseco 2012
30	Os Torradoiros	Moaña	Pontevedra				X		H		Criado & Cabrejas 2006; Vázquez Liz 2011
31	Pala da Vella	Rubiá	Ourense			X			CV	X	Fernández 2003; Pérez & Fernández 2005
32	Penafita	Lugo	Lugo					X	PG		Ferrer & González 1993
33	Portecelo	O Rosal	Pontevedra					X	P	X	Fábregas & Ruiz 1997; Vázquez & Cano 1988, Cano 1997
34	Porto dos Valos	Mos	Pontevedra		X				SS	X	Lima 2000
35	Punta de Muros	Arteixo	A Coruña					X	FS	X	Cano & Filgueira 2010; Cano 2012
36	Requeán	Moaña	Pontevedra			X			P	X	González 1991; González 2000
37	Setepías	Cambados	Pontevedra			X	X	X	V-P	X	Acuña 2002; Acuña <i>et al.</i> 2011; Barbeito 2004
38	Zarra de Xoacín	Lalín	Pontevedra			X	X		V	X	Aboal <i>et al.</i> 2010

TABLE 1. TABLE WITH INFORMATION ON THE SITES FROM LATE PREHISTORY. KEY INDICATING THE TYPE OF SITE: SH=SHELTER, FC=FUNERARY-CEREMONIAL, C=CEREMONIAL, P=SETTLEMENT NOT FORTIFIED, H=HAMLET, PS= FORTIFIED SETTLEMENT, V=VILLAGE, SS=SPECIFIC STRUCTURE, OAAA=OPEN AIR ACCUMULATION AREA, HP=HEIGHT SETTLEMENT, CV=CAVE, PG=PETROGLYPH, T=FUNERARY MOUND AND CM=CAMP. CHRONOLOGICAL KEY: EN=EARLY NEOLITHIC, MN=MIDDLE NEOLITHIC, FN=LATE NEOLITHIC, EB=EARLY BRONZE AGE AND LB=LATE BRONZE AGE. THE NUMERATION OF THE MAPS COINCIDES WITH THIS TABLE (FIGURES 1 AND 2).

We have based the study of the site on 5 groups of structures, which remain similar over time:

(1) Holes dug into the mineral substrate

- Large pits
- Small pits
- Post holes

(2) Trenches cut into the mineral substrate

- Used to delimit and protect domestic spaces:
 - Pits
 - Pallisade-type trenches
- Used to organise and arrange internal spaces within the habitats:
 - Long lengthways trenches
 - Short lengthways trenches
 - Kidney-shaped trenches
 - Circular trenches
 - Oval trenches (longhouses)

(3) Combustion structures

- Stone hearths
- Hearths without structures
- Grille-type pits

(4) Rock walls

(5) Stone walls

3. Proposals and aims

Despite only having a small amount of data, a study of the domestic spaces can help us to better characterise the societies we are studying and focus our work at chronological level.

We start out from the idea that towards the middle of the second millennium BC, changes can be seen in European communities that are reflected in different aspects of the archaeological record (Fokkens 2003), one of which is the habitational context, by studying the different dimensions of which it is comprised: construction strategies and architecture, the internal organisation of the spaces, the distribution of materials, emplacement, etc.

Due to the limited amount of information we have for our region, by systematising the available data we have the aim of summarising the most significant aspects for this chronological period, in order to offer a preliminary perspective of the characteristics of the sites from the second half of the second millennium BC and the start of the first millennium BC.

To achieve this, we have selected a number of significant sites that can act as a model. We will also focus on the element that can provide us with the most information: the dwelling. Based on this type of construction we can search for possible relationships and connections between the NW Iberian Peninsula and other parts of Europe.

4. The empirical basis

There are at least 18 sites in the region where activity has been documented that can be attributed to the Bronze Age, especially the second half of the second millennium BC and early first millennium BC (Figure 2). In many of these sites, this occupation forms a part of the phases of activity of the site.

Before focusing on the results of the study, we need to generally define the structural features that were documented in the archaeological record, in order to be able to understand the selection of sites

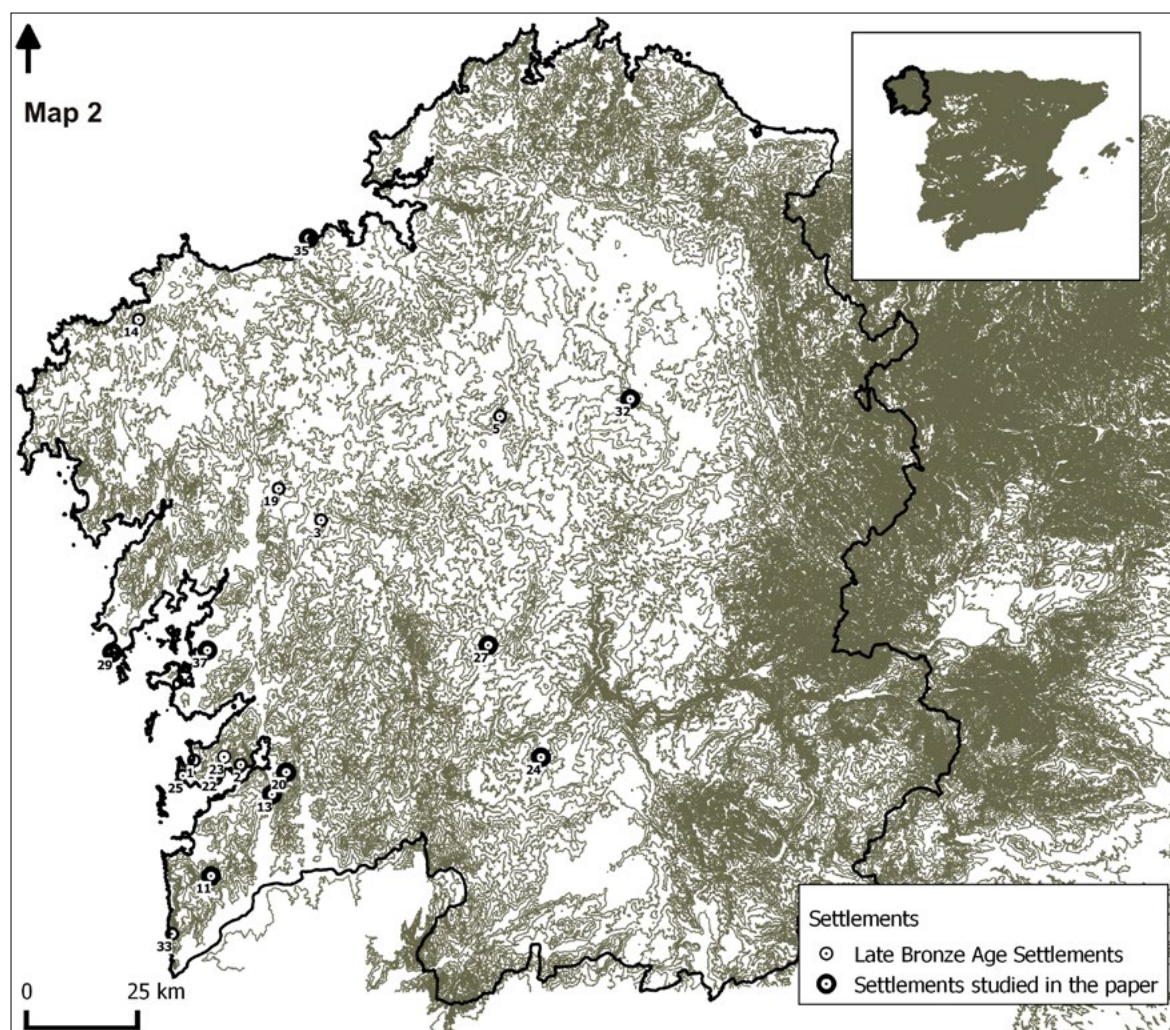


FIGURE 2. MAP SHOWING THE DISTRIBUTION OF SITES FROM THE LATE BRONZE AGE KNOWN IN THE REGION, HIGHLIGHTING THOSE SELECTED FOR A DETAILED EXPLORATION IN THIS STUDY.

included in the following section. These features can be organised in three groups, and most of them can be found at any moment of prehistory.

(1) Natural rock structures. Types:

- Shelter
- Cave
- Petroglyph

(2) Open air areas of activity

These are unexcavated areas which are pending classification in greater detail once more intense activity is carried out in the area, and in many cases are classified as findings. Types:

- Concentrations of isolated materials without any clear associations with previously known sites.
- Concentrations of materials associated with ‘monumental landscapes’, i.e. those where a burial mound or rock art station is located.

- Ritual or ceremonial type: in this case they are sites with excavated areas with plenty of material, but with hardly any structures associated with them.

(3) Settlements

Five types are classified, depending on their size and complexity.

- Camps or transitory structures
- Hamlets
- Villages
- Villages in high locations
- Fortified villages

We will only focus on those that provide information about dwelling-type structures, where possible with datings, highlighting a petroglyph, the hamlets and villages of different kinds.

In particular, we have made a selection of 9 sites that are representative of the Late Bronze Age, 7 of which have radiocarbon datings. This selection has been made taking into account the fact that each of these sites can be representative of the tipological variety of this stage, and will therefore allow us to achieve a wider general perspective of the settlements.

5. Results

In this section we will briefly describe nine sites that are representative of the settlements, with a chronology ranging from 1600/1500 BC through to 900/800 BC. This selection is aimed at offering an initial overview, as based on the data we currently have available, we do not know how frequently these appear or the importance of each of them in the region. We include a table with radiocarbon details for the prehistoric settlements in the region (Table 2), which may be of use to readers, as it helps to explain the chronological complexity of a number of sites, especially those which have been selected for this section.

Chan das Pozas. The continuity of a tradition: hamlet-type settlements

This site is close to a rock art station (Figure 3). An area of 1680 m² has been excavated in two different stages, and now contains the reception space and museum of the Rock Art Archaeological Park of Campolameiro.

This site has been occupied over time, and contains three kidney-shaped and oval cabin bases made of wood, laid out in an NE-SW and E-W direction. Other structures have been documented that were associated with the dwellings: 4 pits and a large number of post holes, (Bonilla & César 2013, Méndez & Alonso 2013, Martín 2013).

A dating for the occupation stage from the Late Bronze Age was obtained of 1460-1200 BC, in the sediment from an oval-shaped cabin and a small kidney-shaped foundation trench (4 m²), a construction known since the Late Neolithic in this region in sites such as Zarra de Xoacín or Montenegro (see Tables 1 and 2), and which was the most frequent construction model used in the third millennium BC. The identification of this type of structure associated with a dating from the end of the second millennium BC allows us to hypothesise a continuity of the construction models for dwellings in some sites.

Carballeira do Espírito Santo. A Late Bronze Age Village and Possible Family Settlement

This site is close to an Iron Age hill fort, with an excavated area of 5300 m², which apparently was only occupied during the Late Bronze Age. We have several datings from between 1319-1005 BC (Figure 3). A round cabin was documented on the site with a diameter of 4 m, built over a trench, and

LATER PREHISTORY TO THE BRONZE AGE: 1. THE EMERGENCE OF WARRIOR SOCIETIES

Site	Lab. Code	BP	Cal ANE (2 σ) BC	Samples and contexts	Bibliography
Porto dos Valos	CSIC-1112	5572 \pm 32	4470-4350	Charcoal. Interior of a structure	Lima 2000
A Gándara	CSIC-1264	5412 \pm 42	4348-4101	MU970812Ñ03	Lima 2000
A Gándara	CSIC-1263	5356 \pm 49	4329-4023	MU970806Ñ01	Lima 2000
A Gándara	CSIC-1265	4095 \pm 42	2868-2944	MU970826Ñ04	Lima 2000
As Pontes	CSIC-1533	4656 \pm 41	3619-3357	Charcoal taken from combustion structure	López-Sáez <i>et al.</i> 2003
As Pontes	Beta-141789	6250 \pm 140	5476-4814	Remnants of a paleosoil	López-Sáez <i>et al.</i> 2003
Cartas de Vilar 4	CSIC-1383	4027 \pm 28	2588-2466	Belongs to a well-preserved hearth located at the base of the structures	Lima 2000
Devesa do Rei	UA-21686	3055 \pm 45	2023-1758	Residue inside a vessel	Aboal <i>et al.</i> 2005
Devesa do Rei	UA-20011	5190 \pm 55	4220-3804	Deposit of carbonised earth	Aboal <i>et al.</i> 2005
Devesa do Rei	UA-20012	2990 \pm 45	1380-1051	Base sediment on which the circular structure is supported	Aboal <i>et al.</i> 2005
Devesa do Rei	UA-21685	5340 \pm 45	757-212	Deposit inside the perimeter structure interior	Aboal <i>et al.</i> 2005
Devesa do Rei	UA-21684	2290 \pm 40	404-207	Sediment from inside a pit	Aboal <i>et al.</i> 2005
As Cruces-Reborica	UtC-4002	4927 \pm 48	3794-3638	Charcoal (As Cruces-17). Well-preserved hearth located at the base of the structures	Bonilla 2011
As Cruces-Reborica	UtC-4004	4835 \pm 45	3701-3520	Charcoal (As Cruces-19). Inside of a post hole	Bonilla 2011
As Cruces-Reborica	UtC-4003	4170 \pm 44	2886-2586	Charcoal (As Cruces-40). Beneath a pile of fallen stones	Bonilla 2011
Monte dos Remedios	UA-32670	5780 \pm 40	4720-4530	Sediment. Silo with grindstones	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-33141	5385 \pm 50	4340-4150 (.80)	Charcoal. Oval combustion structure.	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-33142	5285 \pm 50	4240-3980	Charcoal. Circular combustion structure to the south.	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-32667	5015 \pm 40	3945-3707	Sediment. Filling material on bottom of perimeter trench	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-32666	5000 \pm 40	394-3675	Sediment. Filling material on bottom of perimeter trench	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-32669	4725 \pm 40	3635-3375	Charcoal. Hearth in pit in perimeter zone	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-33144	4420 \pm 45	3125-2915	Sediment. Circular hearth with windshield	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-32668	4315 \pm 25	3025-2880	Sediment. Hearth on paving in central zone	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-33140	4240 \pm 40	2920-2740	Sediment. Perimeter trench of circular hut	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-33143	4150 \pm 40	2880-2620	Sediment + charcoal. Hearth to the east of the circular hut	Bonilla <i>et al.</i> 2011
Monte dos Remedios	UA-32665	2630 \pm 35	845-767	Sediment. Upper filling of the perimeter trench	Bonilla <i>et al.</i> 2011
A Devesa de Abaixo	Beta-278856	4200 \pm 40	2900-2670	DVS-20. Deposit of charcoals and ashes	Vázquez -Liz and Prieto 2011
A Lagoa	Beta-74272	3820 \pm 60	2462-2052	Carbonised remains on bottom of a vessel (PA 44.04)	Prieto 2011
A Lagoa	CSIC-1000	3800 \pm 30	2339-2139	Charcoal PA 45.04	Prieto 2011
A Lagoa	CSIC-899	3900 \pm 70	2571-2150	Charcoal PA 45.04	Prieto 2011
A Lagoa	CSIC-900	3030 \pm 50	1411-1129	Charcoal PA 45.01	Prieto 2011
A Lagoa	CSIC-901	3140 \pm 70	1606-1215	Charcoal PA 45.01	Prieto 2011
Saídos das Rozas	CSIC-1131	4219 \pm 32	2900-2690	Bottom of a pit	Prieto 2000
Carballeira do Espírito Santo	UA-20006	2985 \pm 40	1319-1109	Organic matter. Bottom of foundation trench of the hut d	Blanco and Prieto 2010
Carballeira do Espírito Santo	UA-21689	2845 \pm 45	1130-896	Charcoal. Circular hut	Blanco and Prieto 2010
Carballeira do Espírito Santo	UA-20008	1340 \pm 40	641-732 AD	Organic matter. Pit in eastern side of the site	Blanco and Prieto 2010
Carballeira do Espírito Santo	UA-20007	2935 \pm 40	1261-1005	Organic matter. Interior of oval-shaped pit	Blanco and Prieto 2010
Guidoiro Areoso	GrN-16108	4020 \pm 40	2225-1950	Valve of <i>Ostrea Edulis</i> from a shell dump	Rey and Vilaseco 2011
Lavapés	GAK-11188	3939 \pm 120	2866-2053	Charcoal. Found in a hearth	Peña Santos 1981-2
Lavapés	CSIC-1532	4000 \pm 36	2619-2462	Charcoal. Found in a hearth	Peña Santos 1981-2
Lamas de Abade	Beta-289831	3980 \pm 40	2471-2209	Hut	Martín <i>et al.</i> 2011
Lamas de Abade	Beta-289830	4094 \pm 40	2866-2493	Same hut as previous sample, or possibly nearby hearth	Martín <i>et al.</i> 2011
Lamas de Abade	Beta-289825	3880 \pm 40	2471-2209	Charcoal	Martín <i>et al.</i> 2011
Lamas de Abade	Beta-289832	3530 \pm 40	1963-1745	Charcoal	Martín <i>et al.</i> 2011
Lamas de Abade	Beta-289824	2910 \pm 40	1261-996	Charcoal	Martín <i>et al.</i> 2011
Montenegro	CSIC-1986	3813 \pm 52	2470-2130	Charcoal from the basal deposit (UE 362) covering a rectangular pit (UE 155)	Gianotti <i>et al.</i> 2011
Montenegro	Ua-23589	4120 \pm 40	2872-2577	Charcoal from a similar hut to the one dated with code UA-23591 from the circular enclosure of the settlement	Gianotti <i>et al.</i> 2011
Montenegro	Ua-23591	4125 \pm 40	2872-2579	Charcoal from one of the deposits sealing the foundation trench to the west of an oval hut with a diameter of 3.5 x 1.5 m	Gianotti <i>et al.</i> 2011
O Fixón	GaK-12317	3830 \pm 130	2828-1900	Dispersion 2	Suárez 1995 and 1997
O Fuxiño	CSIC-2087	3370 \pm 25	1530-1440	Charcoal. Circular pit with charcoal	Vidal 2011
O Fuxiño	CSIC-2087	3370 \pm 25	1650-1480	Charcoal. Circular pit with charcoal	Vidal 2011
O Fuxiño	CSIC-2089	3325 \pm 26	1650-1480	Charcoal. Circular pit with charcoal	Vidal 2011
O Fuxiño	CSIC-2090	3292 \pm 27	1660-1490	Charcoal. Circular pit with charcoal	Vidal 2011

Site	Lab. Code	BP	Cal ANE (2 σ) BC	Samples and contexts	Bibliography
Os Pericos	Ua-32504	2895 \pm 45	1260-930	Charcoal. Recovered from a level of earth over the last deposit of pebbles	Vilaseco and Fábregas 2008
Pala da Vella	GrA-1021	4500 \pm 35	3356-239	Human vertebra	Pérez <i>et al.</i> 2005
Pala da Vella	GrN-19395	4790 \pm 120	3892-3139	Charcoal	Pérez <i>et al.</i> 2005
Setepías	Ua-21849	3670 \pm 45	2197-1927	Organic matter. Hut with kidney-shaped trench	Acuña <i>et al.</i> 2011
Setepías	Ua-21850	1383 \pm 50	1383-1054	Organic matter. Longhouse with post holes	Acuña <i>et al.</i> 2011
Zarra de Xoacín	Ua-21692	3925 \pm 45	2568-2286	Charcoal	Aboal <i>et al.</i> 2005
Zarra de Xoacín	CSIC-1857	4232 \pm 33	2911-2697	Charcoal	Aboal <i>et al.</i> 2005
Dombate	CSIC-892	4230 \pm 70	3011-2583	Enclosure of monument with vertical slab at entrance to the corridor and pile of stones behind it, blocking the entrance	Alonso and Bello 1995
Dombate	CSIC-948	4200 \pm 30	2893-2670	Exterior of wall	Alonso and Bello 1995
Dombate	CSIC-1066	4090 \pm 60	2872-2489	Exterior of wall	Alonso and Bello 1995
Dombate	CSIC-962	4020 \pm 30	2619-2471	Exterior of tumulus. Use of monument in Bell Beaker period.	Alonso and Bello 1995
Dombate	UtC-3201	3950 \pm 60	2619-2212	Interior of chamber	Alonso and Bello 1995
Chan das Pozas	Ua-34562	4295 \pm 40	3022-2871	Sediment M-11. Post hole	Bonilla and César 2013
Chan das Pozas	Ua-34564	4270 \pm 40	2942-2859	Sediment M-75. Post hole	Bonilla and César 2013
Chan das Pozas	Ua-34563	4270 \pm 40	4181-3988	Sediment M-34-1. Pit covered by paving	Bonilla and César 2013
Chan das Pozas	MO-003	3870 \pm 40	2470-2200	Charcoal from <i>fabaceae</i> . Interior of kidney-shaped trench of hut GE001	Martín 2013
Chan das Pozas	MO-001	3080 \pm 60	1460-1200	Shrub charcoal. Hut GE005	Martín 2013
Chan das Pozas	MO-002	6640 \pm 60	5650-5480	<i>Quercus</i> sp. Deciduous. Hut GE005	Martín 2013
Monte Buxel	CSIC-1266	3103 \pm 44	1446-1220	One of the excavated structures	Prieto 2001
Portecelo	CSIC-744	3050 \pm 50	1410-1157	No information available	Cano 1997
Punta de Muros	Ua-34772	2480 \pm 35	774-476	PEC 8345 (charcoal). Interior hut IV	Cano 2012
Punta de Muros	Ua-34773	2550 \pm 35	803-734	PEC 8347 (charcoal). Interior hut VI	Cano 2012
Punta de Muros	Ua-34744	2495 \pm 35	789-507	PEC 8353 (charcoal). Interior of settlement	Cano 2012
Punta de Muros	Ua-34775	2485 \pm 35	782-479	PEC 8354 (charcoal). Wall area	Cano 2012
Punta de Muros	Ua-34776	2620 \pm 40	895-759	PEC 8407 (charcoal). Interior hut XI	Cano 2012
Punta de Muros	Ua-34777	2500 \pm 35	790-512	PEC 8425 (charcoal). Interior hut X	Cano 2012
Punta de Muros	Ua-34778	2710 \pm 40	929-802	PEC 8429 (charcoal). Interior hut XIV	Cano 2012
Punta de Muros	Ua-34779	2485 \pm 40	784-476	PEC 8432 (charcoal). Interior hut IX	Cano 2012
Punta de Muros	Ua-34780	2460 \pm 40	543-369	PEC 8433 (charcoal). Interior hut IX	Cano 2012
Punta de Muros	Ua-34781	2010 \pm 40	112-75 AD	PEC 8441 (charcoal). Interior hut VII	Cano 2012
Punta de Muros	Ua-34782	2620 \pm 35	842-766	PEC 8444 (charcoal). Exterior of settlement, wall area	Cano 2012
Punta de Muros	Ua-34783	1035 \pm 30	960-1036	PEC 8446 (charcoal). Filling material inside wall	Cano 2012
Punta de Muros	Ua-34784	2480 \pm 35	774-476	PEC 8447 (charcoal). Interior hut XVI	Cano 2012
Punta de Muros	Ua-34785	2375 \pm 35	542-388	PEC 8451 (charcoal). Sector 2.4 between stones in first row	Cano 2012
Punta de Muros	Ua-34786	2555 \pm 35	804-736	PEC 8455 (charcoal). Exterior of settlement, wall area	Cano 2012
Punta de Muros	Ua-34787	2660 \pm 35	895-795	PEC 8486 (charcoal). Interior hut XIX	Cano 2012
Punta de Muros	Ua-34788	2425 \pm 35	591-403	PEC 8496 (charcoal). Interior hut XXV	Cano 2012
Punta de Muros	Ua-34789	2375 \pm 35	542-388	PEC 8498 (charcoal). Interior hut XXIII	Cano 2012
Punta de Muros	Ua-34790	2480 \pm 35	774-476	PEC 8513 (charcoal). Interior XI	Cano 2012
Punta de Muros	Ua-34791	2510 \pm 35	793-536	PEC 8529 (charcoal). Interior hut XXX	Cano 2012
Punta de Muros	Ua-34792	2385 \pm 35	544-393	PEC 8532 (charcoal). Interior hut XXXII	Cano 2012
Punta de Muros	Ua-34793	2480 \pm 35	774-476	PEC 8536 (charcoal). Interior hut XXXII	Cano 2012
Punta de Muros	Ua-74794	2395 \pm 35	548-395	PEC 9647 (charcoal). Interior hut XXIV	Cano 2012
Requeán	CSIC-909	4180 \pm 110	3023-2471	Charcoal. Hearth built next to hut.	González-Méndez 2000
Requeán	CSIC-898	4200 \pm 50	2903- 2831	Charcoal. Hearth	González-Méndez 2000

TABLE 2. LIST OF DATINGS FOR THE SITES FROM LATE PREHISTORY IN GALICIA THAT HAVE BEEN PUBLISHED TO DATE.

with other associated structures (8 shallow pits in different sizes, some post holes and short straight ditches, and a small hearth associated with the cabin) (Blanco & Prieto 2010).

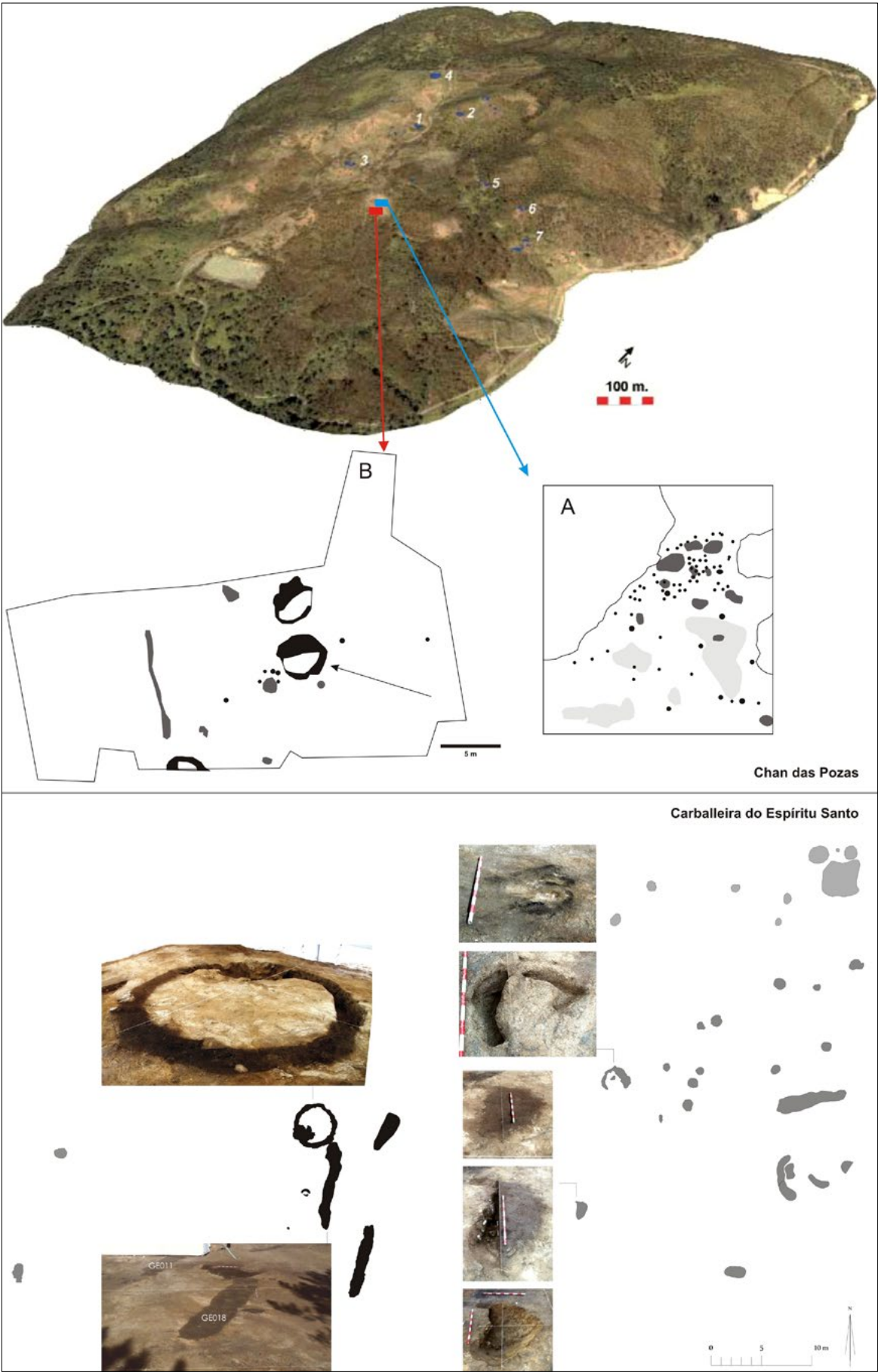


FIGURE 3. SITES OF CHAN DAS POZAS AND CARBALLEIRA DO ESPÍRITU SANTO.

This type of construction has been documented in two locations in Galicia, in the site of Monte de Os Remedios and A Lagoa (Tables 1 and 2), where the datings situate it in the Late Neolithic. Therefore, the model for this type of circular dwelling exists but is not frequent in prehistoric Galician settlements, and instead was the model used in Iron Age hill forts in the region, although in the first millennium BC these dwellings were made of stone instead of wood. The site of Carballeira do Espírito Santo is a typical example of a village-type family settlement consisting of a cabin with a number of associated structures.

Monte Buxel. A new feature: the resurgence of the village. The creation of areas of functional specialisation: storage

As with the previous site, it seems likely that this site was occupied during a single stage dating from 1446-1220 BC. Only the area dedicated to storing foodstuffs has been excavated on this site, containing large pits with narrow circular mouths, around 2 m deep (Lima & Prieto 2002). There are numerous sites from the same period in the north of Portugal and Spain, especially in the Meseta and Ebro (from the so-called Cogotas Culture, where the sites are also known as ‘fields of holes’). These include Bouça do Frade (Jorge 1988) which is the site closest to the study area, as far as La Loma del Lomo (Valiente 1992) in the central Meseta, amongst others.

This settlement is an example of a village with functional areas set apart from each other, typical of large, complex settlements (Figure 4), with a clearly defined storage area containing 9 large globular pits distributed over a large excavated area of 1200 m², although the total area is probably larger. Unfortunately, the area of the dwellings has not been excavated, and instead a number of isolated structures have been uncovered, such as 2 linear structures, 13 post holes, and a pair of trenches that could be signs of poorly conserved habitational structures. The presence of settlements based around a domesticated space of some size has only been found from the Late Neolithic, and this complex organisation seen in sites such as Requeán (Tables 1 and 2) is not documented again until the second half of the second millennium BC in this region.

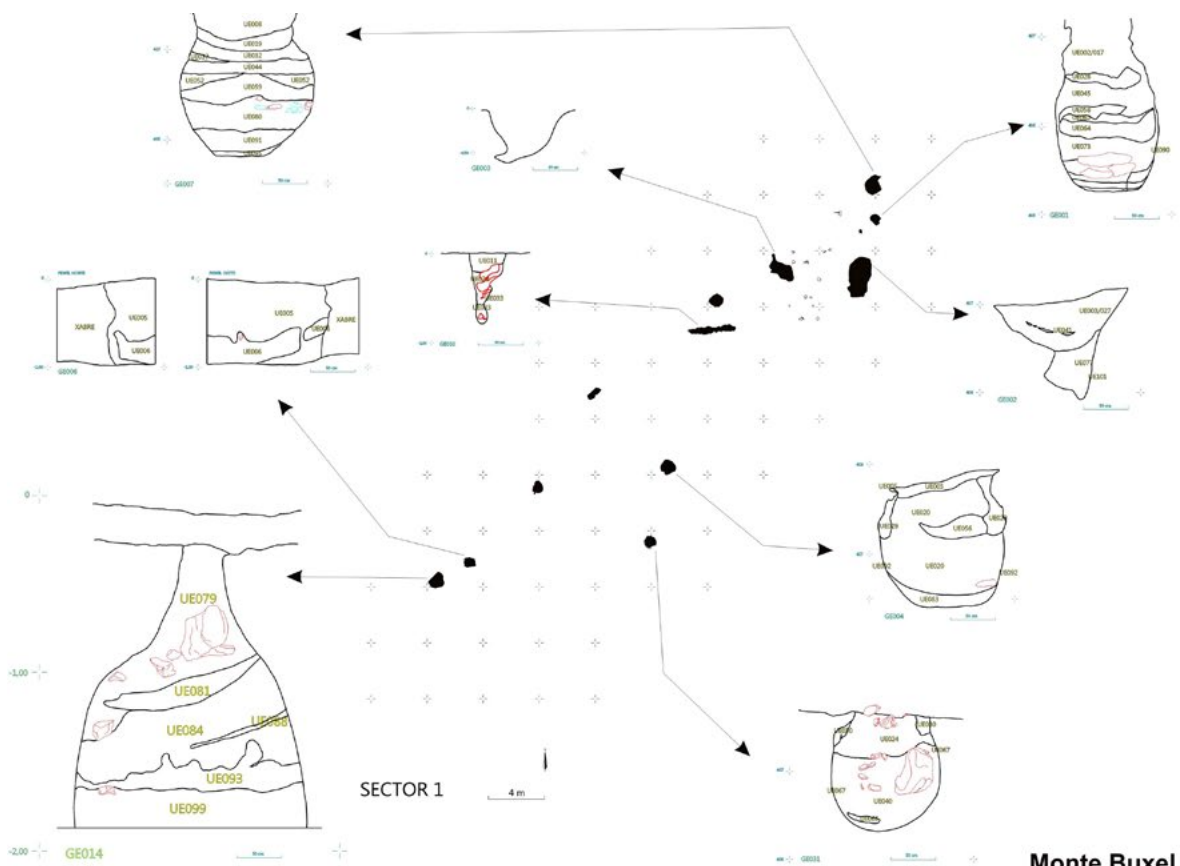
O Fuxiño. A new feature: The rise of ship-houses in the region

This site, with an excavated area of 5000 m² contains two stages of occupation: an initial phase without any associated datings, to which 4 circular cabin bases are attributed together with another oval cabin and a number of short, shallow trenches, and a number of pit silos, and a second stage, associated with a large cabin base (approximately 30 m²) in an oval ‘ship-house’ shape, facing NW-SE, dated from 1650-1480 BC (Vidal 2011) (Figure 4). Based on the data we currently have available for Galicia, we can affirm that this is the oldest ship-house in the region built using a foundation trench, with an opening in its SE part for a doorway.

Setepías...and the rise of the longhouse as the starting point for organising domestic space in a more complex way

This is the largest site that has been documented to date in the region, although only a total of 5250 m² have been excavated out of a total potential area of occupation of 300,000 m² (Figure 5).

There may have been up to 3 different phases of occupation on this site, the oldest of which is associated with Bell Beaker pottery. The final stage, from the Late Bronze Age and with radiocarbon datings placing it at between 1383-1054 BC (Acuña *et al.* 2011), is associated with 3 huts that are similar to long houses, with a predominance of structures made of thick wooden posts or foundation trenches, facing NW-SE. The size of the house made of posts is 34 m². We also find internal divisions within the houses, the only known case in the region so far. This feature is clearly documented in sites from the north of Europe (Boas 1993) as far as the Central Meseta, such as the site of Las Camas in Madrid which was recently published (Agustí *et al.* 2012).



Monte Buxel

O Fuxiño

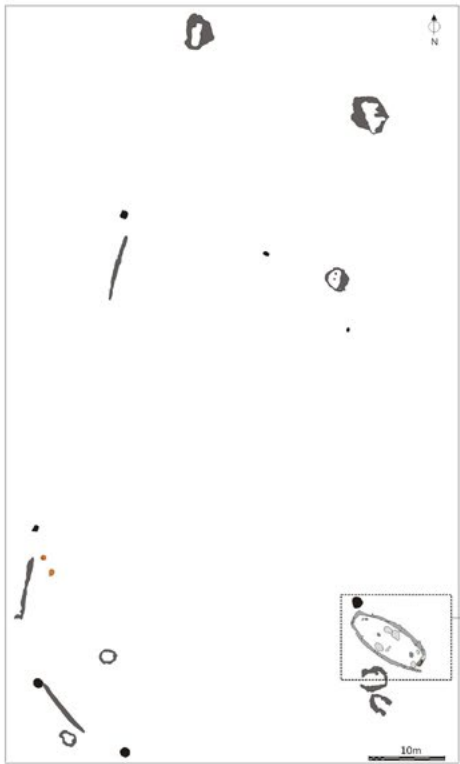


FIGURE 4. SITES OF MONTE BUXEL AND O FUXIÑO.

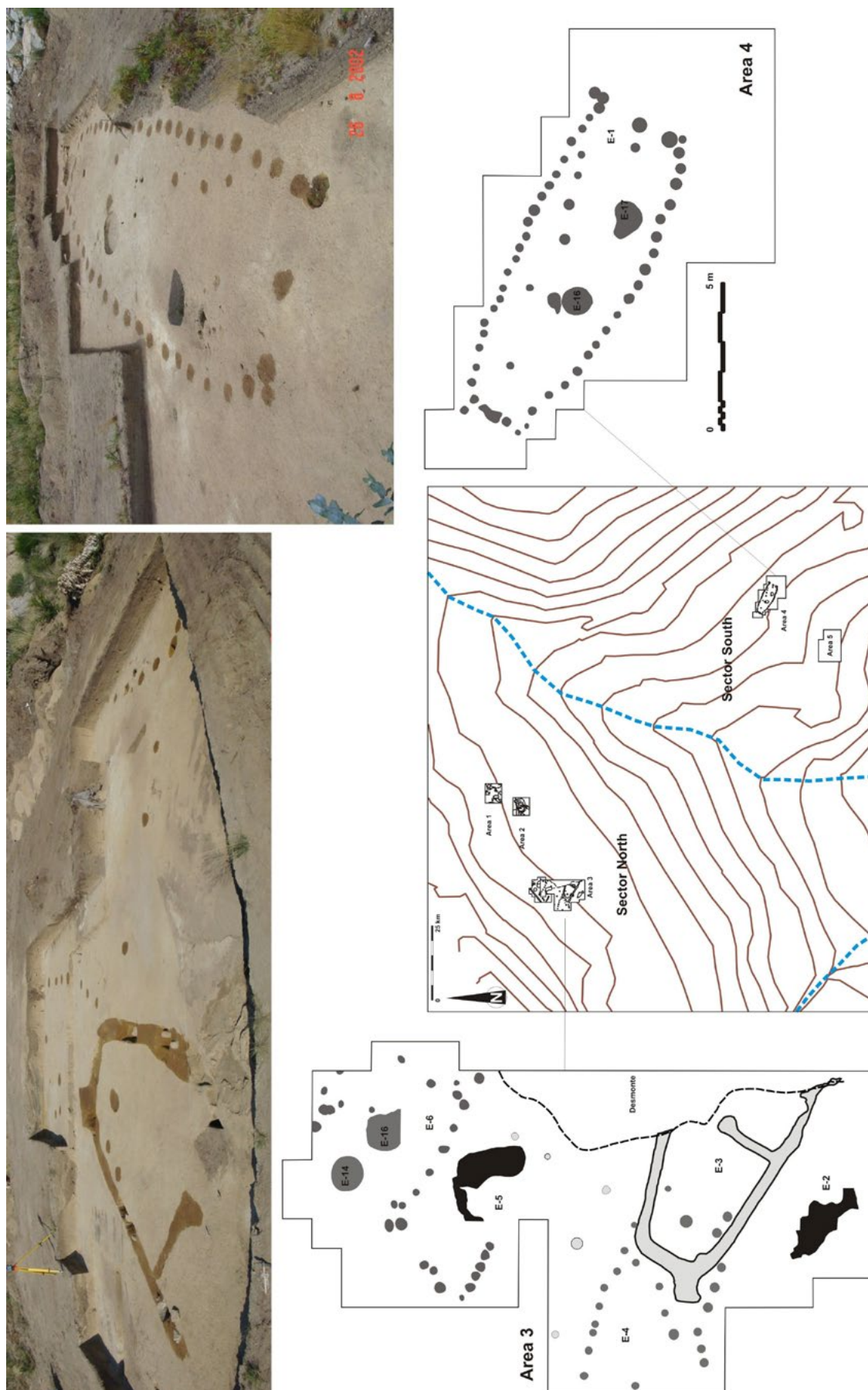


FIGURE 5. SITE OF SETEPIÁS.

We believe that the site of Setepías is the best available example to show that the longhouse may be the key domestic structure for organising domestic space in a more complex way.

Pena Fita. Rock Art: The importance of the longhouse in non-domestic spaces.

This is a cabin-like structure with the shape of a longhouse carved into a rock measuring some 400 m². The area of activity associated with the petroglyph is unknown, although some pottery has been found on the surface, possibly associated with the carving, close to the rock (Ferrer and González 1993). Also, this rock forms a part of a rock art ‘station’ with five rocks carved with cup marks and crosses inside circles, with the rock containing the image of the longhouse positioned in the centre (Santos and García-Quintela 2003). A total of 18 post holes are represented, outlining a cabin base, connected by shallow channels that could represent the foundation trench of the cabin from a domestic settlement (Figure 6). The size of the house covers 44 m², it is a little bigger than the other Galician longhouses (which in turn are a little smaller than those found in the rest of Europe). Therefore, this site is an exceptional case, not only because of the ‘ritual’ size of the house, but also because it is carved into the rock and situated within the rock-art tradition of the region. These aspects support the hypothesis that it did not have a strictly domestic function, even though it imitates the shape of a house. It has been interpreted as having a ritual function, possibly from the First Iron Age (Santos and García-Quintela 2003). No datings are available for this site or the neighbouring areas where material has been documented, and so we can suggest as a working hypothesis that it may date from even slightly before the First Iron Age, if we consider that this carving represents the construction of a type of longhouse from the middle or end of the second millennium BC, based on other houses documented in settlements with datings from this same region, especially Setepías.

O Cepo. A Galician version of the longhouse, or stockades to protect the area?

At least 10 short lengthways foundation trenches have been documented in this site, which seem to form long cabins with one or two sections. One of the sections that is completely preserved measures 1 m wide x 7 m long. The elongated shape of these cabins would suggest that these are an imitation of the longhouse dwelling, and that the site of O Cepo may contain a Galician version of the standard European longhouse. The excavated area of 1130 m² where these structures were found is small and next to a number of rocky outcrops similar to shelters. Their excavator believes that the site dates from the early first millennium BC, based on metallic materials documented in a pit (a bracelet and a thick bronze pendant) (Figure 6)² (Parga 1996).

Os Pericos. The birth of the fortified settlements

Excavation work carried out on this site has revealed the presence of an embankment-like structure made of stone which could have formed a part of a defensive structure dated from 1260-930 BC. This is the only example known in the region so far from this date. No other associated structures were documented, partly because the excavated surface is very small, only 8 m² (Vilaseco 2008) compared to a potential area where the site would have been located of at least 450 m² (Figure 7). It is also interesting to note the position of the site looking out over the estuary, as it is located to the south of a small headland, more sheltered from the wind, where activity has been documented from other periods (Iron Age, third millennium BC-early second millennium BC), with some fragments of Bell Beaker pottery.

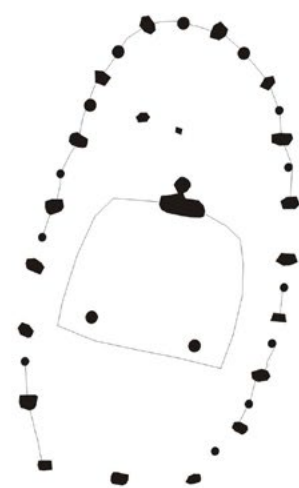
Punta de Muros. The first fortified settlement as a prelude to the hill forts of the Iron Age: Documentation of specific areas with metallurgy in the settlement

This site has a special place amongst the Galician sites known from the Late Bronze Age. Firstly, we see the use of stone to build dwellings, something quite novel, as throughout late prehistory houses

² We are currently waiting to send samples for dating.



Pena Fita



0 5 m

O Cepo

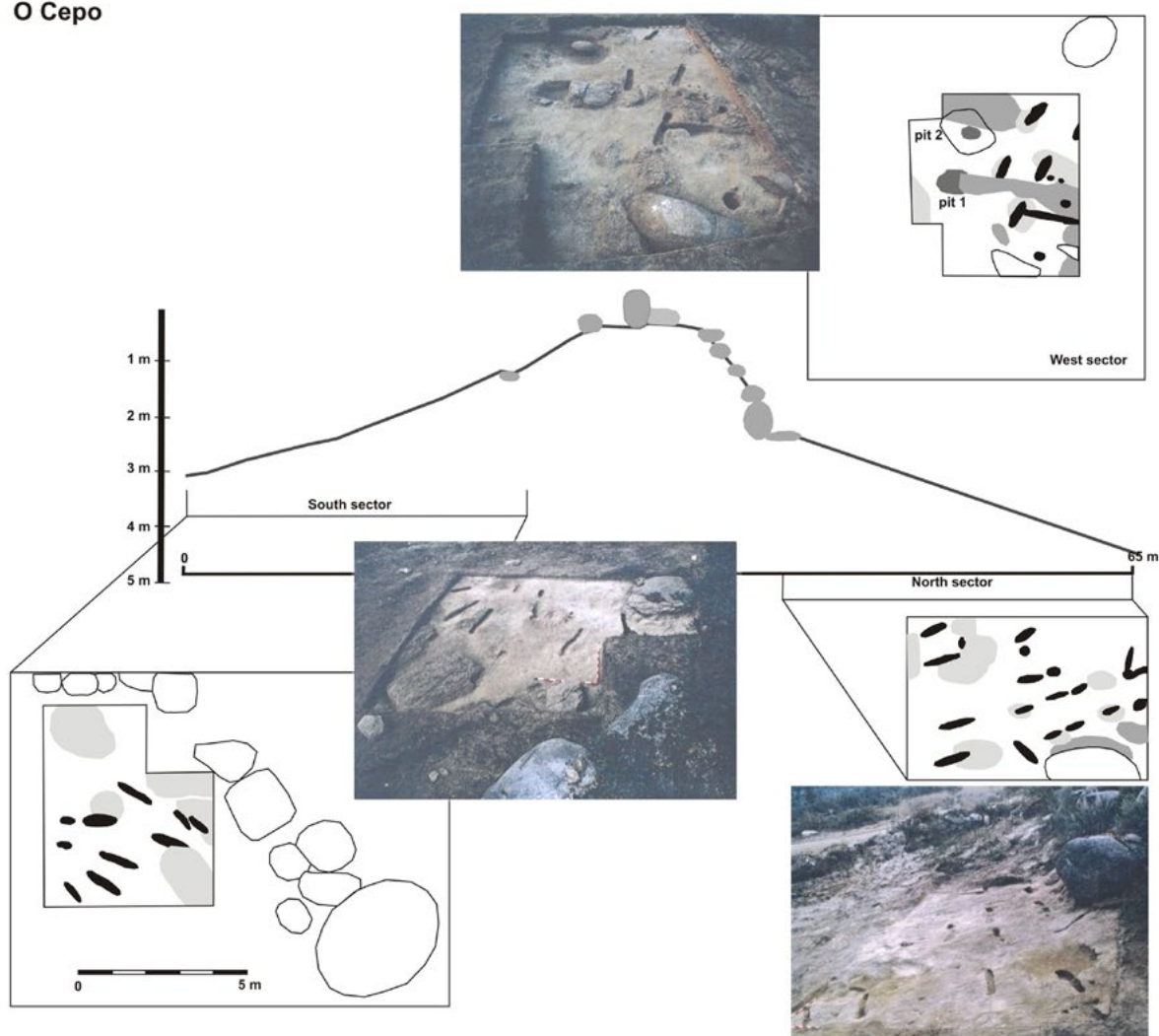


FIGURE 6. SITES OF PENA FITA AND O CEPO.

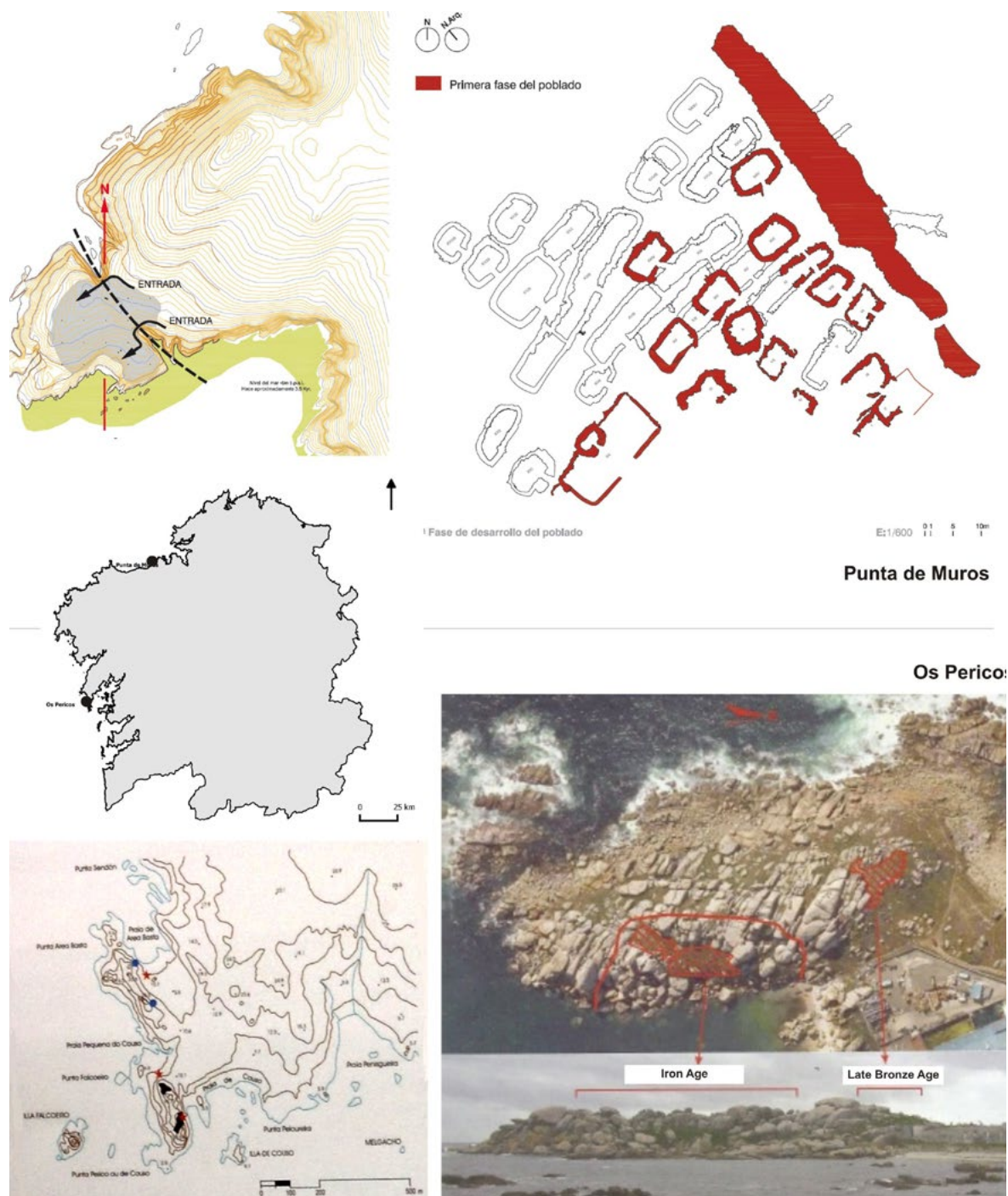


FIGURE 7. SITE OF OS PERICOS AND PUNTA DE MUROS.

were normally made of wood, and stone only appears in the Iron Age. A total of 34 dwellings have been documented, facing NE-SW, of which 14 are from the oldest phase. Other structures have been documented on the site, such as post holes, pits and hearths.

The site also contains a stone wall, the only one of its kind known in Galicia to date, with the possible exception of the previously-mentioned site of Os Pericos.

An area dedicated to metalworking has been uncovered on the site, revealing the presence of spaces set aside for more specialised activities.

It has also been possible to register almost continuous occupation of the site in three stages, with the 23 radiocarbon datings pointing towards a period of activity between 1036 and 734 BC, between the Late Bronze Age and Early Iron Age. Signs of urban development were found, with the organisation of 'neighbourhoods', finding differences in the sizes of the houses (varying between 160 m² which is the largest, and 28 m² which is the predominant size), and in its internal structure, corresponding to differences based on hierarchies and functions (Cano 2012).

The site occupies a strategic location and has a similar pattern to Os Pericos, as it is on a small headland in the north of the region, covering a surface area of 18,625 m² (Figure 7).

6. Final comments

In summary, we can highlight the fact that towards the middle of the second millennium BC a change can be seen in domestic settlements in Galicia. Although the construction tradition is maintained in specific structures, the construction strategy used for dwellings varies in comparison to previous periods, reflecting a change that the society in the region was undergoing. This can be seen in a number of aspects we will now explore in greater detail.

Firstly, village-type settlements continued to exist, with a simple organisation of domestic space that was a legacy of the construction methods dating back to the Late Neolithic at the start of the third millennium BC.

Secondly, we see that new ways of conceiving settlements appeared, with the introduction of new construction models that are concreted in the development of four main strategies:

1. Larger settlements were built, considerably increasing their size.
2. A new type of internal organisation appeared in the settlements, separating functional spaces such as dwellings, artisans' workshops and storage areas. We have still not documented the funerary area that could be associated with these locations, if indeed these exist at all. This is the standard layout of settlements in other parts of the Iberian Peninsula: the closest example found in the north of Portugal is in Bouça do Frade (Jorge 1980).
3. New shapes and sizes appear in the construction of houses (boat shapes, longhouses, short trenches used to build rectangular houses) (Figura 8). The sizes of the houses increased, while the foundations used a wide range of excavation methods, ranging from trenches of different shapes and depths into which wooden posts were inserted, to walls made of clearly individualised posts in different diameters, and the appearance of stone towards the end of the period. This strategy was developed on a large scale throughout the continent, from the Spanish Meseta (Morín and Urbina 2012) to the Scandinavian countries (Artursson 2009).
4. Large defensive structures were introduced, and villages with stone houses. This construction model is faintly reminiscent of some fortified settlements from Catalonia dating from the Late Bronze Age, which also have strategic emplacements. In Catalonia at this stage of prehistory, settlements made of stone and wood existed simultaneously (López-Cachado 2007: 101), a situation which that could also have occurred in Galicia.

These data provide clearer indications than in previous stages to affirm that the settlements were stable, and perhaps organised hierarchically, as they have different sizes and complexities, and we even find that different emplacements have been selected based on their individual characteristics. For example, the areas located in shelters are strategically positioned in headlands (Punta de Muros and Os Pericos) controlling long-distance contacts by sea, or in high rocky emplacements that control extensive swathes of the interior (O Cepo). Also, at this moment of the Bronze Age emplacements

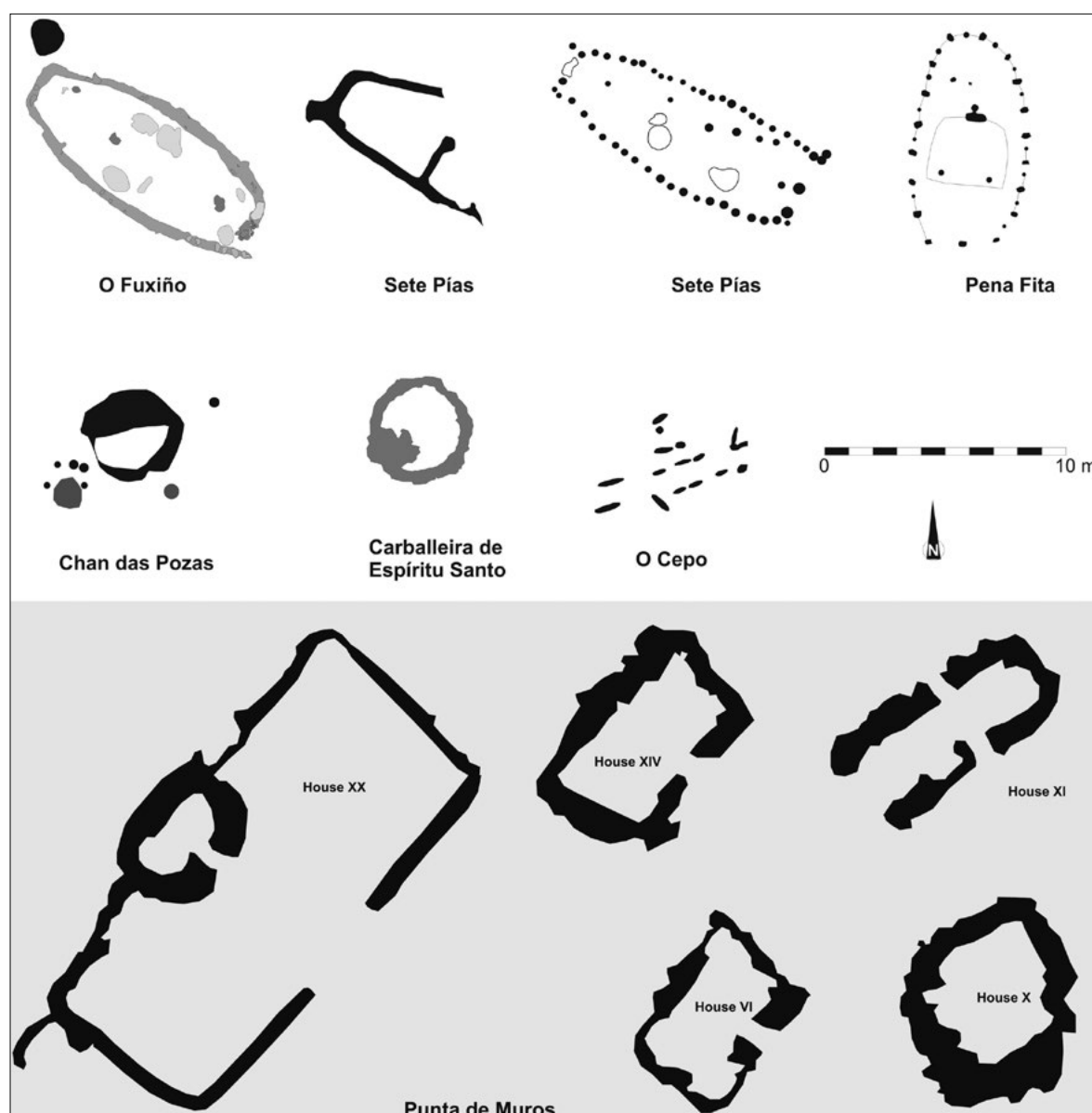


FIGURE 8. SUMMARY OF THE MOST IMPORTANT DWELLINGS FROM THE SITES SELECTED IN THIS STUDY.

were selected that were connected with successful agriculture or livestock farming (Setepías, O Fuxiño).

Despite the fact that at this current stage of research it is too soon to refer to direct contacts between Galicia and far-distant areas, it does seem to be clear that the type of record documented in the NW Iberian Peninsula is similar to the situation found in the rest of Atlantic Europe and the Iberian Peninsula. We can therefore affirm that Galicia is not a region that is lacking in sites or culturally ‘endogamous’, but that on the contrary it would seem that it was perfectly integrated in the socio-economic networks that were established on a large scale at this moment in our prehistory, associated with a new type of family organisation, hierarchisation within the village, and the introduction and consolidation of the aristocracy, a phenomena which has been interpreted in this way for the north of Europe (Artursson 2009).

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From the regional to the extra-regional: Wide Horizontal Rim vessels and stamping in the second half of the second millennium BC in the NW Iberian Peninsula

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Abstract

In Galicia (NW Spain) there are few sites dating from the second half of the second millennium BC, and these have not been investigated in any detail, with attention mainly focused on metallic material culture. The pottery is usually considered as being very uniform in nature and lacking decoration. However, recent studies have shown that this idea of homogeneity and a lack of decoration for pottery from this stage of the Bronze Age is untrue. This said, it is possible to identify an important legacy from the undecorated pottery that accompanied Bell Beaker pottery, as well as some new shapes indicating important new developments in prehistoric pottery know-how, not only in Galicia but also in the north of Portugal. In this paper we will focus on a specific type of pottery, known as Wide Horizontal Rim (WHRv) pottery, which is mainly decorated and exclusively found in the NW Iberian Peninsula, as it makes it possible to support and even update a theme that has been firmly rooted in the specialised literature for many years, based on the type of relationships that unite, or otherwise disunite, the east and west of Western Europe.

Effectively, some of the vessels belonging to this type of pottery contain a type of decoration that is unique in the NW Iberian Peninsula for two main reasons: (1) the use of a new technique, stamping, which appears for the first time in this region. Until recently, in Galicia stamping was presumed to be a technique that belonged to the Second Iron Age; and (2) in the use of new motifs, which recur in Late Prehistory: concentric circles, in clearly defined patterns. The combination of these new developments is especially noteworthy because, on the one hand, these developments seem to coincide at the same time in cultures in France and Eastern Europe, and on the other hand, because they clearly reveal the active involvement of Galicia within the mesh of networks of circulation in Europe, which can clearly be seen from the Neolithic onwards.

In summary, in our paper, by exploring pottery studies in general and WHR pottery in particular, we aim to show the possible relationships Galicia had as a key territory with the European continent and its Atlantic areas.

Keywords: Galicia and North of Portugal, Largo Bordo Horizontal, pottery, Late Bronze Age

Résumé

En Galice (NW Espagne) il y a peu de sites datant de la seconde moitié du deuxième millénaire avant JC, et ceux-ci n'ont pas été étudiés en détail, avec une attention principalement axée sur les matériaux métalliques. La poterie est généralement considérée comme étant très uniforme dans sa nature et sans décoration. Cependant, des études récentes ont montré que cette idée d'homogénéité et un manque de décoration pour la poterie de cette étape de l'Âge du Bronze est fautive. Cela dit, il est possible d'identifier un legs important de la poterie non décorée qui a accompagné le campaniforme, ainsi que quelques nouvelles formes indiquant des nouveaux développements importants dans le savoir-faire de la poterie préhistorique, non seulement en Galice, mais aussi dans le nord du Portugal. Dans cet article nous allons nous concentrer sur un type spécifique de poterie, connu comme le vase de Large Bord Horizontal (WHRv), qui est principalement décoré et exclusivement dans le nord ouest de la péninsule ibérique, car il permet de soutenir et même mettre à jour un thème qui a été fermement enraciné dans la littérature spécialisée depuis de nombreuses années, basé sur le type de relations qui unissent, ou autrement désunir, l'est et l'ouest de l'Europe occidentale. En effet, certains des formes appartenant à ce type de poterie contiennent un type de décoration qui est unique dans la péninsule ibérique

du nord ouest pour deux raisons principales: (1) l'utilisation d'une nouvelle technique, l'estampillage, qui apparaît pour la première fois dans cette région. Jusqu'à récemment, en Galice l'estampillage était présumé être une technique qui appartenait au second Age du Fer; et (2) dans l'utilisation des nouveaux motifs, qui reviennent à la Préhistoire Recent: des cercles concentriques, dans des modèles clairement définis. La combinaison de ces nouveaux développements est particulièrement remarquable parce que, d'une part, ils semblent coïncider à la fois dans les cultures de la France et de l'Europe de l'Est, et d'autre part, parce qu'ils révèlent clairement la participation active de la Galice dans le maillage des réseaux de circulation en Europe, qui peuvent être clairement visibles de le néolithique. En résumé, dans notre article, en explorant les études de poterie dans la poterie général et WHR en particulier, nous cherchons de montrer les relations possibles que la Galice avait comme un territoire clé avec le continent européen et ses zones Atlantiques.

Mots-clé: *Galice et Portugal du nord, Large Bord Horizontal, potterie, Bronze Final*

Introduction

Wide horizontal rim vessels are a type of pottery which was recognised at an early date, as the first reference to it was made by F. Pereira (1904: 37), who used the term to describe a vessel from Arcos de Valdevez (Viana do Castelo), although it has not been subject to a systematic study.

Discoveries in different locations led to the realisation at an early stage that this was not a unique vessel or an isolated case, but that instead its appearance between the north of Portugal as far as the north of Galicia in NW Spain revealed the existence of a new type of pottery of great significance in the Late Prehistory of the region. Since then it has received many different names in Portuguese, Galician and Castilian Spanish. We go to use in this paper WHRv or Wide Horizontal Rim vessels (Nonat *et al.* 2015).

Initially it was attributed to a wide variety of dates, frequently associating it with the bell beaker phenomenon of the third millennium BC or the Chalcolithic, with Penha-type pottery. Later on, the discovery of stamped decoration on a number of decorated vessels and the general acceptance of the idea that this technique was an innovation from the Second Iron Age led researchers to date it to the first millennium BC, although consideration was also given to the hypothesis that this type of pottery could be attributed to the Bronze Age (Suárez 1998 and 2002). Its chronology has only recently been reconsidered following the publication in 2000 of the first radiocarbon dating for a stamped WHRv vessel (Chao and Álvarez 2000), situating this type in the middle of the second millennium BC.

Even so, despite the importance and impact of such an 'ancient' dating for this stamped type, WHR vessels were not fully reviewed until an extensive study carried out by us on some eighty vessels (Nonat *et al.* 2015).

Proposals and aims

Normally, pottery has not received the attention it deserves as an element of material culture in studies of the second millennium BC in Galicia, as the features of the pottery characterise it as having inherited the tradition of the undecorated pottery that accompanied bell beakers, which was quite plain and virtually lacking decoration (Prieto 2005). Following our study of WHR pottery, we verified that this was not in fact the case, as it was a type of vessel that was mainly decorated. Its abundance makes it a good representative of ceramic material culture from the second millennium BC.

This type of vessel is unique to the northwest Iberian Peninsula, and therefore it is also a good representative of a regional identity. However, differences have been identified within the region at morpho-technical and contextual level, to the point where it is possible to consider the existence of local identities: one from the north and another from the south, with interconnections between them.

But despite being specific to this region, it also shows signs of ‘messages’ associated with long-distance connections. These ‘messages’ can be seen through the presence of decorations made using the stamping technique. This is important, because the stamping technique seems to have appeared in different parts of Europe at the same time, which means that we should at least consider the idea of possible relationships or connections with foreign cultures.

And so our aim is to at least offer a preliminary explanation of the possible mechanisms of circulation that were involved in these connections with cultures from outside of the region, based on a study of its pottery, first by examining the WHR pottery in general, and then focusing on a particular aspect found on some of its vessels: stamped decoration. Finally, we will attempt to explain the relationship between this stamped decoration with possible external influences or connections.

The name: Wide Horizontal Rim pottery

Since the early 20th century until today, Portuguese and Galician researchers have used different names to describe this type of pottery. These variations have referred to the shape of the rim, and to a lesser extent the profile of the ‘belly’ of the vessel or a combination of both.

The first reference to a wide horizontal rim vessel was made by F. Pereira (1904: 37) who described a piece of pottery from Arcos de Valdevez (Viana do Castelo) as having a ‘wide, ornamental rim with a semi-spherical shape’ (*‘bordo largo ornamentado e de forma semiesférica’*). Subsequent discoveries made it possible to determine at a very early stage that this was not a one-off or an isolated case, but that instead their appearance in sites ranging from the north of Portugal to the north of Galicia revealed the presence of new type of pottery of significant importance for Late Prehistory in the NW Iberian Peninsula.

Shortly afterwards, and based on the appearance and characteristics of the vessels, J. Fortes described them as an ‘upside down hat’ (*‘chapéu invertido’*) (Fortes, 1905/1908: 664), a term that had already been used by J. Vasconcellos (1905: 66),¹ and which was the most common description used during the first quarter of the 20th century (Cf. Vasconcellos, 1915: 176).

From the 1930s up until the present day, the term ‘wide horizontal rim’ (*‘largo bordo horizontal’*) has become the expression most commonly or most widely used by all of the Portuguese researchers, as well as by a large number of Galician researchers.²

Apart from these descriptions, we can also find the terms ‘twisted rim’ (*‘borde revirado’*), used exclusively by J. Suárez Otero (1986: 135; 1998: 83), but which was first mentioned by F. López Cuevillas and X. Lourenzo Fernández (1930: 27), and ‘flat rim’ (*‘borde plano’*), used exclusively by the first of these two authors (López Cuevillas, 1947: 7-10; 1959: 53).

As regards the shapes of the profiles, we find the terms ‘oval or semi-oval’ (López Cuevillas and Lourenzo Fernández, 1930: 7-8; López Cuevillas, 1947: 6-9, 10 and 1959: 53), and ‘semi-spherical or hemispherical’ as the most widely used in the literature.

Without going into further detail on the distinctive characteristics of this pottery, the different terms used to describe it share in an attempt to distinguish the most expressive feature of these vessels, which the authors have described as a wide, sometimes significant rim, which marks a break with the rest of the body, flaring outwards horizontally. Obviously, as more and more pieces have been found

¹ ‘La province d’Entre-Douro-e-Minho a donné des vases d’une forme spéciale (semblables à des chapeaux) avec des dessins sur les bords’.

² In Galician: ‘ancho borde horizontal’ o ‘longo borde’/‘longobordo’, on the first shape see Suárez Otero (1986: 135; 1998: 83) or Rey García (2011: 208); for the second, see Penedo Romero (1995: 182), Cabrejas Domínguez (2003: 12) or Prieto Martínez (2007: 113).



FIGURE 1. VESSEL 77, FROM THE SITE OF MARCO DE CAMBALLÓN (NONAT *ET AL.* IN PRESS)
CHOSEN AS A REPRESENTATIVE EXAMPLE OF WHR-TYPE POTTERY.

in the archaeological record, the definition of this type of pottery now warrants special attention, as the term ‘wide horizontal rim pottery’ only serves to conceal a much more complex reality in terms of its morphological features, as only referring to the width of the rim to define it can be considered as a rather arbitrary criterion.

The origin of its name comes from its most relevant feature: an irregular rim that is clearly separate from the rest of the vessel. The rim varies in width, although in reality it is not strictly horizontal. Its name is a generic term used for the varieties and variations we will now examine in greater detail.

Characterisation of the WHRv

Our review of eighty WHR vessels made it possible to highlight the general features that allow us to refer to a specific type of pottery (Figure 2):

1. WHR vessels have a ‘twisted’ rim that breaks with the design of the rest of the body. This rim can be oriented in three different ways: obliquely, sub-horizontally or horizontally.
2. The body of the vessel can be simple or compound (with or without a handle).
3. The vessels have precise sizes, measurements and proportions:
 - The rim widths are between 27 mm and 32 mm.
 - The vessels are between 65 mm and 178 mm high.
 - Their neck diameter is between 75 mm and 138 mm.

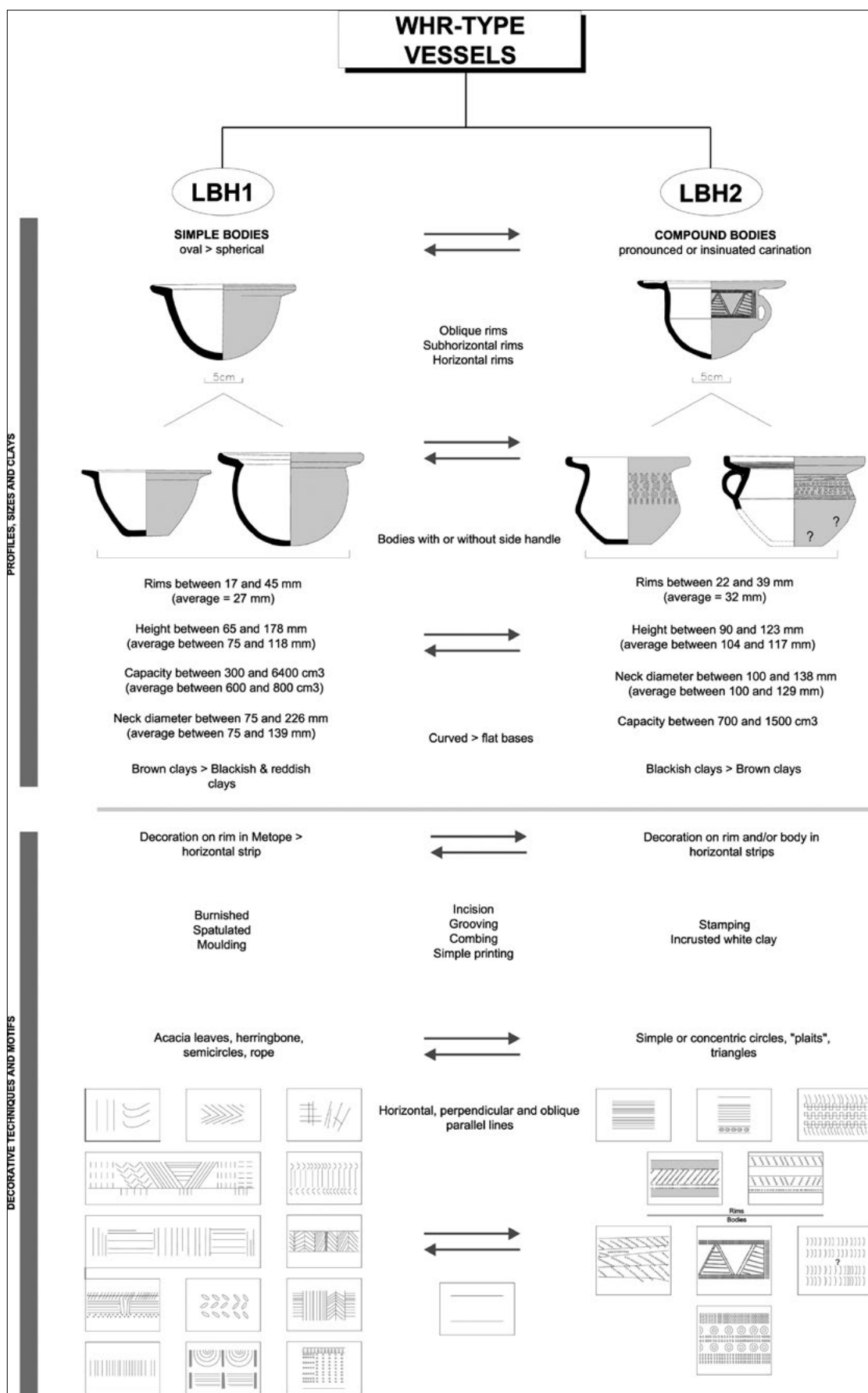


FIGURE 2. DIAGRAM DEFINING THE TWO MAIN GROUPS OF WHR VESSELS THAT HAVE RECENTLY BEEN CLASSIFIED (BASED ON FIGURE 7 FROM NONAT *ET AL.* 2015), LBH: WHRV.

- They have a capacity of between 300 and 6400 cm³, although they mainly range between 600 and 1500 cm³.
- 4. Seventy percent of the WHR vessels are decorated: this is a very high percentage in comparison to any of the known prehistoric pottery styles from the NW Iberian Peninsula.
 - Different techniques are used: incision, grooving, combing, simple printing, burnishing, spatulas, ‘artistic’ designs (cordons), incrustations of white clay and stamping. Multiple combinations of these techniques are used.
 - The decorative elements are geometric, mainly using straight lines but also with some curved lines.
- 5. Characteristic presence of carbonised organic remains (*fuligem*) on the walls of the vessel.

Based on the different combinations of profiles and their recurrence, it is possible to define the most outstanding features of the vessels included in the study by using different illustrations. The result is two groups of vessels, configured according to their formal characteristics, and based on the vessels with a profile that could be reconstructed: WHRv-I and WHRv-II (Figure 2).

WHRv-I, which contains the largest number of vessels, consists of those with a simple shape, oval (with or without shoulders) and a lesser number with a spherical shape. The rims are horizontal, sub-horizontal or oblique. Their bases, the part that is found the least due to the fragmentation of numerous vessels, may be gently curved or flat. This group is found in all of the contexts.

WHRv-II, consists of compound profiles that are slightly carinated in the middle or upper part of the body. Based on the data we currently have available, they have only been found in funerary contexts in tumuli.

Contexts, chronology and the distribution of WHR pottery

WHR pottery is found in domestic and funerary contexts (re-used tumuli, cists and pits), although chance findings have been made in unidentified contexts. The best-preserved vessels come from graves and chance findings.

As previously mentioned, the question of its chronology is a problem that has been associated with WHR pottery from the outset. Things have changed over the last 15 years, although we still only have a small number of radiocarbon datings. There are eight sites with dated WHRv pottery, which situate it between the eighteenth and eighth centuries cal BC, although it is more likely that its main period was between the eighteenth and eleventh centuries cal BC (Figure 3). However, it is advisable to select the most reliable datings, namely those from sealed archaeological deposits (Agra das Antas and O Pego – Tomb 9) and those from open contexts, but for which there is a satisfactory sample-vessel ratio (A Sola IIB, Madorra da Granxa, Monte Buxel, Portecelo sites).

The fifty catalogued sites are found in areas with land suitable for agricultural purposes, avoiding mountainous regions. In Galicia the sites are in low-lying parts of the southern mountain range, and in Portugal close to large river basins, especially the River Ave basin (Figure 4).

The decoration of WHR vessel: the individuality of stamping in the NW Iberian Peninsula

We define ‘stamping’ in relation to WHR pottery as the technique whereby a tool is used to produce a uniform, regular pattern of curved decorative elements on the clay. In this case the decorative elements are single circles or double concentric circles in different sizes, and semicircles. It is only possible to achieve a clearly defined design by printing it onto the clay with a tool with the required shape. In fact, the vessels with stamped decoration include other decorative techniques used to obtain linear designs, such as incision, combing and printing using a toothed instrument, according to an established pattern.

Sites	Type of site	Lab code	Dat BP	Dating - cal BC (2 σ)	Context	Literature
Agra das Antas	Cist necropolis	GrA-9653:	2980±50	1383-1051	Dating of bone remnants from burial studied by Ataíde et Texeira (1940), deposited in the Museum of Natural History of the Faculty of Sciences of Porto	Cruz <i>et al.</i> 1998-1999
A Sola IIb	Settlement	CSIC-1186	3338±33	1731-1526	Concentration of charcoal from pit 7, cut 1, level 3	Bettencourt 2000
A Sola IIb	Settlement	Utc-5657	3343±30	1730-1530	Organic matter found in a number of pottery fragments, cut 1, level 3.	Bettencourt 2000
A Sola IIb	Settlement	ICEN-1274	3310±110	1890-1387	Charcoal from cist-like structure, cut 2, level 2	Bettencourt 2000
A Sola IIb	Settlement	Utc-4785	3315±40	1690-1500	Charcoal from cist-like structure, cut 2, level 2	Bettencourt 2000
Bouça do Frade	Settlement	CSIC-630	2720±50	976-800 M2	M1: sector IIA, Area K, level 3a, in a layer of black earth containing abundant charcoal, sealing a sterile base stratigraphic unit (c.4.). This final stratigraphic unit corresponds to the base of the inhabited SUs on the site, as a result of which it is considered as the <i>terminus post quem</i>	Jorge 1988
Bouça do Frade	Settlement	CSIC-631	2720±50	976-800 cal BC	M2: same context as M1	Jorge 1988
Bouça do Frade	Settlement	CSIC-632	2710±50	976-797 cal	M3. From sector IIA, Area K, level 3a. Considered as the <i>terminus ante quem</i>	Jorge 1988
Madorra da Granxa	Re-used tumulus	CSIC-1375	3329±27	1685-1529	MG'96-M3. Charcoals removed from between the stones in the layer inside the tumulus	Chao Álvarez F. J. & Álvarez Merayo I. A. 2000
Madorra da Granxa		CSIC-1377	3246±28	1608-1448 cal	MG'97-M1. Same context as previous sample	
Monte Buxel	Settlement	CSIC-1266	3103±44	1491-1263	Sample of charcoal removed from a structure located in a trench cut while laying the gas pipeline	Prieto 2001
Monte da Ola	Cist?	Beta-188258	2890±40	1251-938	Test pits dug in Monte da Ola, where no burials were found, but instead an archaeological level from where it was possible to remove this sample for C14 dating, which may correspond to a period when the necropolis was in use (level 1, square C9, sector 1).	Dinis & Bettencourt 2004
O Pego	Settlement and pit necropolis	AA89667	2859±48	1207-906	Corresponding to the oldest stage of the site, taken from ashes from the walls of a vessel located inside the pit. (By AMS).	Sampaio & Bettencourt 2011
O Pego	Settlement and pit necropolis	Beta-230329	2530±50	804-419	Corresponding to the stage when the site was abandoned, taken from charcoal from a burnt tree trunk found in the foundation trench from the palisade	Sampaio & Bettencourt 2008
O Pego	Settlement and pit necropolis	AA89666	3328±51	1740-1499	Tomb 9	Sampaio & Bettencourt 2014
Quinta do Amorin 2 (Braga)	Pit	AA89661	3345±42	1739-1524	Sample from a WHR vessel	Sampaio <i>et al.</i> 2014
Portecelo	Settlement	CSIC-744	3050±50	1428-1132	There is no precise information on where the sample was found. However, according to the author, the dating seems to be coherent with the archaeological record of the site. One single archaeological level	Cano 1997

FIGURE 3. TABLE OF CURRENTLY AVAILABLE DATINGS FOR WHR POTTERY.

The visible parts of the rims and upper part of the ‘belly’ of the vessels are decorated. Stamping is preferably used on the WHR 2 vessels (except in the case of Guidoiro site), only representing 15% of the WHR vessels as a whole (12 vessels from 7 sites) (Figure 5).

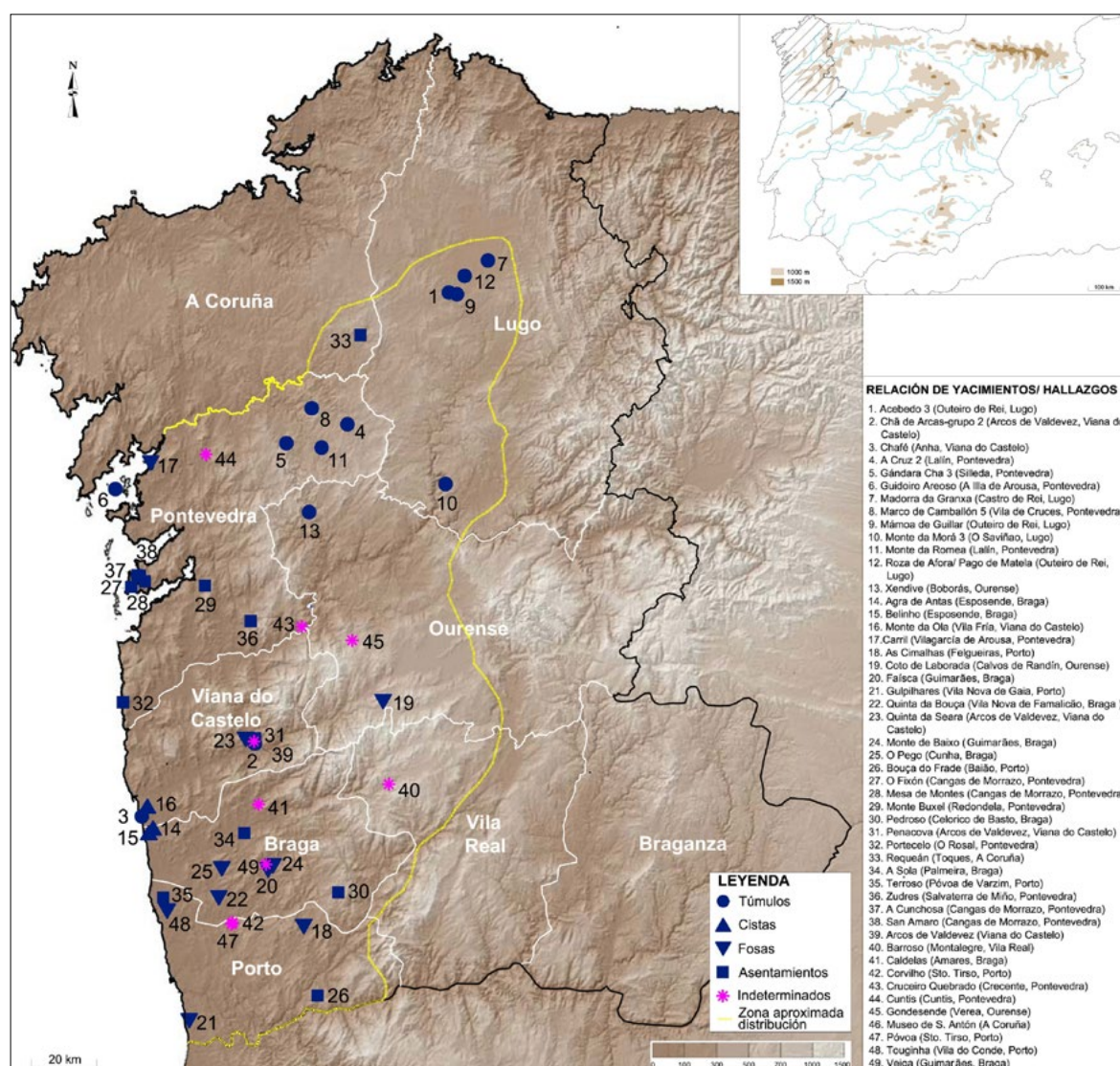


FIGURE 4. DISTRIBUTION OF SITES WITH WHR POTTERY CATALOGUED IN THE NW IBERIAN PENINSULA (BASED ON FIGURE 18 FROM NONAT *ET AL.*, 2015).

WHRv with printed decoration

We know of 3 printed WHR vessels with similar designs to those created using the stamping technique in terms of the size of the decorative elements, and the organisation and complexity of the decoration (Figure 6). These vessels belong to the WHRv-II group, in the same way as the vessels decorated using stamping. They are decorated using toothed instruments that leave square imprints.

At this point it is necessary to focus on the concept of stamping, as this technique has different connotations depending on whether it is used in one archaeological culture or another.

The comb printing technique (or using some kind of toothed instrument) is usually defined as the printing method used for prehistoric vessels. However, if this same technique were to be documented on a vessel from the Second Iron Age or on a vessel made of terra sigillata, then it would be described

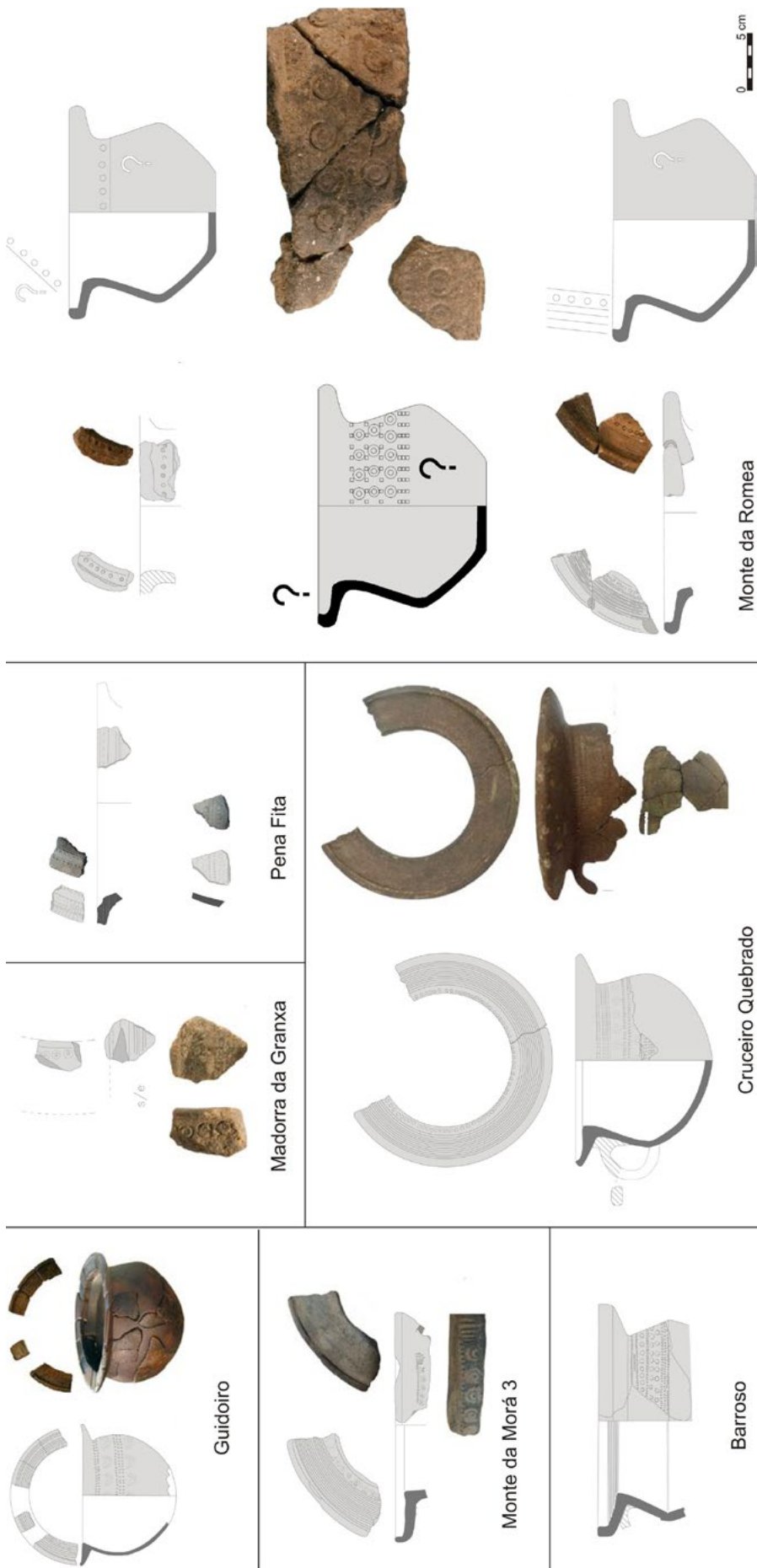


FIGURE 5. DRAWINGS AND PHOTOS OF WHR POTTERY WITH STAMPED DECORATION, CATALOGUED IN THE NW IBERIAN PENINSULA (BASED ON NONAT ET AL. 2015).

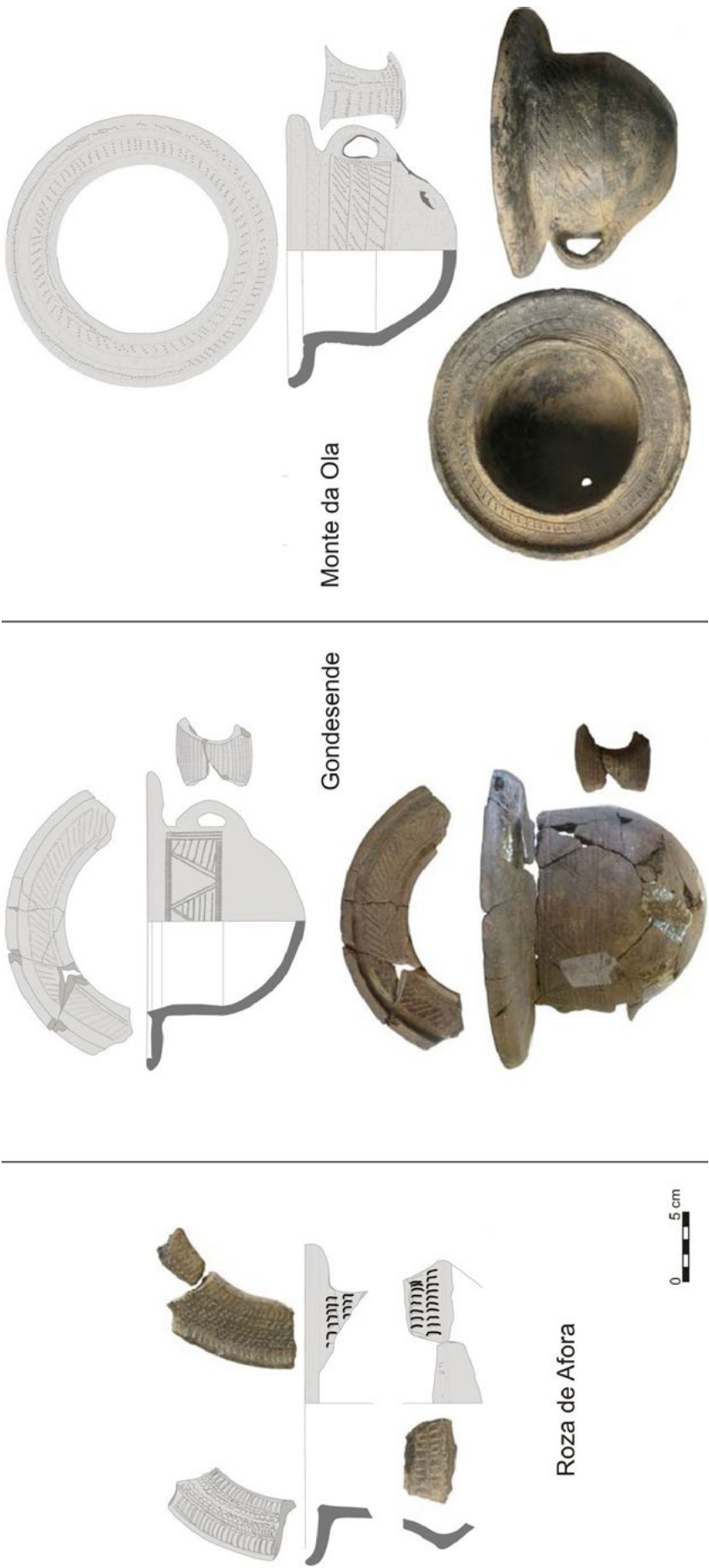


FIGURE 6. DRAWINGS AND PHOTOS OF WHR VESSELS WITH PRINTED DECORATION THAT COULD IMITATE THE DECORATIVE STRUCTURE OF STAMPED DECORATION.

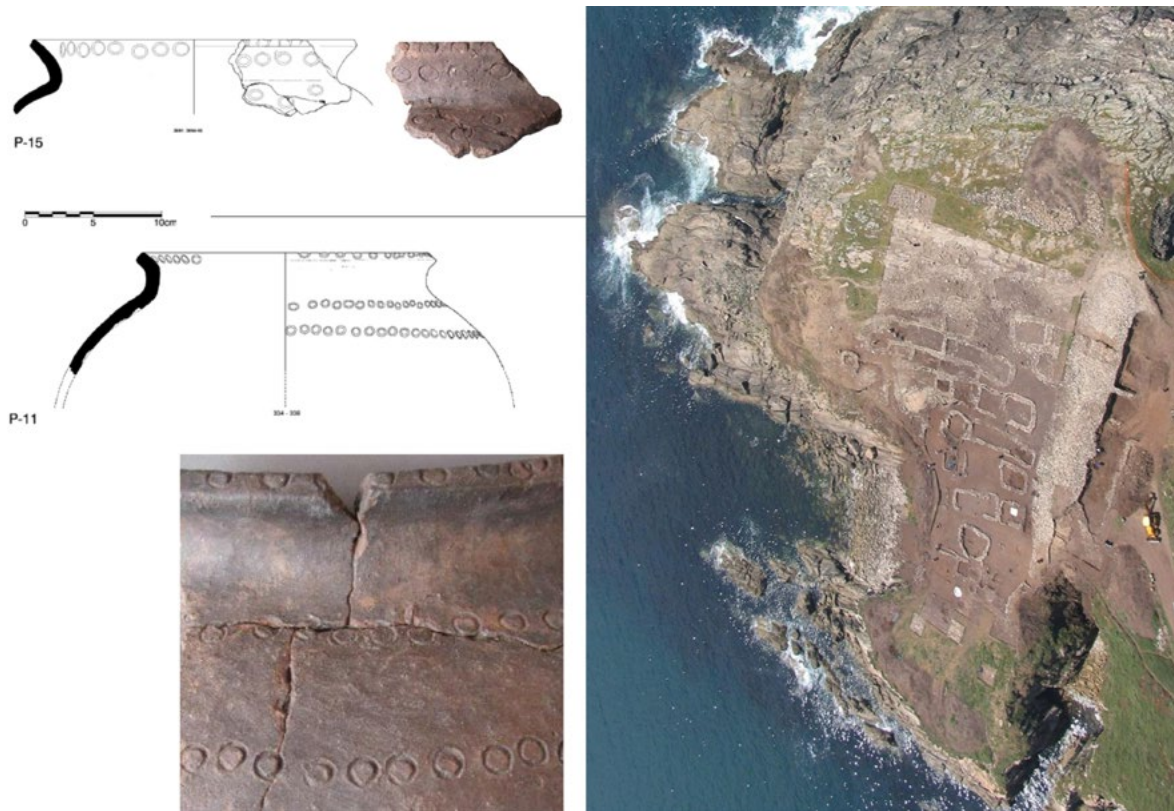


FIGURE 7. STAMPED POTTERY FROM THE SITE OF PUNTA DE MUROS (9TH-8TH CENTURIES BC)
(BASED ON CANO 2012).

as stamping. For this reason, future studies should explore the problems involved in referring to the decorative technique known as ‘stamping’.

Punta de Muros (A Coruña)

We believe it to be of interest to include details from a recently excavated site, Punta de Muros, which stands on a headland where the outer harbour of the city of A Coruña was built. We have included this example because it is the only site in Galicia where stamped decoration has been documented on pots from the start of the first millennium BC (Figure 7). The stamped designs are similar to those found on some WHR vessels, although no WHR vessels were found on this site. The decorated vessels have slightly constricted compound profiles with short necks, a shape that predominated Iron Age pottery throughout the whole millennium. A total of 23 radiocarbon datings were made at this site, the oldest of which is from the start of the first millennium BC (Cano 2012). This site also stands out for being the only fortified settlement made of stone from the Late Bronze Age in the region, inside which there are signs of an internal organisation into ‘neighbourhoods’ or an early type of urban planning (Cano 2012).

Distribution of WHR vessels with stamped decoration

Vessels with stamped decoration are mainly found in Galicia. There is only one site with a stamped vessel in Portugal (number 40, from Barroso, Montalegre, Vila Real). They are mainly found close to large rivers and in the lowlands of the southern Galician mountain range. There is also a preference

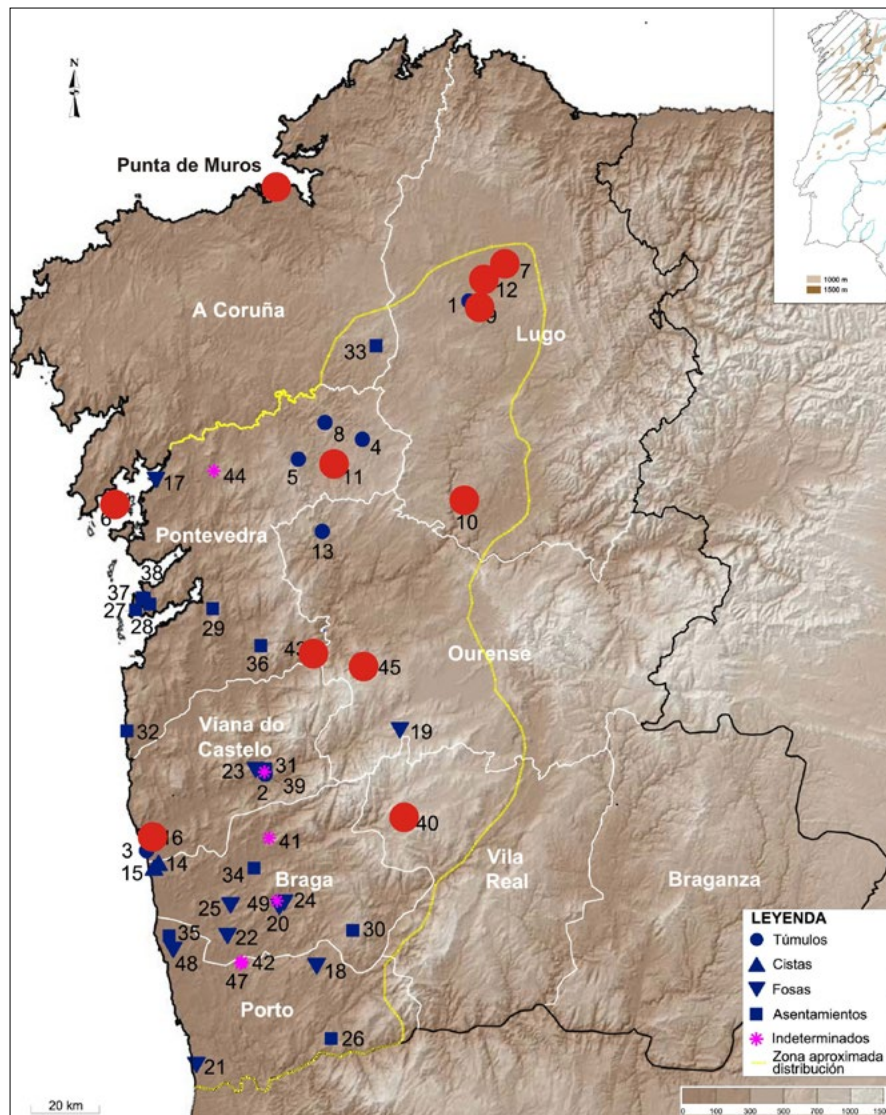


FIGURE 8. DISTRIBUTION OF WHR POTTERY WITH STAMPED AND PRINTED DECORATION, AND FROM THE SITE OF PUNTA DE MUROS (BIG CIRCLES IN RED).

for interior zones, as out of the seven sites only one is on an islet in the estuary of Vilagarcía de Arousa (number 6, Guidoiro). Printed WHRv pottery has the same pattern of distribution as stamped WHRv pottery in Galicia, and there is only one case in Portugal close to the coast (number 16, Monte da Ola, Vila Fría, Viana do Castelo). The site of Punta de Muros is on the northern coast outside of the WHRv area.

The contexts and chronology of WHR pottery with stamped decoration

Although we cannot identify all of the contexts in which WHR pottery was used, we do know that out of the seven examples, four were associated with tumulus-type funerary contexts, two are indeterminate and one of them (Pena Fita, Lugo) is associated with what was probably a ritual or ceremonial location, a petroglyph showing a hut in the shape of a longhouse.³ So everything points

³ See the study presented in this same volume (Prieto and Díaz).

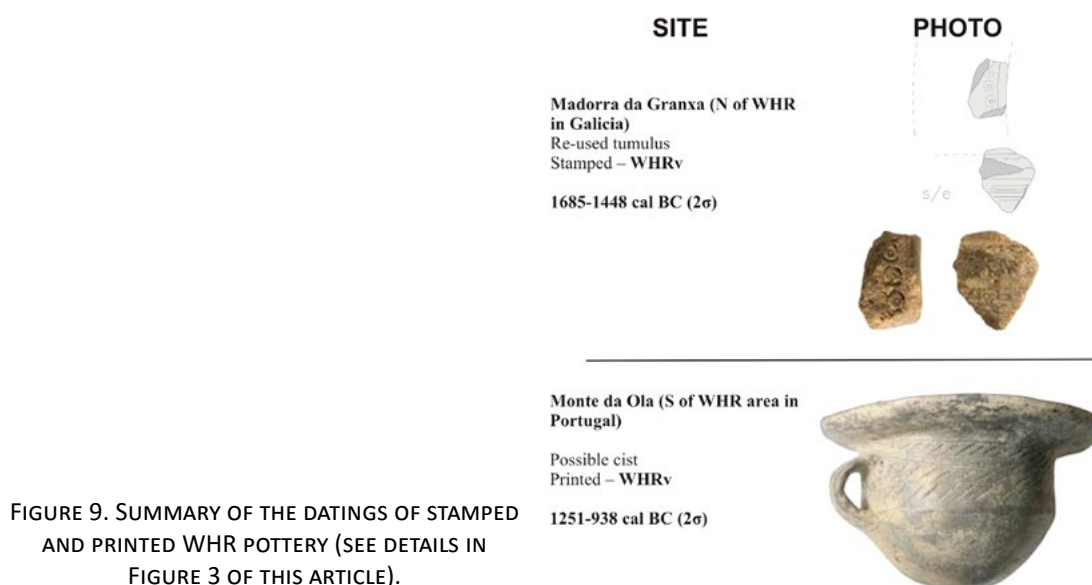


FIGURE 9. SUMMARY OF THE DATINGS OF STAMPED AND PRINTED WHR POTTERY (SEE DETAILS IN FIGURE 3 OF THIS ARTICLE).

towards the existence of a preferred contextual selection for stamped WHR vessels (the re-use of megalithic tombs, and a possible association with ceremonial sites).

The same occurs with the WHRv with printed decoration: one is from a funerary site (a tumulus), another is indeterminate and the third may be from a cist, although we are uncertain.

We only have one radiocarbon dating for the WHR vessels stamped with circles and with combed lines, from between the seventeenth and fifteenth centuries BC. These are WHRv-2 vessels, i.e. with compound bodies and motifs that are generally stamped on the rim and also on the body. If there is actually a relationship in Pena Fita between the WHR vessel and the petroglyph, we could consider an earlier chronology, from the second millennium BC (Figure 9). In the single dating we have for the three sites with printed WHRv pottery, the sample-vessel ratio is doubtful, and so the earlier chronology obtained should be considered with caution, as previously indicated.⁴

Final comments – links with the north

In the NW Iberian Peninsula we have a small but significant number of WHR vessels stamped with circular and semicircular decoration that do not seem to have originated in this region. This pottery was deposited in selected contexts, especially tumuli and what may have been ceremonial sites, alongside large, well-located rivers in the region. Although the chronology is limited to one site, this points towards the middle centuries of the second millennium BC. If we consider other regions, we find significant coincidences in terms of the type of decoration and the techniques used, allowing us to at least hypothesise the existence of links with far-off regions. The stamping decorative technique with circular motifs is seen in several parts of Europe in different cultures with coherent chronologies, which are described below (Figure 10):

The Haguenau group, one of the groups from the so-called ‘tumulus civilisation’, in NE France (Gomez de Soto 1995 and 2006), where decoration using printed circles is documented from the end of the Late Bronze Age.

⁴ The chronological problema of sites with WHR vessels is dealt with in depth in a book we recently have published (Nonat *et al.* 2015).

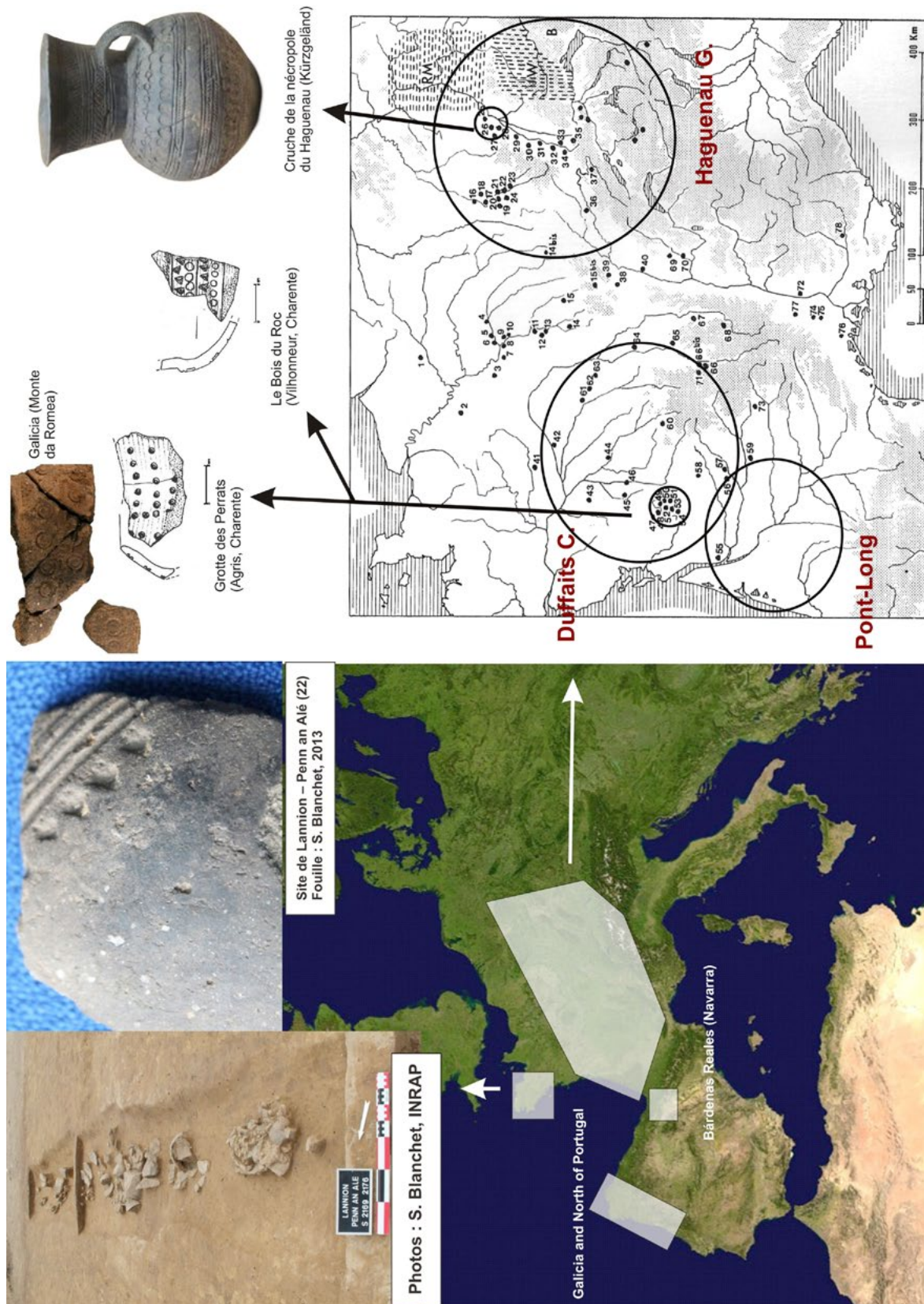


FIGURE 10. LOCATION OF THE AREAS WITH STAMPED POTTERY WITH A POSSIBLE INFLUENCE IN THE NW IBERIAN PENINSULA. MONTE DE A ROMEA, TAKEN FROM PRIETO (2007), THE SITES OF GROTTTE DES PERRATS, LE BOIS DU ROC AND THE NECROPOLIS OF HAGUENAU, AND THEIR LOCATION ON A MAP OF FRANCE, BASED ON GÓMEZ DE SOTO (1995), AND THE SITE OF LANNION-PENN AN ALÉ (22), IN A PHOTO BY S. BLANCHET FROM 2013.

The Duffaits culture from central/western France, where stamped circular designs have been found from the Early Bronze Age, becoming widespread from the Middle Bronze Age and through to the start of the Late Bronze Age (Gomez de Soto 1995 and 2006).

In the far southwest of France in the 'Pont-Long' group we also find a number of vessels decorated with simple circles from the final stages of the Early Bronze Age (Marembert and Seigne 2000).

In the Iberian Peninsula, there are references to vessels stamped with circles found in sites in Bárdenas Reales (Navarra) associated with the second millennium BC (Sesma *et al.* 2009), although this region is close to the French sites. We do not know of any vessels with stamped decorations from other parts of the Iberian Peninsula from the second millennium BC.

Finally, as an interesting new discovery which is still in the interpretation stage, we have the site of Lannion Penn an Alé in Brittany, where pottery has been discovered with a stamped triangular decoration. The site excavated in 2013 by Stephane Blanchet consists of several dwellings and funerary structures associated with a system of pits within a series of enclosures and plots of land from Early and Middle Bronze Age.

As can be seen, there is a certain chronological coherence. In all of these cultures, stamped decoration appeared between the seventeenth and fifteenth centuries BC, the same dates from the Galician site with stamped WHR pottery.

With regard to the decorative motifs, it should be noted that the triangles⁵ combined with straight, parallel oblique lines are preferred in the Duffaits Culture, with simple or concentric circles appearing as exceptional types of decoration in the Early Bronze Age, as they are only found in isolated cases, as can be seen in the paradigmatic site for this culture, the burial cave of Duffaits (La Rochelle, Charente) (Gomez 1973).

The appearance of the stamping technique in the NW Iberian Peninsula raises the same questions as those raised in France regarding its origin and distribution.

On the one hand, it could be suggested that this was introduced through exchanges with other European cultures, and as the decorative techniques and designs are the easiest aspects to imitate in pottery, as they are the most evident, we could consider that the stamped WHR vessels were decorated by a potter from another area, or that they were made and decorated by a potter who was imitating foreign designs. In any event, there must have been some kind of interpersonal contact.

On the other hand, the possibility of a strictly local or regional origin could also be feasible: it is important to note that in relation to the stamping technique found on the Galician WHR pottery, the morphological features and the technical treatment used do not differ from the rest of the pottery from the region. Also, the very small number of pieces which have been documented could allow us to rule out the idea that this technique was a regional invention. Everything would point towards the local production of this pottery in the NW of Iberia.

The current status of the record does not make it possible to refine or affirm either of these hypotheses, and without absolute datings there could be numerous possibilities. As indicated by J. Gomez de Soto, there is also the possibility of suggesting that a series of interrelations and interactions exist in both directions between communities in Galicia, which seem to place more emphasis on the circle as a decorative motif, and cultures from outside of the region such as the Duffaits Culture, or from even further afield.

⁵ The triangle is a motif that is also frequently found in the pottery of the Iberian Cogotas culture, although the decorative technique of excision is used instead of stamping.

This study has made it possible to lay the foundations for exploring in greater detail a subject that is complex and difficult from the perspective of studying pottery, but which will make it possible to better contextualise the studies that are being carried out with this focus from other material perspectives.

Acknowledgements

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SESSION A16

2. AEGEAN – MEDITERRANEAN IMPORTS AND INFLUENCES IN THE GRAVES FROM CONTINENTAL EUROPE – BRONZE AND IRON AGES

Edited by

Valeriu Sîrbu and Cristian Schuster

About the connections during the Bronze Age between the Carpatho-Danubian area and the Eastern Mediterranean space. Possible funerary proves

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Abstract

Beginning with the older discussions about the possible connections existing between the Carpatho-Danubian (CD) region and East-Mediterranean space, there are analyzed, in the light of the newst finds, especially from the funerary domain, the pro and against arguments. The conclusion that we could reach is that, certain proofs which could illustrate imports and influences coming from Anatolia and the Aegean, are rather few and contradictory. During the LBA, the CD zone, in the present stage of the research is connected, as shown by some proofs, with the Central Europe manifestations.

Keywords: LBA, North-Danubian (ND) and Eastern Mediterranean areas, funerary discoveries, cultural connections

Résumé

A partir d'anciens débats concernant les possibles relations entre l'espace carpato-danubien et celui est-méditerranéen, l'article analyse dans la lumière de nouvelles investigations faites dans le domaine funéraire, les arguments pour et contre. La conclusion à laquelle on aboutit est que des témoignages solides illustrant des importations ou des influences venant d'Anatolie ou de l'Egée sont assez faibles et contradictoires. L'état actuel de la recherche montre que pendant le Bronze tardif, la zone carpato-danubienne est connectée plutôt à des manifestations provenant de l'Europe Centrale.

Mots clés: Bronze tardif, zone nord-danubienne et zone méditerranéenne orientale, découvertes funéraires, connexions culturelles

The connections between Eastern Mediterranean Sea region, meaning the Aegean part, the Balkan space, the Central and Northern Europe during the BA, had constantly concerned the specialists.¹ For a better understanding of the temporal and cultural context that we will try to analyze here, we remind the chronological limits. During the past years, part of the Romanian specialists had focused upon the following chronological marks about the MBA and LBA in the ND territories (Figure 1):² MBA II (ca. 3000-1600 B.C.): Ila (3000-2500) 'Kugelamphorenkultur', Zimnicea, Cernavodă II, Glina, Schneckenberg, Monteoru (Zănoaga-Ic_{4,1-2}); IIb (ca. 2500-2200): Otomani I, Early Mureș, Monteoru Ic_{4,3}-Ic₃, Verbicioara I-II, Tei I-II, Early Wietenberg; IIc (ca. 2200-1900): Tei III, Verbicioara III, Wietenberg II-III, Otomani II-III, Suci de Sus; IId (ca. 1900-1600): Gârla Mare, Tei IV-V – Verbicioara IV-V (Govora group; Fundenii Doamnei group?), Wietenberg IV, Late Otomani, end of the Mureș, Zimnicea-Plovdiv, Noua-Coslogeni; LBA (ca. 1600-1200/1100): IIIa

¹ In order to make the text more accessible for reading, in the cases of some extended quotations, these had been done as part of the endnotes. From list of specialists, we mention some Romanian and foreign authors: Alexandrescu, 1966; Irimia, 1970; 2009; Bülow, 1980; Hänsel, 1982; Podzuweit, 1983; Harding, 1984; 2007; Bouzek, 1985; 1994; Buchholz, 1987; Bonev, 1988; Hood, 1988; Samsaris, 1989; Eiwanger, 1989; Soufer, 1989; Kull, 1989; Matthäus, 1989; Fol, 1990; Bader, 1990; Thrane, 1990; Cambitoglou, Papadopoulos, 1993; Gerloff, 1993; Wardle, 1993; Vulpe, 1995; 1997a; 1997b; 2001a; 2001b; 2001c; Hiller, 1997; Furmánek, 1997; Penner, 1998; Jung, 2004; Kristiansen, Larsson, 2005; Palincas, 2007; David, 2007; Vankilde, 2014; etc.

² Motzoi-Chicideanu, 2011, 55f. Also see, among others, Morintz, 1978, 12; Boroffka, 1994, 289f.; Vulpe, 2001d, 221ff., fig. 30; Lazăr, 2011, 21ff.; Frînculeasa, 2014, 81ff.



FIGURE 1. MAP OF ROMANIA, WITH ITS GEOGRAPHICAL REGIONS.

(ca. 1600-1400) Cruceni-Belegiș, Noua, Radovanu, Bistreț-Ișalnița; IIIb (ca. 1400-1200/1100): Late Noua and Belegiș, Cincu-Suseni type deposits.

For the Anatolian-Aegean zone, based upon the Minoan and Mycenaean ceramics including also the investigations from Troy, the most recent chronological systems mention the following sequences (Irimia, 2009, 20, note 8): Troy IV-V (ca. 2200-ca. 1740/1730 B.C.), Troy VI (ca. 1740/1730-ca. 1180), Troy VI i (former Troy VIIa; ca. 1300 ca. 1180), Troy VI j (former Troy VIIb1; ca. 1180-1130); respectively LH I (ca. 1675/ 1650-1600/1550), LH IIA (ca. 1600/1550-1490/1470), LH IIB (ca. 1490/1470-1435/1405), LH IIIA₁ (ca. 1435/1405-1390/1370), LH IIIA₂ (ca. 1390/1370-1320/1300), LH IIIB (ca. 1320/1300-1190), LH IIIC (ca. 1190-1050).³

During the past 20 years, a large number of the European and Romanian archaeologists had started to question the importance of the Mycenaean space upon the ND territories. The most recent positions regarding the reports between the cultural manifestations of the CD basin and those in the Aegean and Near East, had pointed out the independent character of the first. Their development should not be understood just as a reaction to the Southern but, also to the Eastern influences.

Jan Lichardus and Jan Vladár (1996, 27f.) had done the inventory of the possible cultural elements of the ND space, which, in the conception of some researchers, could be proofs of the reports between

³ We selectively mention the publications prior to 2009 like: Manning, 1988; 1995; Kuniholm *et al.*, 1996; Betancourt, 1998; Warren, 1998.

the mentioned region and the Shaft Graves horizon of the Mycenaean culture. Among these, we mention the decoration of some of the MBA cultures north of the Danube. Some of the items made of metal, bone or antler, had ornaments based especially on spiral-meandric motifs. These generated different positions concerning their origin. It was advanced the idea of the influence which came north of the Balkans from the Aegean regions, being considered that its roots should be searched in the Mycenaean world. But, Mircea Petrescu-Dîmbovița (1995, 56) had correctly shown that, *‘without contesting or underestimating the Mycenaean influences in the carpatho-danubiano-pontic space, it seems that this did not leave profound marks in the second half of the MBA...concerning the flowering spiralo-meandric decoration’*.

The first we should consider the Tei culture, as it was the first that became manifest in the Central Western Muntenia (Figure 1), but also south of the Danube, being geographically closer to the Aegean-Anatolian space. Valeriu Leahu (2003, 182), when discussing more than ten years ago the emergence of the mentioned ornament on the Tei III and Wietenberg III pottery, would also show that it was not excluded that *‘both evolutionary processes’* could have been *‘independently consumed, under the influence (with the intervention) of a mutual factor’*. He would also state that: *‘What we should understand from the latter is in fact a new problem’*.

When searching the connections between the Tei culture and the East-Mediterranean space, we will have to get focused also upon the funerary vestiges of the mentioned manifestation.⁴ The most *‘consistent’* in number of skeletons is the necropolis from Chirnogi but, being a hazard discovery, the archaeological information about those 10-11 (?) burials has a small value. It is known that two of the burials contained decorated cups. A pottery decorated in *‘Stichkanneltechnik’*, including the spiral and meander motif, had been also discovered at Puieni,⁵ Brazi and Sitaru.

If for the funerary vestiges of the Tei culture we have some information, those about the western *‘neighbours’* of this manifestation, in Western Muntenia and Oltenia (Figure 1), namely the Verbicioara communities (Crăciunescu, 1999, 41ff.; 2004, 70ff.; 2005, 162ff.; Motzoi-Chicideanu, 2011, 445ff.), the stage of our research is even poorer. To its late phase belongs the cremation burial from Râmnicu Vâlcea and the one from Crivina.⁶ The pottery unearthed in the burials is partly decorated. But, besides this element (Crăciunescu, 2007, 89ff.), there is nothing else that could eventually suggest connections between this culture and the Aegean space.

Still remaining in Oltenia (Figure 1), we have to stress here that, the decorated pottery is also an expression of the artistic level reached by the communities of the Zimnicea-Plovdiv communities. Out of 72 burials from Zimnicea, 40 had contained ceramics. Just a small part of them had been a decorated one (Alexandrescu, 1973, pl. X/7; Morintz, 1978, fig. 32/2, Schuster, Popa, 2010, 112f., pl. LXXXI/2; Motzoi-Chicideanu, 2011, 607ff.), but the respective ornamentation cannot be connected with any East-Mediterranean influence.

In the LBA, Oltenia had been populated by the Gârle Mare communities.⁷ The pottery, most of it being a decorated one, represented the largest category among the items in the grave goods. The analysis of the ceramics had enabled archaeologist Monica Șandor-Chicideanu to count a number of 70 types of decoration motifs (Figure 2) (Șandor-Chicideanu, 2003, 94f., pl. 199). It is obvious that these should be connected with the Szeremle-Bijelo Brdo milieus, meaning with the space situated West of the Iron Gates and not with the Southern East-Mediterranean regions (Șandor-Chicideanu, 2003, 205).

⁴ Leahu, 1987, 49ff; 2003, 123ff.; Comșa, Schuster, 1997; Șerbănescu, Bălțeanu, 1998; Schuster, 2003, 119; Șerbănescu, 2001; Schuster *et al.*, 2005a, 121ff.; 2005b; Motzoi-Chicideanu, 2011, 442ff.; Schuster, Comșa, 2013, 83ff.

⁵ The burial from Puieni was more recently assigned to the Zimnicea-Plovdiv culture, see Șerbănescu, 2001, 236.

⁶ Berciu, 1972, 15, pl. III/1-3; Morintz, 1978, 70; Crăciunescu, 1999, 46; 2004, 75; 2005, 163; Ridiche, 2000, 50; Schuster, 2003, 122; Motzoi-Chicideanu, 2011, 447.

⁷ Dumitrescu, 1961; Șandor-Chicideanu, 2003; Bărbulescu, Chița, 2005, 109ff.; Bărbulescu, Cârstea, 2006, 26ff.; Motzoi-Chicideanu, 2011, 496ff.; Crăciunescu, Neagoe, 2007; Crăciunescu, 2012; 2013; Neagoe, 2013, 51ff.

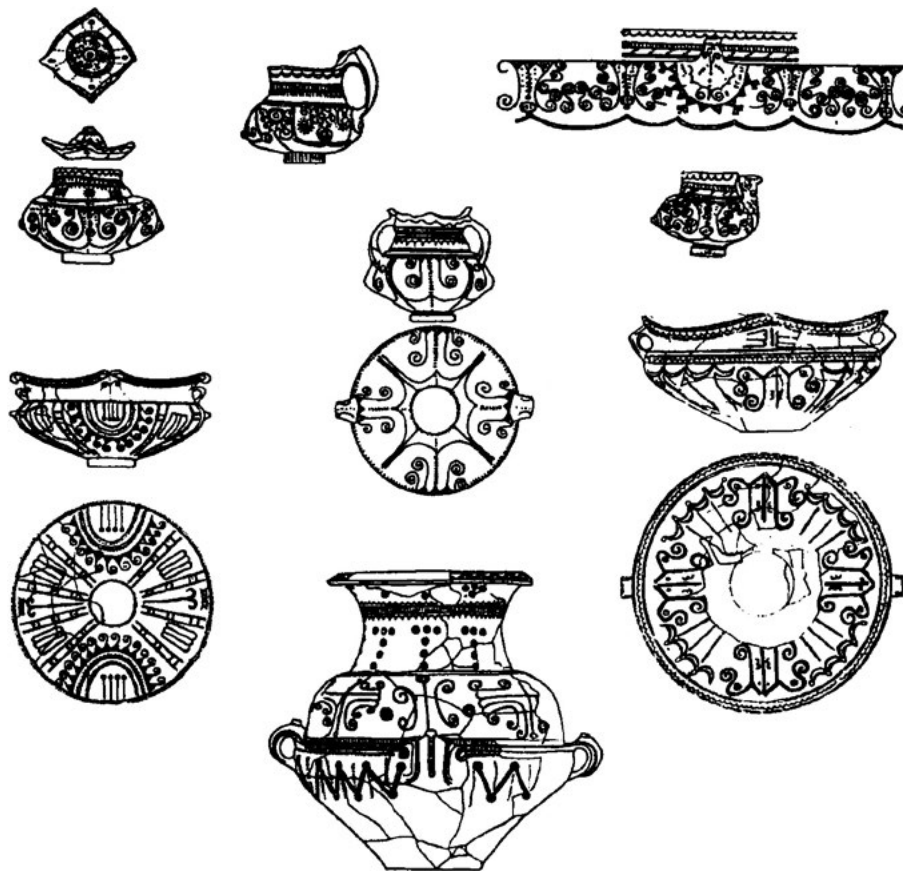


FIGURE 2. GÂRLA MARE
POTTERY (AFTER ȘANDOR-
CHICIDEANU, 2003).

Passing in Transylvania (Figure 1), we could say that the Wietenberg culture, which apparently ‘provides’ most of the material elements for establishing connections with the Mycenaean world is disappointing as concerns its burials and necropoleis (Boroffka, 1994, 106ff.; Popa, 2010, 156ff.; Motzoi-Chicideanu, 2011, 526ff.; Fântâneau *et al.*, 2013, 173ff.). Of course, where grave goods existed, especially pottery (Figure 3), some of the receptacles are decorated with meanders and spirals (Boroffka, 1994, pls. 122/8, 123/4-5, 129/2; Fântâneau *et al.*, 2013, fig. 7/7). Many of the forms and ornaments of the vessels have analogies with the neighbouring territories and/or Central European ones.

Also for connections with the Middle Danube territories pleaded the pottery in the burials of the Otomani-Füzesabony culture (Motzoi-Chicideanu, 2011, 451ff.). This aspect is not surprising, given that the range of the manifestation stretches from NW Romania and up to the Eastern Slovakia.

The establishing of some firm connections regarding ceramics, especially its decoration, between the North-Balkan space and the zones of the East Mediterranean Sea is almost impossible to be done. The specialists had tried to find other explanations about the emergence and flourishing of the meandered and spiral-shaped decoration in the MBA and LBA from Romania. Thus, some roots in the EBA and Aeneolithic could be established. Joseph Maran (1997, 178f., figs. 6/1-9, 7/1-4, 8/1-2) had specified that in his opinion the spiralo-meandric motifs of Bratislava type pottery (Figure 4) in the Baden milieu had resulted in the emergence of the decoration with the same expression during the Aegean EBA, so that the cultural block Baden-Coțofeni would have had a contribution to the origin of the ornaments of the EBA ND space (Vulpe, 2001a, 257f.). Still, the possible connection

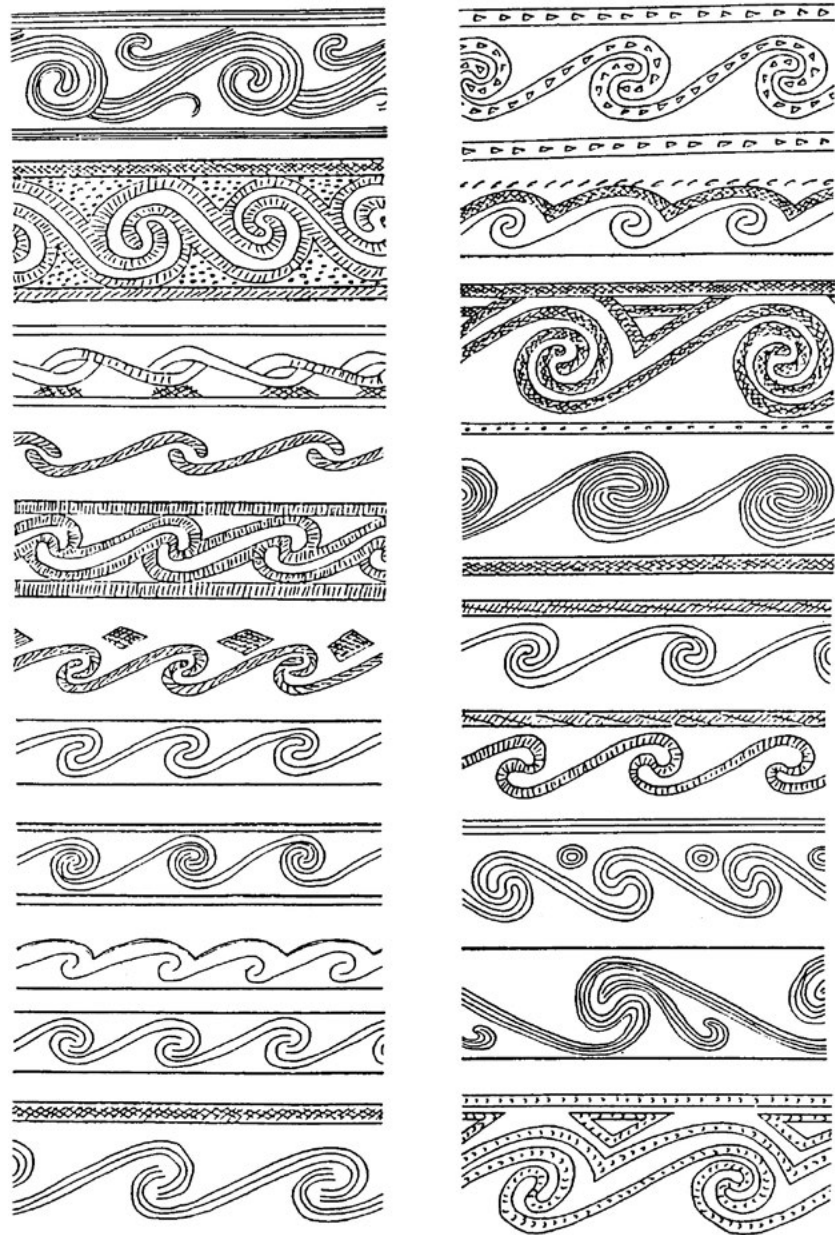


FIGURE 3. SOME WIETENBERG
POTTERY DECORATIONS
(AFTER BOROFFKA, 1994).

of the MBA and LBA pottery of cultures like Tei, Wietenberg, Otomani with the repertory of the Aeneolithic pottery had been considered '*less plausible*' by some of the specialists' (Vulpe, 2001a, 257). In our opinion, this idea should be not completely rejected.

Vulpe (2001c, 12f.) had pointed out that, '*it is more natural to see in the emergence and development of the rich spiralo-meandric motif of the Transylvanian culture of Wietenberg the reflection of more influences from the Minoan Palatial civilization maybe even end early Minoan (EM III) and early Cycladic (EC II-III)*'. In this sense, he had brought the argument of the ornament found on some recipients with cultic purpose from the Cyclades, namely firing pans, as well as the strikingly similar one identified on some dishes, bowls, or cups in the Wietenberg culture (Vulpe, 2001a, 257; 2001c, fig. 2). We should say that the respective decoration is to be found on the same type of receptacles from other cultural manifestations of the MBA and especially LBA from Transylvania, like Suci

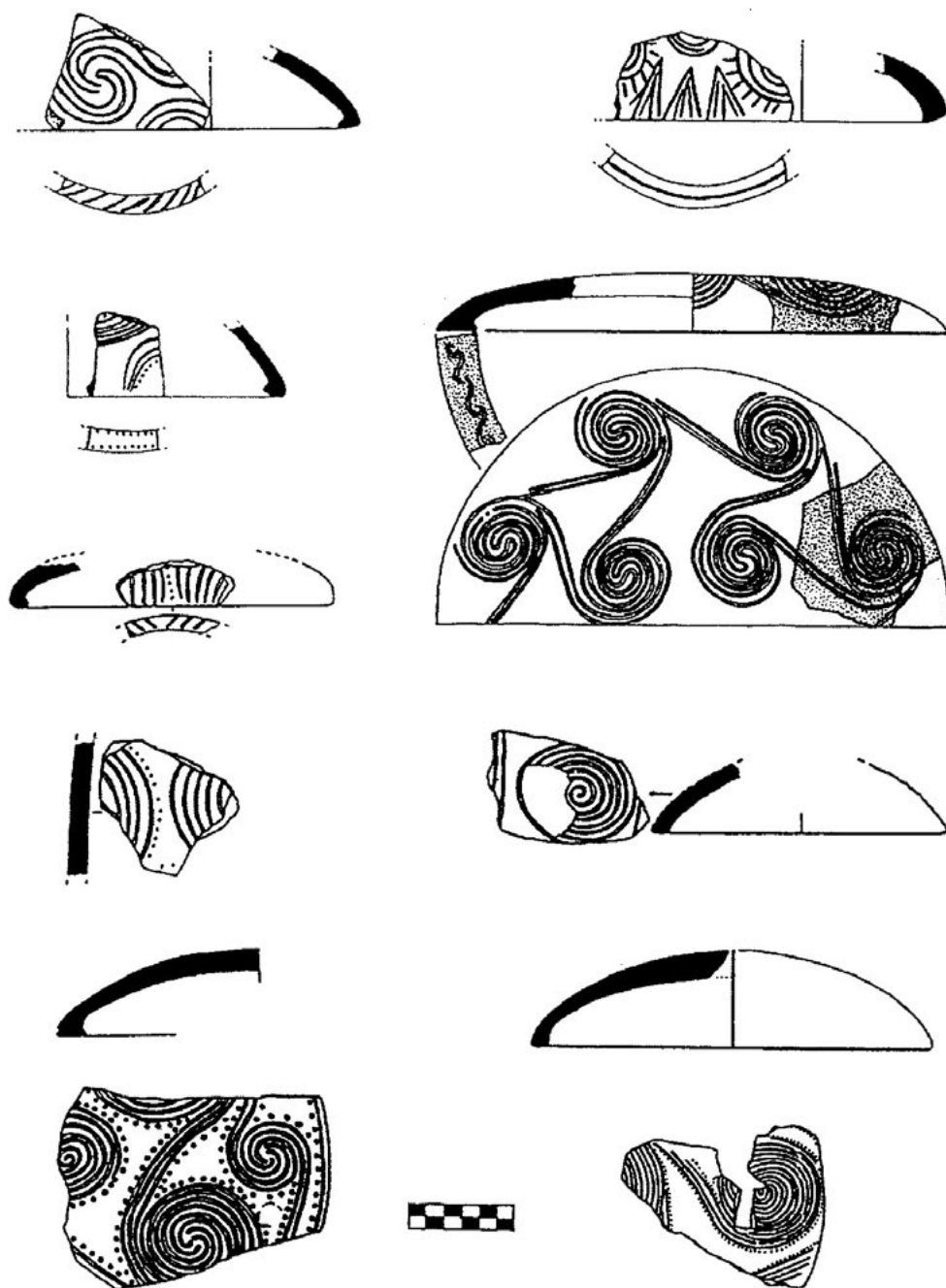


FIGURE 4. BRATISLAVA TYPE POTTERY DECORATIONS (AFTER MARAN, 1997).

de Sus and Lăpuș (Figure 6/1-3) (Kacsó, 2001, figs. 22-25; 2004, pls. LVI-LVIII). In the opinion of Vulpe, despite the time difference existing between the mentioned cultural expressions (Keros-Syros culture versus Wietenberg – Suci de Sus – Lăpuș cultures), *‘these analogies may not be by hazard’* (Vulpe, 2001c, 13). He considers that the *‘phenomenon could be judged also diachronically, considering the symbolic-religious character of the respective decoration’* (Vulpe, 2001a, 257).

Most of the anthropomorphic idols from the Romanian BA had been modelled out of burnt clay. If the objects discovered in the cultural milieus of Tei, Verbicioara, Monteoru, Wietenberg, Coslogeni

or Noua are not spectacular ones,⁸ those of the Gârla Mare culture had caught the attention of the specialists. The general typological resemblances between the idols of the mentioned culture and those from the Mycenaean milieu had previously resulted in the interpretation as they had a common origin. Monica Șandor-Chicideanu (2003, 109) when re-analyzing this type of anthropomorphic idol, had rightfully considered that the connections between the statuettes *‘from the Middle and LD and the Mycenaean ones, their derivation from those in the Greek space cannot be further supported...’*.

An extensive discussion had been conducted about the decoration of some of the bone and antler objects in the MBA and LBA of Romania,⁹ especially those objects that are decorated with spiral-meandered motive (pulley-motive).¹⁰ Some of the specialists expressed their reluctance about using this type of ornament as an unfailable argument for datation (Kull, 1989, 65ff; Boroffka, 1994, 229f.; 1998, 103). On the contrary, others were convinced that it is helpful in datation (Hüttel, 1981, 73, 75f., 87, 101ff.; Bouzek, 1985, 60ff.; Horedt, 1988; Bader, 1990).

In this category of bone and antler objects there are also included part of the roundels/ some bone buttons (seals?) discovered in the cultural milieus of Otomani, Monteoru and Noua,¹¹ to which analogies in Greece had been found, Turkey, Serbia, Hungary, Slovakia, Czech Republic and the Ukraine had been found (David, 1997; 2002). Boroffka (1994, 229) had mentioned that chronological differences existed concerning the datation of various items, while Vulpe (2001a, 270f.) noted that, *‘the presence of these bone objects in the cultural contexts of the Romanian MBA it is not conditioned anymore by the Mycenaean civilizations, but it can be explained also by influences from the large Aegean-Anatolian area during the first half of the second millennium’* and that, *‘such a find proofs a more intimate functional relation than the reproduction of some simple decorative motifs’*.

Another category of bone and antler items connected with the Mycenaean world were some cheek pieces¹² from the Otomani,¹³ Monteoru¹⁴ and Noua cultures (Boroffka, 1998, 93, fig. 6/10; Penner, 1998, 125, pl. 36/11), which were decorated with concentric circles, with tangent lines or with pulley motive. Discussing about the items from Cârlomanești, Eugenia Zaharia (1993, 37) had stated: *‘Leur nombre est toutefois insuffisant pour fixer leur chronologie avec plus de précision. Dans leur lignes générales, sans doute, tant le fragment de mors trouvé à Sărata Monteoru, que le niveau Ib qui nous l’a conservé peuvent être rapportés aux tombes III-IV-V de Mykene’*. In his turn, Vulpe (2001a, 272) had considered that the disk-shaped cheek piece from the milieu of the Monteoru culture were *‘an invention of the Eastern horse riders, invention that propagated itself up to Mycenae, more than the reverse process’*.

Talking, among others, about the harness pieces without any functionality in riding a horse, Ute Luise Dietz had cast the attention upon the fact that, the item from Sărata Monteoru (Dietz, 2011, 65), broken in diagonal, with traces of repairs, had a condition that made it impossible to be used

⁸ Florescu, 1991; Boroffka, 1994, 178; Crăciunescu, 2004, 94. 2007, 89; Schuster, Popa, 2000, 69f.; Leahu, 2003, 117 ff.; Schuster, 2007, 53.

⁹ Regarding the industry of the bone and antler during the MBA and LBA see Florescu, 1991; Boroffka, 1994, 223 ff.; Popescu, 2001; Leahu, 2003, 76; Șandor-Chicideanu, 2003, 157; Crăciunescu, 2004, 81 ff.; 2007, 78f.; Schuster, 2007, 43ff.

¹⁰ Some archaeologists had expressed his reluctancy about the use of the term ‘spiral’ in the case of the one and antler objects (Hänsel, 1982, 5f.; Boroffka, 1994, 229).

¹¹ Florescu *et al.*, 1971, 179, fig. 7/7; Székely, 1977, 36, fig. 4/2; 1978, 289f., fig. 1; Chidioșan, 1984, 37, pl. 11/5; Florescu, 1991, 29, fig. 153/4; Penner, 1998, 137, pl. 41/9. For other buttons decorated with concentric circles see Florescu, Florescu, 1990, fig. 34/4; Florescu, 1991, fig. 153/2-8; Dascălu, 2007, pl. 57/5.

¹² About the cheek pieces made of bone or antler on the territory of Romania see Boroffka, 1998; Schuster, Popa, 2000, 61; 2010, pl. LXIV/5; Leahu, 2003, 103, pl. XXII/1; Jugănar, 2005, 65, fig. 50/1-11; Schuster, 2007, 44; Dascălu, 2007, 121; Rența, 2008, 110, fig. 143/3-4.

¹³ Ordentlich, 1972, 78, pl. 17/1-2; Hüttel, 1981, 84, no. 73A; Chidioșan, 1984, 37, pl. 11/1-2; David, 1997, 283; Boroffka, 1998, 93, fig. 6/11-12; Penner, 1998, 127, pl. 37/8.

¹⁴ Oancea, 1976, 62, no. 9, fig. 3/2; Hüttel, 1981, 49, no. 20; Penner, 1998, 127, pl. 36/8; Boroffka, 1998, 90, 93f., figs. 6/4, 8/5.

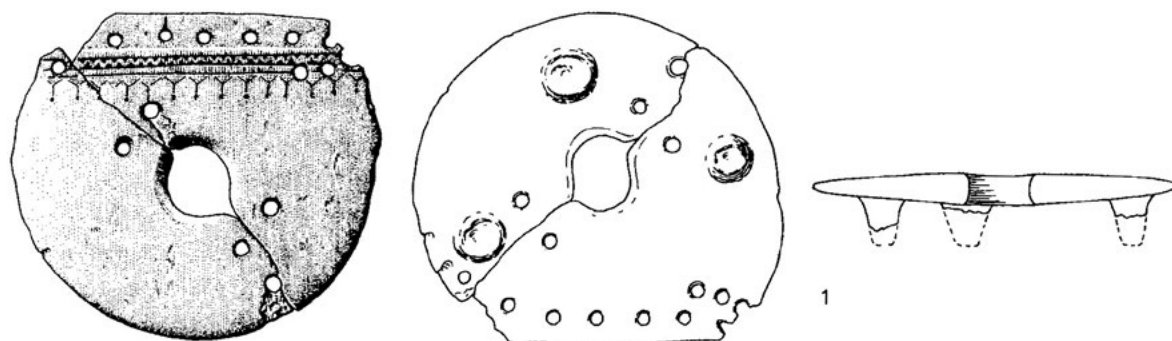


FIGURE 5. CHEEK PIECE FROM SĂRATA MONTEORU (AFTER DIETZ, 2001).

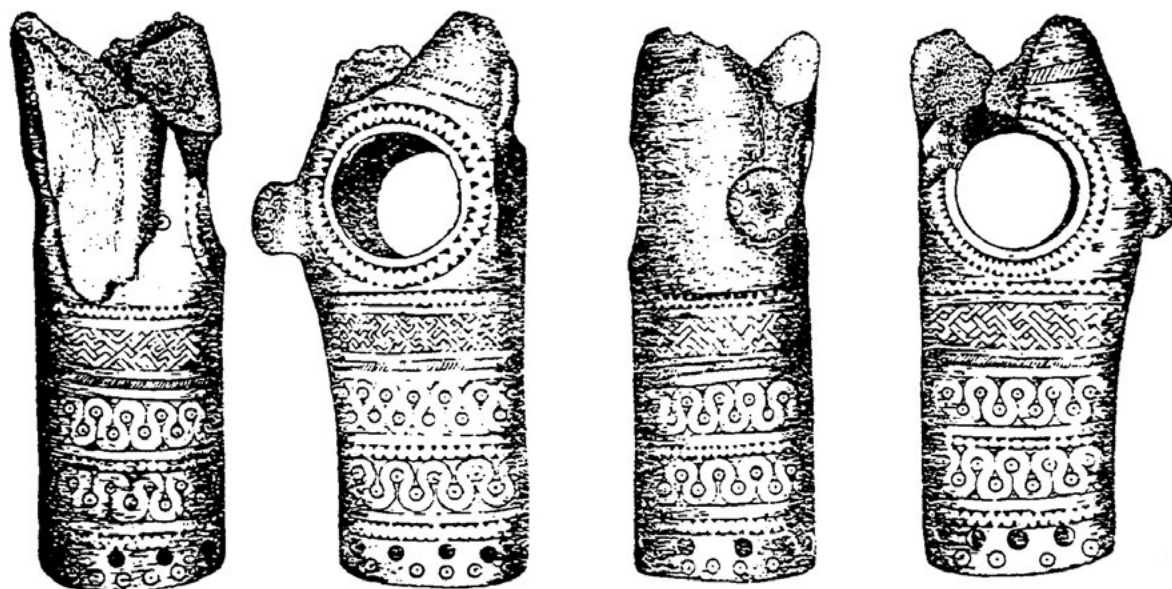


FIGURE 6. SCEPTRE FROM LAMCRĂM (AFTER PENNER, 1998).

for the initial purpose for which it was created. In her opinion, it became an object with a votive character or it was used as ‘jewellery’ (Figure 5).

In the Romanian MBA and LBA sites others objects made of bone and antler with a spiral or/and meandered decoration had been also discovered. We mention here two bone cylinders from the Wietenberg settlement from Derșida (Chidioșan, 1980, 64f., pl. 39.40, 42; Bader, 1990, 189, fig. 12; Penner, 1998, 137, pl. 39/5), another cylindrical item from Pecica (Mureș culture) (Crișan, 1978, 18, fig. 8; Penner, 1998, fig. 26/2), as well as a cylindrical sceptre with circular perforation and with the entire surface covered with registers of spiral and circular motives from Lancrăm (Figure 6) (Aldea, 1973; 1974; Bader, 1990, fig. 8; Penner 1998, 140, pl. 42/8).

Regarding the ND metallurgy had been also postulated Mycenaean influences. We will mention here the ‘*Nackenscheibenäxte*’, of A1 and A2 type discovered in Transylvania, but also West of this

region (Figure 7/4-12) (Vulpe, Lazăr, 1997). On the territory of Romania they are present in the range of the Wietenberg, Suci de Sus, Otomani, Noua cultures. Considering this decoration, at a certain moment, it was discussed about some Mycenaean influences from the time of the Shaft Graves, an aspect which today is questionable.

In the category of metal objects considered as being of ‘*Mycenaean nature*’ had been also included the rapiers.¹⁵ Thus, in the present state of the knowledge about this matter, it is obvious that ‘*the long, stabbing swords of bronze (rapières), of the MBA...considered some while ago as being Mycenaean, they are today considered meridional imports in a Thracian milieu, or perhaps imitations after Aegean prototypes*’.¹⁶

Most of the ‘*Mycenaean rapiers*’ had been discovered in Transylvania, in the majority of the cases being of ‘*Karo A*’ type, and less frequently the ‘*Karo B*’ one.¹⁷ Part of those who had dealt with their study had shared the opinion that they had been imported from the South, or at least some of them (Bader, 1991, 28). But, a certain thing is that all the finds from Transylvania are imitations, some of them being locally made, while others had been worked in a Mycenaean manner and technique (Vulpe, 2001b, 14; Rotea, 2009, 52).

South of the Meridional Carpathians, between them and the Danube, the rapiers of ‘*Mycenaean type*’ are seldom found. In Oltenia they are missing (Șandor-Chicideanu, 2003, 129; Crăciunescu, 2004, 83ff.; 2007, 79ff; Lazăr, 2006; 2011, 78ff.), while in Muntenia they can be found in a small number. Therefore, to the Tei milieu, phase III but even better to the phase IV, it was assigned the ‘*Mycenaean type Karo B*’ rapier,¹⁸ discovered at Roșiorii de Vede (Leahu, 2003, 89f., pl. XVIII/5), an object which bore traces of a secondary processing (Kilian-Dirlmeier, 1993, 31; Athanasov *et al.*, 2009, 17) and is ‘*grosso-modo*’ contemporary with the LH IIIA (Athanasov *et al.*, 2009, 21), being datable in the 13th century B.C. (Vulpe, 1996, 42; Leahu, 2003, 90).

Even more interesting is the find from Drajna de Jos. The fragmentary rapier of ‘*Mycenaean type*’ (Alexandrescu, 1966, 119ff., pl. II/2; Petrescu-Dîmbovița, 1977, pl. 92/3) was part of a deposit comprising over 240 objects made of bronze (Petrescu-Dîmbovița, 1977, 78f., pls. 89/1-10, 90/1-12, 91/1-5, 92/1-2, 4-5, 93/1-11). The deposit, included by Petrescu-Dîmbovița in the series of Drajna de Jos – Oinacu, which is specific to Muntenia, had been assigned to the LBA – beginning of the Hallstatt and, considering the location of the discovery, it was hesitantly assigned to the heritage of the Tei culture.¹⁹ In fact, to the same manifestation, it was also assigned the deposit from Oinacu (Petrescu-Dîmbovița, 1977, 79, pls. 94/1-9, 95/1-5; Dergačev, 2002, 165f.; Schuster, Popa, 2010, pl. LXVII/2-3). The deposit from Drajna, most probably is part of a series that included also the deposits in Bulgaria, from Sokol and Ovča Mogila (Panajotov, Donevski, 1977; Krauß 2005), being situated in LH IIIB, possibly around the date of 1300 B.C. (Hänsel, 1973, 200; Bader, 1991, 28; Vulpe, 2001c, 15; Athanasov *et al.*, 2009, fig. 3).

The same like in the case of the Transylvanian objects, the Muntenian rapiers of ‘*Mycenaean type*’ had been discovered in archaeological contexts that don’t allow any clear cultural assignment. It was assumed, as we already showed above, that they had belonged to some Tei communities. But, we ought to mention that in the range of the localities Roșiorii de Vede and Oinacu not clear traces of the Late Tei culture had been found (Leahu, 2003, 17ff.; Schuster, 2005, 85ff.). In turn, the older and

¹⁵ Horedt, 1960; 1961; Irimia, 1970; Bader, 1986; 1990; 1991, 17ff.; Kemenczei, 1988; Burger, 1994, 207ff.; Harding, 1995, 20ff.

¹⁶ Petrescu-Dîmbovița, 1995, 56; Gogâltan, 1997, 56f.

¹⁷ Horedt, 1961; Alexandrescu, 1966, 119ff.; Marinescu, 1983; Bader, 1991, 17ff.; Vulpe, 1997a, 4 ff.; 2001c, 14; Gogâltan, 1997, 55ff.; Rotea, 2009, fig. 28.

¹⁸ Kančev, Kančeva, 1993: had included the rapiers from Roșiorii de Vede in the ‘*Karo A-Type*’. The authors had erroneously mentioned a similar find from București-Fundeni.

¹⁹ Morintz, 1978, 187f.: ‘a penetration of a population from South-Eastern Transylvania along the Teleajenului Valley. This could be a Wietenberg group relocated under the pressure of the Noua tribes’.

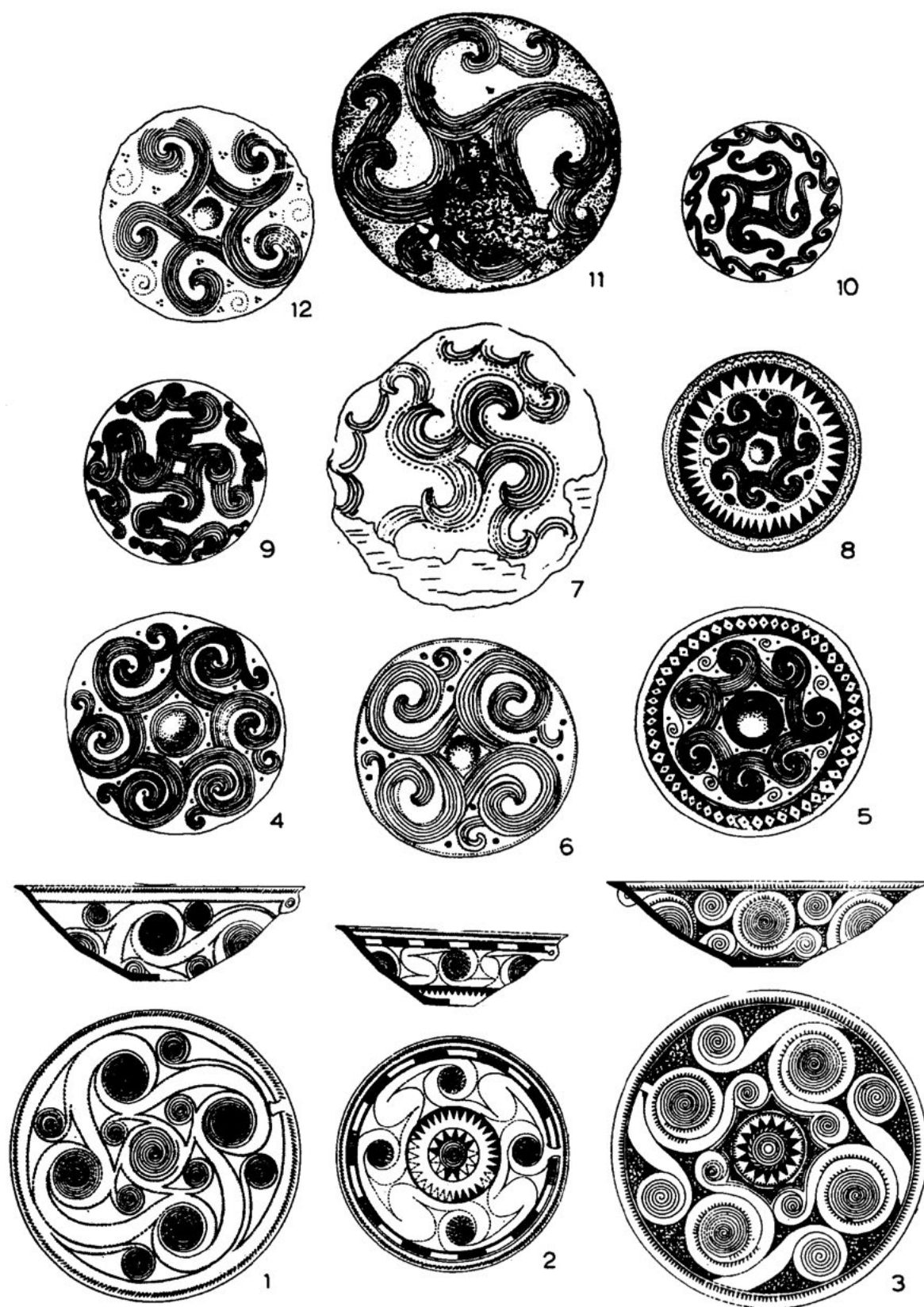


FIGURE 7. 1-3 LĂPUȘ POTTERY, 4-12 'NACKENSCHIEBENÄXTE'
(AFTER VULPE 2001B).

recent investigations had attested the presence of some communities of the LBA, of Radovanu type (Isăcescu, Burlacu, 1978, 46f.; Schuster, Șerbănescu, 2007, 244ff.; Schuster *et al.*, 2014). Drajna de Jos is also missing the Late Tei vestiges. It is possible that the respective deposit could have belonged to a post-Tei community, like Noua-Coslogeni, as indirectly suggested Vulpe and Lazăr (1997, 309, note 37), or even Radovanu?

A Mycenaean type sword had been discovered by hazard at Medgidia, by its characteristics being considered to be the result of an exchange (Irimia, 1970, 395). The item, of 'Karo C1 type' (after Bader 'Karo C3 type'), could not be culturally 'connected' with another manifestation. But, keeping in mind that in the LBA in the region the Coslogeni communities had been documented, it is not excluded that the rapier could have had belonged to a personage of this culture.

In the discussion about the LD – Mycenae it was also included the golden 'rapier' from the hoard discovered at Perșinari (Figure 8). Even if fragmentary, in the eyes of some specialists it was a proof of these reports (Mozolice, 1968, 5ff.; Bader, 1991, 30; Kilian-Dirlmeier, 1993, 32). The new interpretations of the hoard, which also consider its content, assign it to the 3rd millennium – in its initial stage (Vulpe, 1995; 1997b, 272, 276: Br A2, 2400/2300-1600±; 2001c, 14, note 27; Born, Hansen, 2001, 39ff.). Vulpe (2001c, note 27) has the opinion that the 'sword' is in fact a blade, which possibly originated in the halberd similar to the samples of this kind that generally were prestige weapons of Central, or Western Europe. Consequently, the links with Mycenae no longer stand (see also Vulpe, 1997a, 42, note 27; 1997b, 271f.; Leahu, 2003, 94).

We believe that Bogdan Athanasov, Raiko Kraus and Vladimir Slavčev offer a viable solution to the datation of the rapier from Perșinari: *'Eine Herstellung des Goldschwertes bereits in der Frühbronzezeit ist allerdings schwer vorstellbar, da es in diesem Falle die gesamte ägäisch-anatolische Schwertentwicklung vorwegnehmen würde.... Bis auf weiteres muß... von einer späteren Zeitstellung des Perșinari-Schwertes ausgegangen werden, das sich über die charakteristische Heftgestaltung..., noch immer am besten mit den Schachtgräberfunden verbinden läßt oder sogar erst in die SH II-Zeit datiert. Die Vorstellung einer Weitergabe von Prunkwaffen wie die Silberäxte von Hand zu Hand über sieben Jahrhunderte ist zunächst gewöhnungsbedürftig. Dennoch ist es schlecht möglich, daß ein Schwert mit einer Heftbindung wie in Perșinari über ein halbes Jahrtausend früher erscheint als die Schwerttypen Karo A und B in der Ägäis'* (Athanosov *et al.*, 2009, 21). It is hard to point out the initial moments when the object had been created, as well as its 'final modelling' if we accept that this was truly the case, as well as its deposition into the ground (Leahu, 2003, 95). Some of the specialists are being inclined to accept that the last two 'operations' took place in the 16th century (Bader, 1991, 30; Leahu D., 1994b, 121), while other towards LH II, possibly between 1450-1400 (Athanosov *et al.*, 2009, fig. 3).

It is possible that the rapiers from Perșinari, the same like the one from the Varna region (Athanosov *et al.*, 2009, 15ff., fig. 1, pl. 1), judged in the context of the discovery of similar objects at Hattuša/Boğazkale (Lichardus, Vladár, 1996, 37; Athanosov *et al.*, 2009, 17ff., fig. 2/2), could be prudently considered as being Anatolian products.²⁰ Andreas Müller-Karpe 1994, 438) had considered that *'Perșinari markiert ... nicht den Anfang der bronzezeitlichen Süd-Nordkontakte, sondern bereits ein fortgeschrittenes Stadium und wird auch nicht mehr an den Beginn der Entwicklung europäischer Vollgriffdolche und -schwerter zu setzen sein. Vollgriffwaffen haben in Anatolien eine lange Tradition und dürften bereits vor der Herstellung des exzeptionellen Goldschwertes über das Schwarze Meer donauaufwärts ihren Weg nach Mittel- und Westeuropa gefunden haben'*.

²⁰ Regarding the rapiers from Anatolia, Vulpe (2001c, 14, footnote 27) considers that, 'the similarity between the Bogazköy sword and the Perșinari one is reduced to the erroneous assumption of the overcast hilt shape whose outline made researches to compare it with a sword from the tomb Delta of circle B of shaft graves of Mycenae and frame it as such. After exposing to Gamma radiation the blade from Perșinari, the image obtained clearly indicates the primary shape of a dagger or halberd blade with a round hilt asymmetric arrangement of rivet hole'.

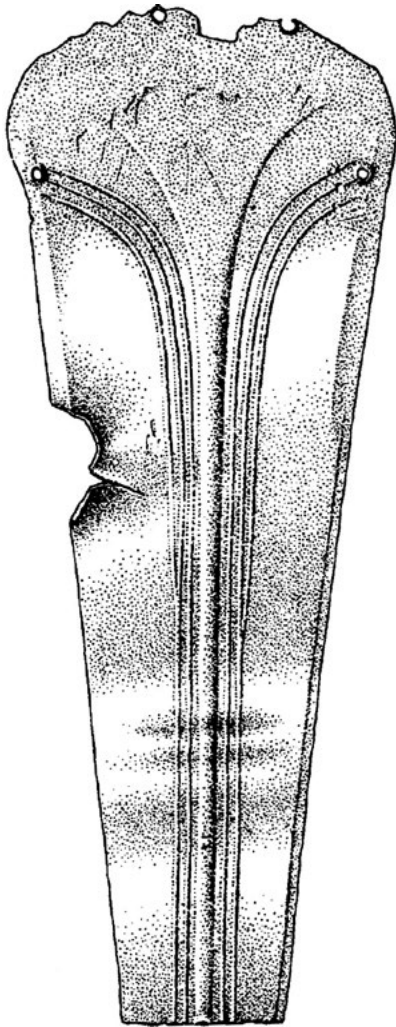


FIGURE 8. 'RAPIER' FROM PERȘINARI
(AFTER VULPE, 2001C).

On a series of adornments made of gold ornaments had been identified, including spirals and meanders, resembling those found on pottery, on other burnt clay objects, on objects made of bone/ antler or bronze. We refer, for instance, to two bracelets made of side gold, one of them discovered at Pipera and another one with an unknown discovery place, possibly from somewhere in Transylvania (Penner, 1998, 164, pl. 45/3, 5). We could mention here also the 33 phalerae from the hoard discovered at Ostrovul Mare (Leahu D., 1994a, 129, fig. 27/1-2), other two phalerae from the hoard at Șmig (Lazarovici, 1994a, 127, fig. 24/1-2), an earring from the hoard at Băgău (Lazarovici, 1994b, 125, fig. 22/1). All these finds, which could probably belong to the Wietenberg, Otomani, Gârla Mare communities, had been dated between the 16th-15th century. To a more recent period (13th-12th century, Wietenberg or Noua cultures?) it was assigned a kantharos from Biia (Leahu D., 1994c, 135, fig. 34), a part of a hoard connected by some specialists with the Hajdúsámson horizon that most probably documented connections with the southern world (Matthäus, 1989, 93). Within the range of the Otomani culture had been unearthed cups made of gold that would also have '*Mycenaean influences*' (Matthäus, 1989, 93ff.). There are not to be omitted the five recipients made of gold from Rădeni (Vulpe, Mihăilescu-Bârliba, 1985), dated in the 12th-11th century (Trohani, 1994, 137, fig. 37/1-3) which should be also included in the '*series*' that express the '*metalworking tradition influenced by the advanced workshop practices of the Aegean palaces, and perhaps acting as intermediary between these and more distant workshops of temperate Europe*' (Sheratt, Taylor, 1989, 130).

It is obvious that, in the recent stage of the research, the metal items of important value had been destined to the elites of the different communities, being products of supra regional exchange (David, 1998, 252ff.; 2002; Jaeger, Olexa 2014, 172); such examples in this sense, out of which some had been mentioned above, had been found within the cultural ranges of some manifestations from Transylvania, sometimes with '*reverberations*' up to Hungary, Ukraine and Slovakia, but also between the Carpathians and the Danube.

Let us see what had been offered to us by the grave goods. Thus, the burials of the Tei culture are extremely poor in this sense. One of the burials from Chirnogi contained a necklace with four beads made of stone and one of gold (Leahu, 1987, 49; Șerbănescu, Bălțeanu, 1998, 483ff., pl. IV; Șerbănescu, 2001, 235f., pl. V; Schuster *et al.*, 2005a, 121ff.; Motzoi-Chicideanu, 2011, 444). A pedunculated bronze arrow point had been recovered from the burial in Puieni (Rădulescu, 1966, 265). This arrow point is contemporary with the burials of the Gârla Mare culture and '*Hügelgrabkultur*' from the Middle Danube (Motzoi-Chicideanu, 2011, 444; Schuster, Comșa, 2013, 85), so that this type of weapon has to be connected with the space of the Central Europe, rather than with the Southern one.

The inhumation burial from Verbicioara, with the skeleton flexed on its left and the head to the North, had an inventory consisting in a bronze pin of ‘*Cyprus type*’ and a lock ring made of gold.²¹ The inhumation in the Verbicioara culture had raised some question marks but, it is certain that the pin and lock ring are common objects in the BA of Romania, being items with a long lasting usage and hardly assignable to a certain manifestation. ‘*Schleifennadeln*’ had been discovered in Romania in the Tei (Leahu, 1988, 235; 2003, 98 with lit., pl. XX/4; Schuster, 2007, 48), Noua (Florescu, 1964, 117, fig. 22/2-3), Mureş (Gogâltan, 1999, 91f., Cat. no. 11, fig. 31/2) sites. Generally, it is believed that such pins originated in the Mureş culture, but this fact is hard to be proven (Gogâltan, 1999, 167).

Lock rings had been also discovered in some settlements of the Verbicioara culture (Berciu, 1961, 145; Crăciunescu, 2003, pl. XX/7; 2005b, pls. I/1, 2a-d, 6, 7a-c, 2007, 80, pl. 59/1, 4, 7).²²

This kind of jewellery, either made of bronze, or gold, were not unfrequent in the sites of the Romanian BA, especially in the settlements and more rarely in the burials (Vulpe, 1959, 267, fig. 6; Boroneanţ, 1981, 197, pl. IX/15; Leahu, 1988, 235ff., fig. 5/9; 2003, 100f., pl. XX/8, 11; Schuster *et al.*, 2012, 22, pl. XXXIV/2).

As we already discussed about the lock ring discovered in the burial from Verbicioara, we should also say that this kind of adornment had been also part of the grave goods in some burials of the Zimnicea-Plovdiv culture. We refer here to the cemetery from Zimnicea where, in *Burials nos. 6 and 54*, both belonging to children, two lock rings had been discovered (Alexandrescu, 1973, 79, figs. 1a-b; Schuster, Popa, 2010, 112, pl. LXXIV/6; Motzoi-Chicideanu, 2011, 611). In fact, these, together with a bronze pin (*Burial no. 10a*, of a woman) are the only metal objects.

Returning to the adornments discovered in the Gârla Mare cemeteries, among which we could also find the lock rings but also the appliqué, pins and bracelets, we could say that all had analogies in the entire basin of the Middle Danube (Şandor-Chicideanu, 2003, 143ff.).

Regarding the Monteoru culture, about its funerary rite and ritual, it was written a lot (Bârzu, 1989; Motzoi-Chicideanu, 2011, 369ff.; Motzoi-Chicideanu *et al.*, 2012, 47ff.). The investigation of the necropoleis had enabled the specialists to reveal some influence or even imports coming from the nearby neighbours or those from more remote regions. Therefore, for the necropolis from Cârломăneşti, used beginning with the phase M Ic3 and up to the M IIb, Motzoi-Chicideanu *et al.* (2012, 53) had pointed out that some burials with step or others, with catacomb, were related to Katacombnaia or Mnogovalikovaja milieus. ‘*Some items of adornment, like the necklaces of ‘Ösenhalsring’ type, from Burials nos. 1 and 6 or the pin of ‘Ösennadel’ type from Burial no. 55, show the relations of the Monteoru communities with the contemporary milieus in the Central Europe, like those of Periam-Pecica or Aunjetitz, in the wider context of the exchanges at the distance*’ (Motzoi-Chicideanu, Gugiu, 2004; Motzoi-Chicideanu, 2011, 370). In the category of the connections with the Eastern Europe there are to be mentioned, among others, the daggers of Catacombnaia type (Florescu M., 1978, 113, fig. 10/6; Morintz, 1978, 102, fig. 55/7; Dergačev, 2002, 117) in the burials from Sărata Monteoru and Căndeşti, while for those with the Central Europe, besides the ‘*Ösenhalsringe*’, we could mention the pearls made of a glassy whitish paste,²³ boar fangs, *Cardium*, *Columbela* and *Dentalium* shells (Florescu M., 1978, figs. 11-12; Motzoi-Chicideanu, 2011, 425).

One of the most interesting funerary finds of the BA in Southern Romania in the past few years is the necropolis from Câmpina. The funerary rite and ritual, the inventory of the burials, as well as

²¹ Berciu, 1961, 145f., figs. 15, 16/1-2; Crăciunescu, 2005b, pl. I/7a-c, III/2; 2007, 80ff., pls. 59/2-3, 60/2; Motzoi-Chicideanu, 2011, 440, fig. 51.

²² Dodd-Oprîţescu, 2008, 176: the lock ring from Ostrovul Corbului belongs to the Gârla Mare culture.

²³ Discovered at Cârломăneşti-Burial 68 a necklace; Căndeşti-Burial 245, Poiana-Burial 3 and Sărata Monteoru-Burial 21, 32, 35a, 88, 103, 122, 142, 417; Bârzu, 1989, 47, figs. 9/2, 10/5, 11/8, 17/1, 25/4, 27/2; Motzoi-Chicideanu, 2011, 425; Motzoi-Chicideanu *et al.*, 2012, 52, fig. 11.

the ^{14}C datation, had enabled the specialists to draw the conclusion that the ‘*absolute age definitions and relative chronology markers referred the evolution of this burial site back to the LBA (XV-XII centuries BC)*. The relative chronology markers are represented by inventories, burial rites and rituals, grave structures, etc. The chronological interval is culturally characterised by the evolution of Noua – Coslogeni communities in the LD area and the persistence of late Monteoru communities/traditions in northern Wallachia. The dates for Câmpina indicate their contemporaneity with the ones obtained for Mahala, Crasnaleuca, Odaia Miciurin, all of them assigned to the Noua cultural horizon. Relative chronology markers, such as grave goods, also point to a connection between the end of the Tei and Monteoru cultures’ (Frînculeasa, 2014, 204 f.).

In the inhumation and cremation burials, besides pottery, like the decorated one of Tei (in *Burials* 2, 32 and 43) and Monteoru type (from *Burials* 6, 10-11, 17-18, 25, 30 and 53) (Frînculeasa, 2014, pls. 10-11, 15, 21-23, 31-32, 44, 51-53, 55-56, 67, 77-78), had been also found metal, bone/antler amber objects (*Burials* 10 and 58; Frînculeasa, 2014, 76f.; Teodor, Vîrgolici, 2014, 145ff.), vitrified materials (*Burials* 20 and 58).²⁴ The latter ones could be interesting for the discussion about the connection between the ND space with the Aegean one. We have already mentioned that pearls of this matter had been also found in the Monteoru culture (Almaş, Răcăţău), some others in the Noua milieu (Florescu M., 1961, 121), Lăpuş (Kacsó, 2011, 364), Igrîţa (Emödi, 1980, 266), Otomani-Füzesabony (Motzoi-Chicideanu, 2011, 495f.) and Pecica-Periam (Petrescu-Dîmboviţa, 1977, 101) and recently Wietenberg (Fântâneau *et al.*, 2013, 175, fig. 8/1-6), but also Tei IV (Frînculeasa, 2014, 170).

As already shown above, Motzoi-Chicideanu (1995, 238) had considered that these items show connections with the Central Europe. Based on elements of relative chronology, Frînculeasa (2014, 190) doesn’t exclude a connection with the Mycenaean world, but also with the Central Europe.

The amber objects discovered at Câmpina, as well as those previously mentioned from the Monteoru sites, are not the only proves about this raw material in the Romanian BA (Boroffka, 2001, 403f., figs. 3/1-56, 4/1, 21-22; 2002, 157ff., figs. 1-4; Schuster, Morintz, 2006, 85f.). It is interesting that, even if the local amber could be used, as it was done by the community from Pietroasa Mică (*Burials* 2 and 8), the one from Sărata Monteoru (*Necropolis* 4, *Burials* 10, 35, 122 and 133) had used the one of Baltic origin (Motzoi-Chicideanu, 1995, 225; Motzoi-Chicideanu, 2011, 424). Concerning the objects in *Burials* 10 and 58 from Câmpina, Eugen Teodor and Marian Vîrgolici (2014, 162) had pointed out that, despite that these were not contemporary, ‘*The Bronze Age community had, for some centuries, the same ‘supplier’, respectively a virtually identical source of raw material*’, namely the Buzăului region.

In the up mentioned lines, even if presented in a synthetic form, we have insisted upon the elements of material culture which could possibly certify the connections between the Aegean space and the lands from the LD in the MBA and LBA. The results of our review, the same as those of other specialists before us, despite the fact that the knowledge as well as the quality of the archaeological investigations from Romania had increased in the past two decades, the results are rather disappointing. As it could be observed from the up mentioned lines, the set of certain proves of these connections are relatively few, with gaps, sometimes even in contradiction with each other. This fact had been also proven by the analysis of the funerary vestiges, which are even poorer in proves about the relation between the ND territories and the Aegean space.

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²⁴ Frînculeasa *et al.*, 2011, 149, pl. 16/8-11; Frînculeasa, 2012, 49, pls. 39/8, 75/8-11; 2013; 2014, 75f., 169ff.; Frînculeasa, Stih, 2012.

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Middle Tagus Region and the Autochthonous evidences in Late Bronze Age I (Central Portugal)

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Abstract

Genetics brought light to theoretical discussions. The debate between evolutionists and diffusionists just seems to be solved soon. Regionalisms detected in archaeological material culture record reveal Mediterranean, Atlantic or Continental influences. In addition to this evidence a typological and morphological universe, essentially based on metals, suggests a high degree of people and long-distance trade circulation. Although Portugal is geographically peripheral to the European continent, it has a privileged position in relation to the Mediterranean Sea and the Atlantic Ocean. Within this biunivocal relationship, we think there might have been an internal agreement between the communities' leaders that justifies specific regionalisms.

Keywords: Middle Tagus, Mortuary Practices, Metals, Mobility, Final Bronze Age

Résumé

La génétique a apporté des nouvelles informations aux discussions théoriques, puisque le débat entre évolutionnistes et diffusionnistes semble désormais résolu. Les régionalismes détectés d'après les données archéologiques de la culture matérielle révèlent des influences Méditerranéennes, Atlantiques et Continentales. De plus, l'univers typologique et morphologique, fondé essentiellement sur les métaux, suggère un degré élevé de circulation de peuples et de commerce à la longue distance. Bien que le Portugal soit géographiquement à la périphérie du Continent Européen, il a une position privilégiée à en relation avec la mer Méditerranée et l'océan Atlantique. Au sein de cette relation bilatérale, nous pensons qu'il dû y avoir une entente interne entre les dirigeants des communautés justifiant les régionalismes spécifiques.

Mot clés: Moyen Tage, Pratiques Mortuaires, Métaux, Mobilité, L'Âge du Bronze Final

Souto 1 – A Palimpsest of Proposals

1. The Archaeological Framework

Middle Tagus Bronze Age research is still in its first stages on account of the absence of financial support that could provide us the existence of a team strong enough to survey, excavate, data processing and proceed with a set of archaeometry results that could provide a scenario about human relationships in this period.

Nevertheless, some of us are working in this administrative sub-region since last century (70's) managing to organize inchmeal, landscape, sites, artifacts and ideas over this archaeological Bronze Age complex puzzle. We have been able to build an idea of Middle Tagus Bronze Age (Cruz, 2011) beginning by studying mortuary practices in Abrantes Municipality; it is not possible yet to present a social scenario relating the farms, the settlements, the hoards, the scattered structures and artifacts and the funerary monuments in order to discuss a '*Middle Bronze Age Cultural Geography*'. However, this paper is the beginning of a cultural History where continuity and discontinuity built our Bronze Age period.

The Final Bronze Age archaeological sites of Abrantes Municipality (Figure 1) may be classified as farms, open settlements, fortified settlements and *tumuli*. Most of the farms and settlements are

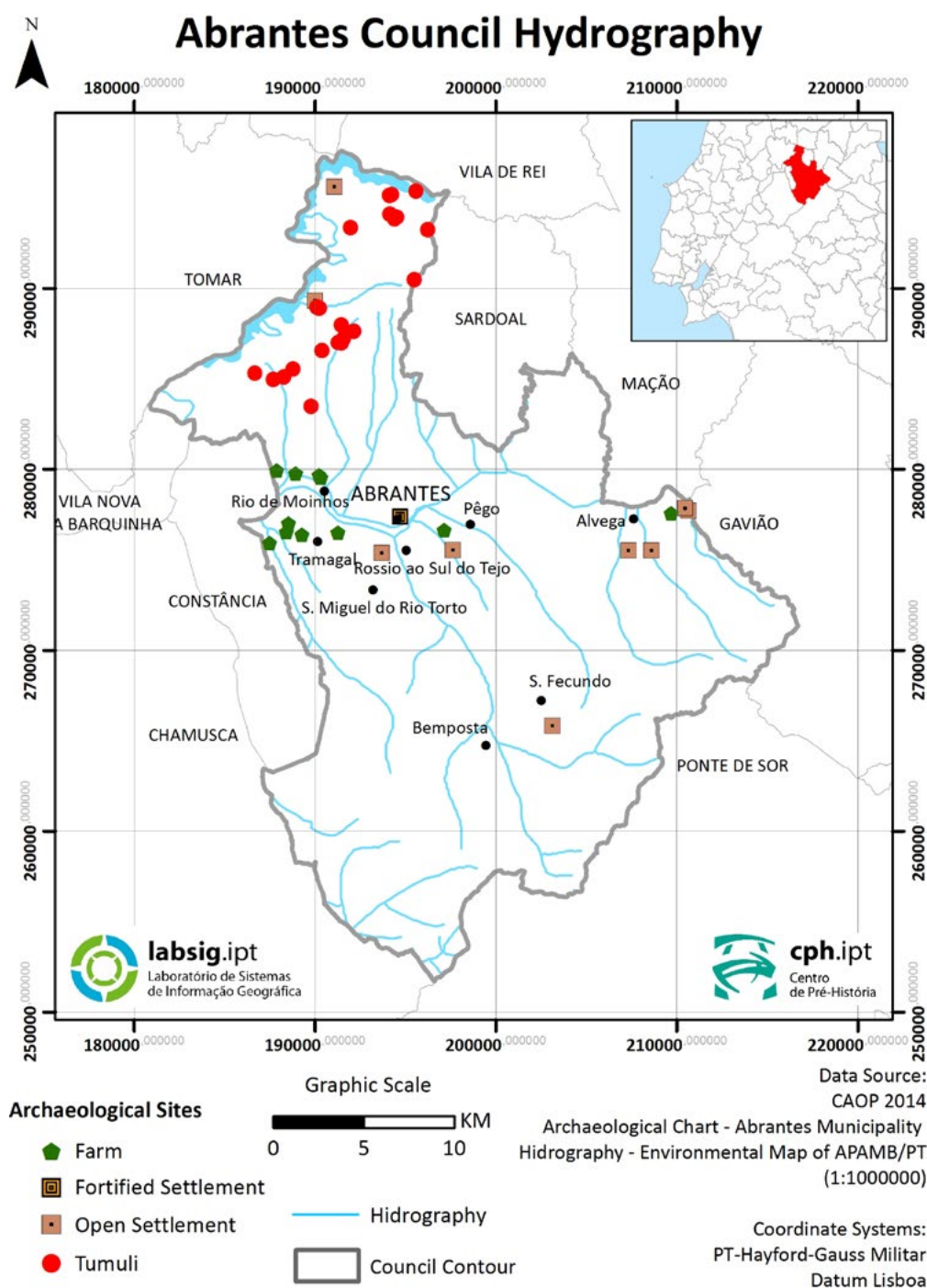


FIGURE 1. FINAL BRONZE AGE ARCHAEOLOGICAL SITES LOCATED AT ABRANTES MUNICIPALITY. SOURCE: RITA ANASTÁCIO, 2015.

located in the rich Tagus River's quaternary floodplains, being indicators of a strong and dynamic farming production. As to the funerary burials we are going to find them in the left Zêzere River's bank, located at the Hesperian Massif's ridge line.

It seems that we are dealing with some sort of 'living's territory' / 'dead's sacred territory' dichotomy, where extensive agriculture, riparian and fishing activities contrasts to forestry activities (hunt, grazing, organized inland ridge paths, simultaneously, a devoted sacred land for *final resting place*).

This organized action plan shows how spatial planning was elaborated within FBA communities (Figure 1).

Tumulus 1 of Souto (Abrantes) is located in a steep area, at the ridge line of small mountains, in the Lower Zêzere valley. It fits the Hesperian Massif that consists of detrital deposits (amphibolite, greywacke, shale, quartzite and gneiss).

The *tumuli* are situated on the left bank of the Zêzere River. They may occur isolated (Porto Escuro 2, Souto 6, Fontes 1), in a close relationship with each other (Souto 1 and Souto 2) and in a juxtaposed way (Souto 3, 4 and 5).

Souto 1 is a quartz and quartzite pebbles circular construction with 6 meters of diameter and a maximum height of 25 centimeters (Figure 2). This particular monument is of great significance to

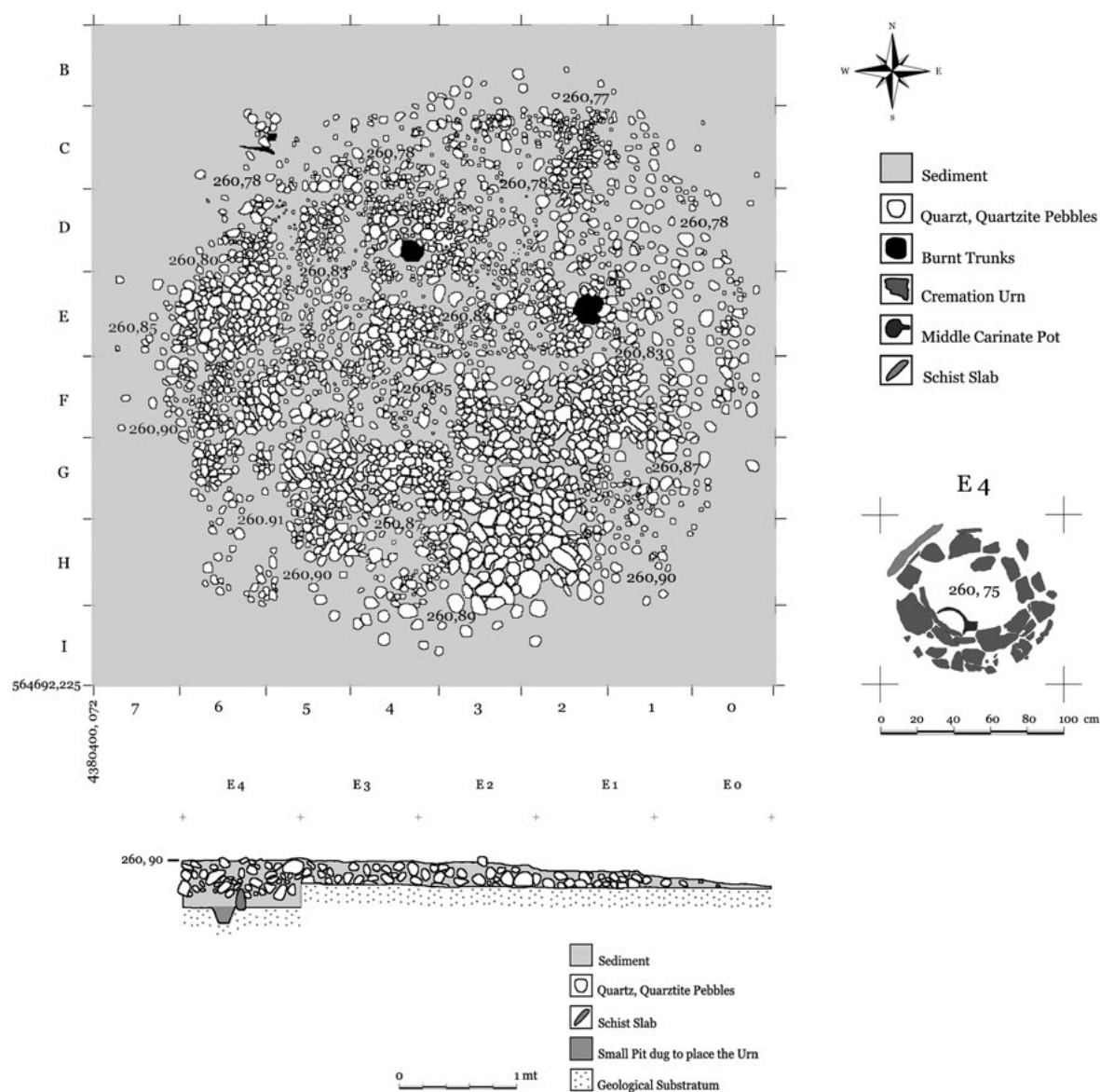


FIGURE 2. SURFACE PLAN AND SOUTH SECTION (TIER E) OF SOUTO 1 *TUMULUS*, FROM FINAL BRONZE AGE I. SOURCE: ANA CRUZ, 2015.

the enlightening of cinerary mortuary practices in the Middle Tagus Region, concerning dating data of the first stage of Portuguese FBA I.¹

The excavation methodology was so accurate that it allowed to identify five stone layers in the mound construction, where some vessels of offerings were found. In the central point of the mound a cinerary urn was also identified. This ritual proceedings *chaîne opératoire* suggests a burst in communities' mind and behavior (Cruz 2011; Cruz and Graça 2013; Cruz *et al.* 2013; Cruz *et al.* 2014; Delfino *et al.* 2014).

This *tumulus* had a specific meaning to FBA Abrantes communities as it argues in favor of a new visionary choice to negotiate Death, since in other parts of Portugal communities kept on practicing traditional burials (inhumation in dolmens, caves, hypogea, cists and barrows).

2. Foreign or Native Emphasis?

2.1. What about Cremation Urns?

The endless discussion about foreign Final Bronze Age influences can be seen at different scenarios related to mobility or to ideology (Rowlands and Ling 2013; Nøgaard 2014; Frei *et al.* 2015). Although Portugal is geographically peripheral regarding the European Continent, it presents a privileged position with respect to the Mediterranean Sea and the Atlantic Ocean. That disadvantage / advantage was reflected in both Portuguese Prehistory and History. The central argument towards foreign influences in Middle Tagus region at a micro-scale degree are defined by Core-Periphery networks (Sherratt 1993).

Research in the Middle Tagus region reveals a binary partition of this chronological period. One phase comprising both Early and Middle Bronze Age and another one, Late Bronze Age, corresponding to LBA I and LBA II showing each other very different features (Delfino *et al.* 2014: 194-195).

One of those features is related to cremation mortuary practices. It implied a complex burial procedure clearly connected to a *new cosmogonist order* that could be shared by the *Atlantic Fringe*.

Bronze Age research in this region is still in its very beginning. All the papers produced until now try to raise questions based on some archaeological sites that had been excavated throughout the last century and the beginning of this one.²

The archaeological excavations developed at the fortified settlement framework point out to occupations at EMBA (Limestone Massif), FBA I (Hesperian Massif) and FBA II (Tagus Quaternary Terraces)³ (Figure 3).

Souto 1 represents to the Middle Tagus region the 'tip of the iceberg' of Dead / Death cosmological rupture. It can be seen in its geographical location, in *tumulus* architecture, in cremation and in material culture. For the first time (at least until now) we identified a particular cremation burial which is opposed to the very popular inhumation. The native features are reflected in the topographic location, *tumuli* architecture and typology of the pottery containers.

May these evidences mean native ritual procedures? Could it intend a 'new burial order' reserved just to some selected members of the community?

¹ Beta – 280041- 2.840±40 BP – 1.120-910 cal BC.

² Batata (2006); Batata and Arsénio (2006); Batata and Gaspar (2000); Batata and Gaspar (2013); Batista (2010, 2013); Bottaini *et al.* (2013); Candeias *et al.* (1999); Candeias *et al.* (2009); Cruz (1997, 2011, 2012); Delfino (2012); Delfino *et al.* (2013a, 2013b, 2014); Félix (1997, 1999, 2006); Horta Pereira (1970); Horta Pereira and Bübner (1983, 1984); Lillios (1993); Oosterbeek (1994).

³ Castelo da Zimbreira (Mação) Beta -379735 – 2590±30 BP – 805-770 cal BC (Delfino *et al.* 2014: 174). Cerro do Castelo (Vila de Rei) CSIC 1222 – 2761±40 BP – 990-821 cal BC (Batata and Gaspar, 2000). Agroal (Ourém) – CSIC 1222 – 2761±40 BP – 990-821 cal BC; GX-15390-A – 3570±205 BP – 2280-1680 cal BC (Lillios 1993: 269).

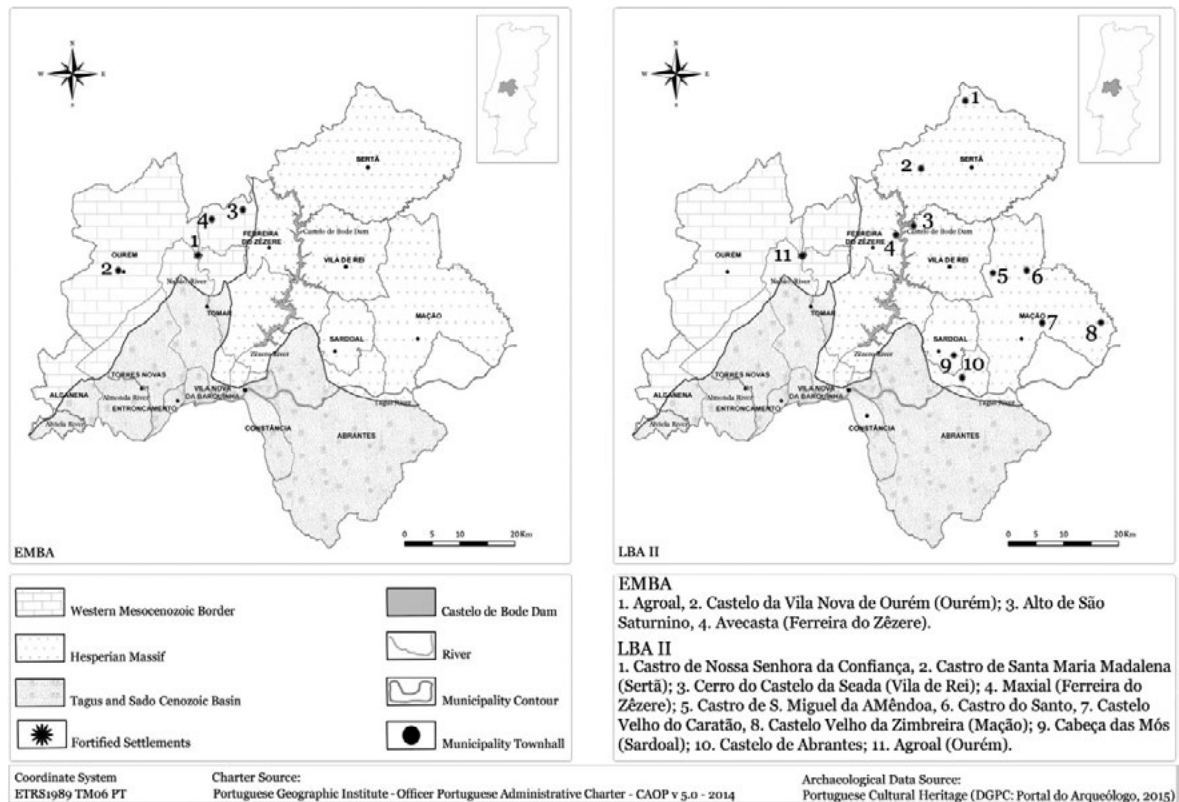


FIGURE 3. BRONZE AGE FORTIFIED SETTLEMENTS FROM MIDDLE TAGUS REGION.

SOURCE: ANA CRUZ, 2015.

Looking at the Portuguese scenario there are cremations at fortified settlements⁴ dated from LBA I, an open settlement⁵ dated from EBA, *tumuli* necropolis⁶ dated from LBA I, and seasonal open air sites⁷ dated from EBA, MBA and LBA. There are also evidences of cinerary urns at settlements⁸ and necropolis⁹ unfortunately without dating (Figure 4).

⁴ Monte da Santinha / Monte da Senhora da Paz (Amares) (Martins, 1987; Bettencourt, 1997: 621-632; Bettencourt, 2001: 61; Figueiral, 2001), dating 2917±27 BP – 1254-1244 cal BC; 2800±33 BP – 1016-890 cal BC; 2837±27 BP – 1110-1100 cal BC; 2793±53 BP – 1111-1099 cal BC; 2761±50 – 1006-810 cal BC (Bettencourt, 1995). CSIC-1085 – 2761±50 BP – 1016-810 cal BC (Bettencourt, 2010: 150). Quinta do Almaraz (Cacilhas) 2780±70 BP – 1000-840 cal BC (Barros and Espírito Santo, 1991: 339).

⁵ Boucinhas / Regueira (Ponte de Lima) – AA-63072 – 3739±50 BP – 2294-1980 cal BC (Bettencourt, 2010: 155).

⁶ Casinha Derribada 3 (Mundão, Viseu) – GrN-21303 – 3120±110 BP – 1617-1048 cal BC OxA-5291 – 2985±60 BP – 1325-1021 cal BC; OxA-4910 – 3115±65 BP – 1516-1202 cal BC (Cruz and Gonçalves, 1998-1999: 12-13). Serra da Muna 2 (Viseu) CSIC-1102 – 3700±30 2143-2010 cal BC; CSIC-1103 – 3670±30 BP – 2061-1944 cal BC; GrN-20793 – 3570±60 BP – 2039-1742 cal BC (Cruz and Gonçalves, 1998-1999: 12-13). Tancoal dos Patudos (Alpiarça) GrA-9572 – 2790±50 BP – 1039-820 cal BC (Vilaça, Cruz and Gonçalves, 1999: 19).

⁷ Quinta do Marcelo (Almada) ICEN-947/ICEN-945 – 3320±40 BP – 1691-1504 cal BC; ICEN-943 – 2780±120 BP – 1303-759 cal BC; (Barros, 1996: 25). Quinta do Percevejo (Almada) ICEN-1083 – 3370±45 BP – 1767-1530 cal BC; ICEN-1084 – 2940±60 BP – 952-946 cal BC (Barros, 1996: 28).

⁸ Casal do Monte de São Domingos (Malpica do Tejo, Castelo Branco) (Silva, 2006). Castelo Velho do Caratão (Mação) (Horta Pereira, 16).

⁹ Água Branca (Lovelhe, Vila Nova de Cerveira) (Vasconcellos, 1906: 128; Fortes, 1908: 241-252; Cardoso, 1957: 546). Pombalinho (Santarém) (Savory, 1951: 323-377; Alarcão, 1968: 77-86). Cruz da Picota (Monchique) (Veiga, 1891; Vasconcellos, 1918: 104-138; Formosinho, Viana, 1942: 369-389; Formosinho, Ferreira, Viana, 1954: 66-225; Santos, 1972: 406).

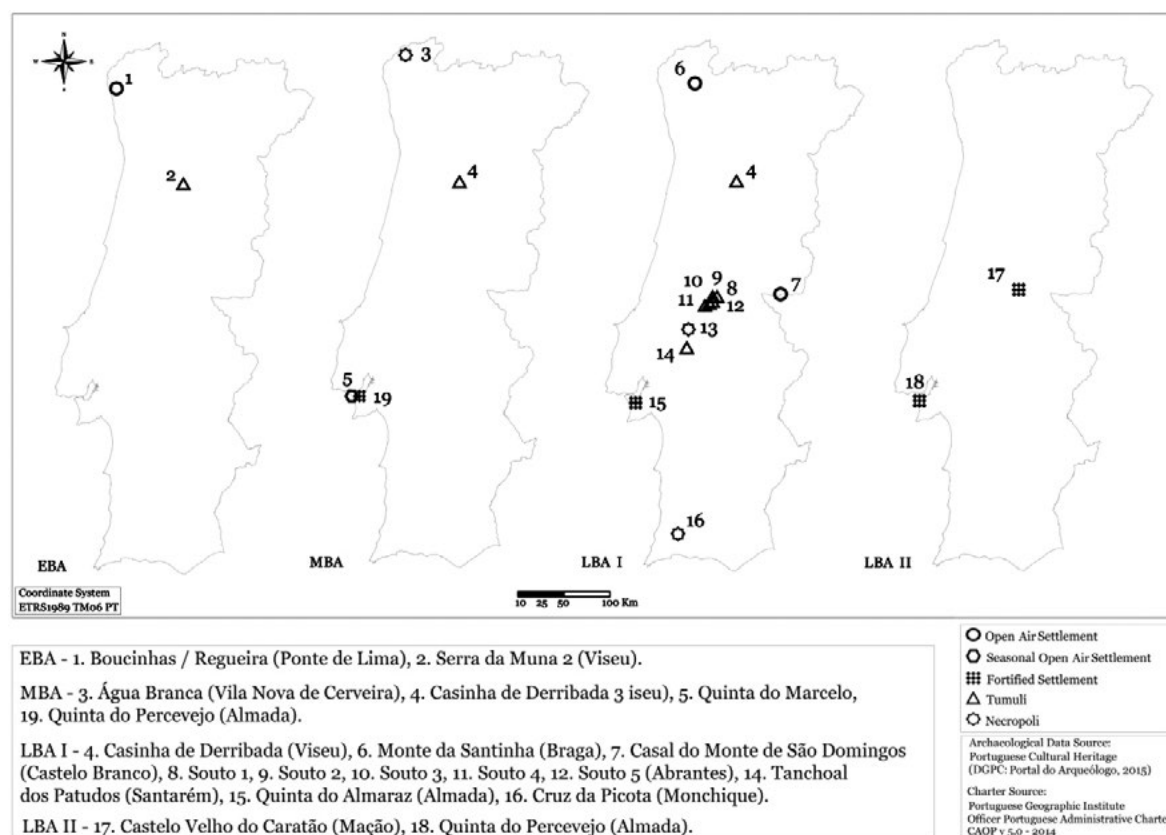


FIGURE 4. EXAMPLES OF PORTUGUESE CINERARY PRACTICES. SOURCE: ANA CRUZ, 2015.

Evidences of human ashes preserved in pottery vessels are a reality in Portugal since Early Bronze Age, however the body recycling process through fire required a technology that was already known by Final Neolithic / Chalcolithic communities, assured by earlier cremations at Olival da Pega (Silva *et al.* 2005), Perdigões (Valera and Godinho 2009; Silva *et al.* 2014; Pereira 2015) and Colos (Cruz *et al.* 2015).

Concerning Iberian influences is undeniable a time-lapse coincidence between *UrnenfelderKultur* and Souto 1 dating and flare up to large pottery vessels (Figure 3) containing human ashes and depositions in barrows directly opened in the geological strata. However it is a fact, yet to explain, that this *new burial style* coming from Central Europe remained at Catalonia.

Looking for other cultural and ideological similarities we tip-over to the *Atlantic Fringe* at Armorican MBA (Normandy).

By the middle of the III millennium interactions between Aeremorica and Central Europe were established concerning metalwork. A little bit later at the end of the same millennium they also turned to Iberia, yet there were no Aeremorica ideological influences in Souto 1's funerary practices.

Within the same *Atlantic Fringe* the closest range indicates the most Occidental Islands. The existence of cinerary burial practices was already a reality in British MBA.

At Scotland, around EMBA (circa 1900-1300 BC), cremation gained place relative to inhumation thanks to British influences.

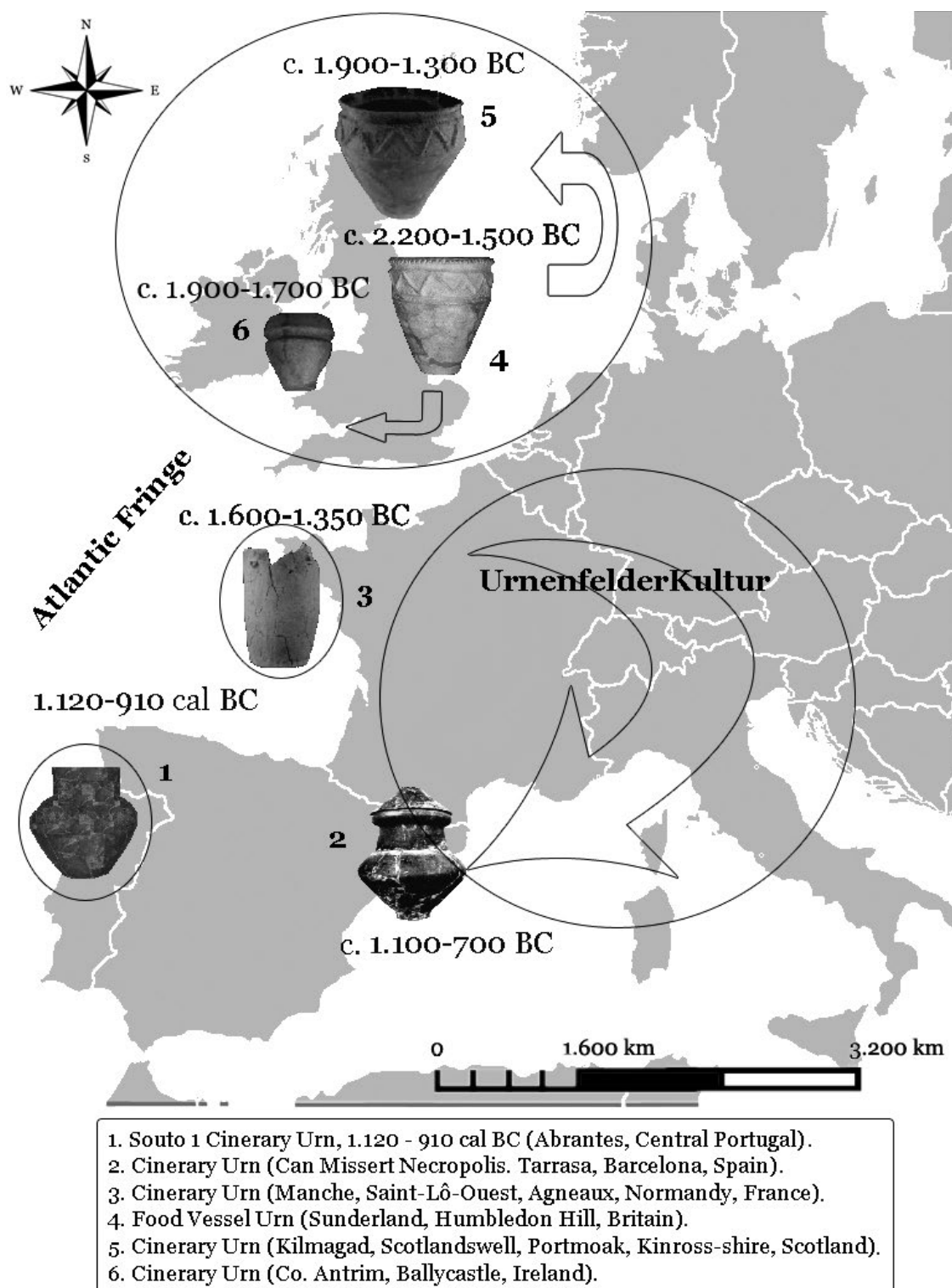


FIGURE 5. 1. SOURCE: ANA CRUZ, 2008; 2. SOURCE: MALUQUER DE MOTES, 1946: 188, LAMINA IV. THIS CINERARY URN COVERED BY ANOTHER SMALL VESSEL WAS DIRECTLY DEPOSITED IN A BARROW, SHOWING NO OUTDOOR STONY PROTECTION OR AREA LIMITATION. THIS URN IS VERY SIMILAR TO THOSE OF CAN-PITEU E CAN-ROQUETE (SABADELL, BARCELONA) NECROPOLIS, F. JAVIER LÓPEZ CACHERO, 2005; 3. THIS CINERARY URN WAS PLACED ON A SMALL CLAYISH BARROW AT THE ENCLOSURE CENTER. SOURCE: CYRIL MARCIGNY, 2005: 122; 4. THIS DECORATED CINERARY URN WAS FOUND INVERTED INSIDE A SMALL BARROW. SOURCE: [HTTP://WWW.TWMUSEUMS.ORG.UK/ARCHAEOLOGY/ PREHISTORIC%20POTTERY%20PROJECT/LOCATIONBRONZEAGE_HUMBLETON_HILL.HTML](http://www.twmuseums.org.uk/archaeology/prehistoric%20pottery%20project/locationbronzeage_humbleton_hill.html).; 5. SOURCE: [HTTP://NMS.SCRAN.AC.UK/DATABASE/RECORD.PHP?USI=000-100-035-030-C](http://nms.scran.ac.uk/database/record.php?usi=000-100-035-030-C;).; 6. SOURCE: GUIDE TO THE NATIONAL MUSEUM OF IRELAND, 2007: 11. SOURCE: [HTTPS://WWW.GOOGLE.PT/?GWS_RD=SSL#SAFE=ACTIVE&Q=GUIDE+TO+THE+NATIONAL+MUSEUM+OF+IRELAND%2C](https://www.google.pt/?GWS_RD=SSL#SAFE=ACTIVE&Q=GUIDE+TO+THE+NATIONAL+MUSEUM+OF+IRELAND%2C)

Finally we reach Ireland and the similarities are clear (Figure 5) at EMBA. Ballyconnell and Gortereghy decorated cinerary urns were placed reversed inside a small barrow, Ballycastle's was deposited inside a cist.

The cremation ritual in Europe is affiliated to the Mediterranean seashore Final Neolithic (Lenneis 2007; Trautmann 2007; Gil-Drozd 2010). Although this ritual didn't manage to be universal as it coexisted with inhumation practices, it indicates a dichotomy between cosmogony beliefs, faith and creeds implying an ideological disruption.

FBA Middle Tagus native communities developed their cremation rituals in accordance to native but older similar ceremonies. The containerization of ashes and very small burnt bones and teeth might be an ideological foreign influence coming from Britain. All in all cosmological rituals related to cremation and to material culture (pottery and metals trade) can be better understood within each Iberian region looking further in communities' past, even if these cremations rituals where nothing but a community religious epiphenomenon, kept apart from the general cist burials.

2.2. What about Metallurgy?

The *Atlantic Bronze Age Fringe connection* encompassed exchange and trade interactions that reached Central Europe.

The beginning of the Penard-Rosnoën phase of the Late Bronze Age (XIII-XII centuries) represented an *alternative model period* reflecting change and innovation in Europe (Falkenstein 1997; Oren 2000; Burgess 2001). In Central Europe it was the time for *Urnenfelder Kultur* societies, a time of war and feasting (Gerloff 1986; Burgess 1991; Burgess and O'Connor 2004; Needham and Bowman 2005). Few of these metal connectivities can be seen at Figure 6, along Portuguese Bronze Age periods.

LBA I in Iberia still represented a slow movement period of interactions with *Atlantic Bronze Age Fringe connection*. To begin with typological comparisons regarding weapons, Iberian first swords matched the Atlantic types (straight blades and broad midribs), but as they have trapezoidal hilts they were classified as rapiers and dirks, not as swords (Brandherm 2007).

The arrival of hilt-tang swords, straight-bladed with a four-rivet rectangular hilt plate (Rosnoën) in Portugal can be seen in Fóios stelae (Beira Alta) (Curado 1986; Harrison 2004: 193-195) such as Vilar Maior, Catoira and Évora variant (Brandherm 2007).

In Ireland and South-East Britain we are going to find the earliest cauldrons as in North Portugal and Estremadura were found rotary spits (Burgess and O'Connor 2004). Early forms of cylinder-socket sickles were quite common in Galicia and Portugal (Coffyn 1985: 394), and later forms can be seen in France (Briard 1964).

The LBA II showed clearly contemporaneity between the Atlantic Bronze and the Mediterranean Sea influences in Portugal.

Iberian Late Bronze Age hoards as Cabezo de Araya (Badajoz), Cisneros (Palencia), Monte do Crasto and Arganil (Beira Litoral), Quinta de Ervedal (Castelo Branco), Solveira (Trás-os-Montes) and Porto de Concelho (Beira Baixa) (Coffyn 1985; Melo 2000: 59-73) are a multicultural connections' reflector.

Atlantic and Mediterranean mixed influences can be seen in graves and hillforts. Fortified settlements were very common at North-Central and South Portugal (Parreira and Soares 1980; Arnaud 1979; Gibson *et al.* 1998) showing a variety of metalwork as a shank of a rotary spits amongst bronze scraps (Corôa do Frade, Valverde) (Arnaud 1979), bronze fibulae, iron tools, phoenician and greek pottery (Alto do Castelinho da Serra) (Gibson *et al.* 1998).

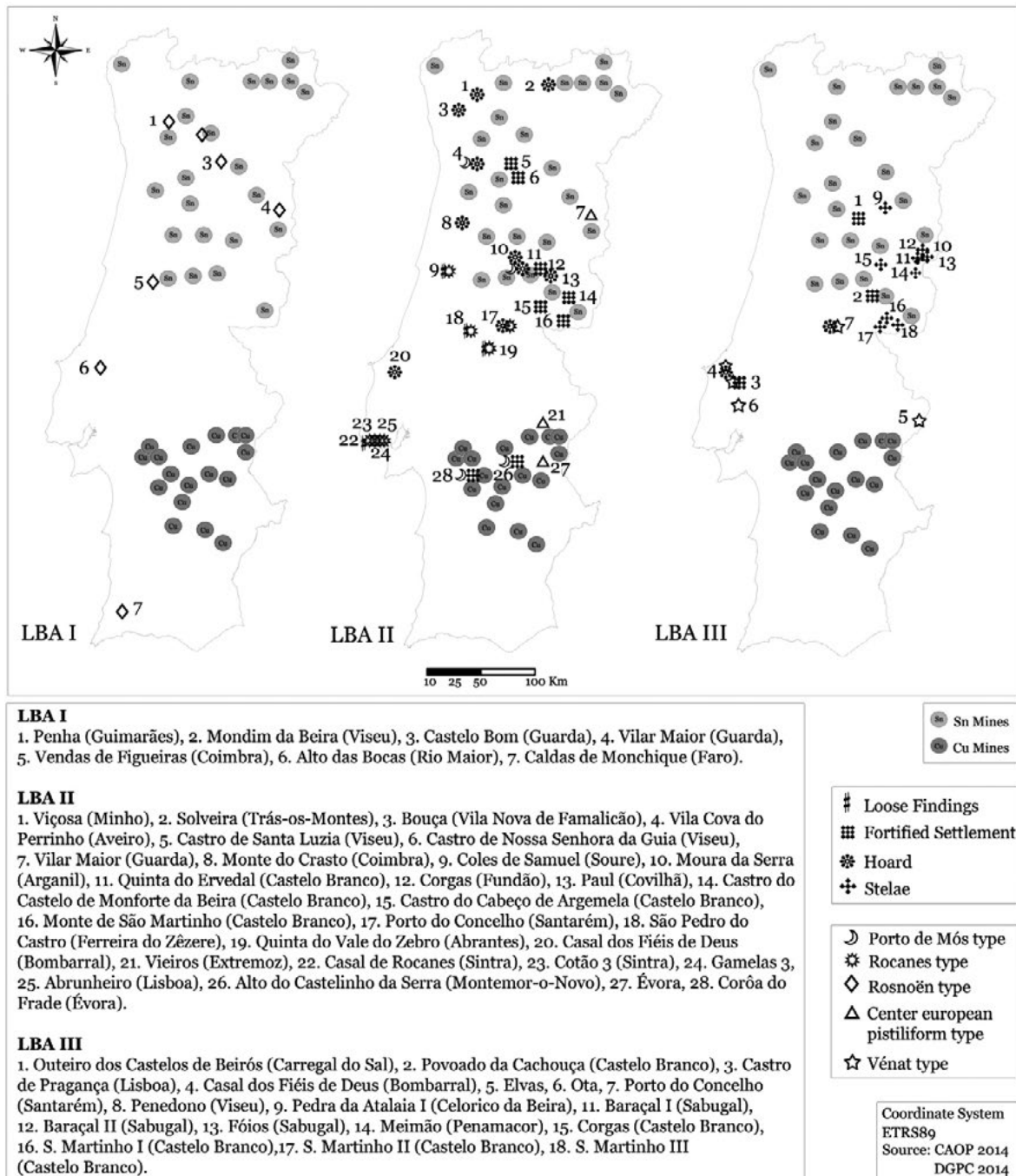


FIGURE 6. SOME EXAMPLES OF PORTUGUESE BRONZE AGE METALLURGY. SOURCE: ANA CRUZ, 2015.

Local production like hollow-bladed spearheads were found in North-West Iberia (Suárez Otero and Carballo Arceo 2001: 15) and in the Portuguese Viçosa hoard (Bouças, Minho) (Coffyn 1985: 390). Stepped-blade spearheads were found in several hoards like Cabezo de Araya (Badajoz) and Porto do Concelho (Beira Baixa) (Coffyn 1985; Melo 2000: 68-69), Solveira (Trás-os-Montes) also with a flesh-hook (Melo 2000: 14; Coffyn 1985: 390; Needham and Bowman 2005). Cylinder-socket sickles was found in Arganil hoard (Coffyn 1985) and sickles classified as the Rocanes type *à bouton allongé* are very common in settlements (Melo 2000: 58, 67). Square-bodied axes forming flattish

collars were found in hoards from Bouças (Coffyn 1985) and Castro de Senhora da Guia (Senna-Martinez, 1995; Silva 1994). The Baiões collection has few weapons, stepped-blade spearheads (maybe a bent spearhead), a tapering ferrule (Silva *et al.* 1984: 79-81), twin-looped palstaves axes (Silva *et al.* 1984: 78-79), bronze mould for flat-faced palstaves (Armbruster 2002-2003: 148), native triple-pronged fleshhook (Needham and Bowman 2005), a crested helmet with tubular ferrules and expanded foot (Kalb 1978) and a chisel with bronze socket and iron blade (Armbruster 2002-2003).

The Atlantic influence at Castro de Santa Luzia (Inês Vaz 1987) is related to cylinder-socket sickles, cauldron fragments, a ferrule with expanded foot, and a bifid razor. A double-spring fibula and swords composed by broad heavy leaf blades, two hemispherical spun bronze bowls (Meijide Cameselle 1988; Brandherm 2007: 151) are from Mediterranean influence. Baiões hoard also has a miniature of a wheeled cauldron which is unique in Portugal showing local manufacture (Armbruster 2002-2003: 150-151) that appears to be Central Europe style.

In Baiões' surroundings were found Central Mediterranean influences in two fragmentary fibulae (Kalb 1978: 117, 123), a rotary spit and a plain double-spring (Burgess and O'Connor 2004: 196; Armbruster 2002-2003: 149-150). As for East Mediterranean influences they can be seen at Monte do Crasto (Beira) (Vilaça and Cristóvão 1995), as tranchets, openwork handles expanding into short and ribbed wedge-shaped extensions. A fragmentary double-spring fibula was found at Outeiro dos Castelos de Beijós (Viseu) (Senna-Martinez 2000b: 47, 56; Arruda 2005: 296), Roça do Casal do Meio (Setúbal) (Spindler *et al.* 1973-1974; Silva 1995: 95). Phoenician influences were found at Santa Olaia (Figueira da Foz) (Rocha 1905-1908) mixed with cauldron fragments (Senna-Martinez 2005) and pottery from the seventh and sixth centuries (Arruda 2005: 294, 297).

At LBA III we are going to see the beginnings of mixed technology in Pragança (Estremadura) in two bag-shaped of lozenge section (Brandherm 2007; Coffyn 1985) and Outeiro dos Castelos de Beijós (Senna-Martinez 2000: 53, 57-58; Arruda 2005: 296) in an iron knife with a relative date circa 10th / 11th century BC.

3. What then can be concluded?

'And Yet it Moves' was the very well-known Galileo Galilei remark, that is suitable to our sub-region cultural dilemma.

Discussing Prehistoric human mobility is the most secure way to conclude about migrations and technologic influences (Rosser *et al.* 2000). Within this kind of relationships we think there might have been some sort of 'gentleman agreements' between local communities' leaders, which can be justified by the intense exchange of metal goods during the so called 'Atlantic Bronze Age' reaching Balkans. Portugal is still today a territory rich in copper (Alentejo) and tin mines (North and Centre).

The *metals flow* led to the existence of a political and social framework that prevailed over the exchange framework *Atlantic Ocean – Mediterranean Sea – Northern and Central Europe* which included mining operations at Tagus River (North or South) as a Middle Tagus region trade asset.

Living in a peripheral geographical area means the glimmer on the native population's inventiveness which sharpens their imagination and look for very unique ways to overcome difficulties and to create *new cultural universes* echoed in Menhirs, Dolmens, Bell Beaker and in the autonomous adoption of foreign ideas and new styles in order to solve new challenges.

The present Iberian populations reach 60% of mitochondrial DNA frequencies (Haplogroup H) of the Eurasian populations (Jobling and Tyler-Smith 2003) and Y chromosomal (Haplogroup R1b) which is defined by the M343 genetic marker which is the dominant paternal bloodline of Occidental Europe (Rosser *et al.* 2000). The sub-clade R1b1b2 DF27 (FTDNA n.d.) known as the Atlantic Haplogroup is the most common in Occidental Europe nowadays.

Although there are very few researchers studying genetic prehistoric human mobility in Portugal, it is possible to trace haplogroups since the Post Glacial Period (Upper Paleolithic/Mesolithic) conducting population's re-expansion throughout Europe (Richards *et al.* 2000).

Based on ancient DNA and HSVI, researchers were able to find out that Neolithic 'Portuguese' populations had no direct influence from Near East farmers, having on the other hand an important similarity with Basque, Galician and Catalan populations (Chandler *et al.* 2005: 784). Bell Beaker populations seem to have inherited the same genetic pool from the native Megalithic populations. Iberian Peninsula's R1b1b2 DF27 known as the Atlantic Haplogroup (McDonald *et al.* 2005) is the core of EBA, MBA and FBA populations.

Those scientific conclusions are not in favor of a massive migration of Central Europe or even Mediterranean migrations. It stands for the autochthonous hypothesis enhanced for strong trade interactions that became much stronger throughout Neolithic, Chalcolithic and Bronze Age periods.

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Southern and Pontic Amphorae Found in Several Getae Necropolises in the Lower Danube Area (5th-3th c. BC)

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Abstract

Our paper will emphasise – in several major necropolises from the Lower Danube area – both the centres that the amphorae are coming from, and their diverse use in graves or at funerary feasts. Based on the spread of the amphorae and their production centres, we will try to identify the ways by which they entered the area, as well as the possible poleis that mediated the wine and oil trade in the north-Thracian world. The presence of amphorae in some graves shows not only that the dead had significant material resources, but also that their presence are indicators of the social status of the dead and of certain rituals which were performed for them.

Keywords: Thracians, graves, Greek amphorae, chronology, rituals

Résumé

Notre ouvrage porte sur quelques grandes nécropoles de la zone du Bas Danube, en particulier sur les centres d'origine des amphores y trouvées ainsi que leur différent usage dans les tombes ou aux banquets funéraires. Reposant sur la diffusion des amphores et les centres de production, nous allons tenter d'identifier, autant que possible, les voies de leur entrée dans la zone, ainsi que les possibles poleis ayant médié le commerce du vin et de l'huile dans le monde nord-thrace. La présence des amphores dans certaines tombes non seulement témoigne des ressources matérielles importantes du défunt, mais elle est aussi un indicateur du statut social de celui-ci et certains rituels accomplis à son honneur.

Mots clés: Thraces, tombes, amphores grecques, chronologie, rituels

Belonging to the northern branch of the Thracians, the Getae lived in the territory between the north of the Balkans, the Southern Carpathians, the Eastern Carpathians and the Dniester River (Sîrbu 2004, 11-37). Written documents and a significant number of monuments and characteristic artefacts are attesting their inhabitation in the region throughout the period between the 6th c. BC and the 1st c. AD. In the classic period of the Getae civilization (400-225/200 BC), the items with figurative representations, almost all of them made of gold or gilded silver, can be grouped in three main categories: a) ceremony items (helmets, greaves, appliqués, necklaces, bracelets, rings etc.), b) vessel sets for feasts (goblets, *rhyta*, *phialae*, bowls, mugs etc.), c) appliqués for horse harnesses (Sîrbu 2004, 39-63; 2006, 87-96).

For example, the tomb of Agighiol has one of the richest and most diverse funerary inventories known in the Thracian world, even though it was not completely recovered. We are talking about the ceremonial gear of the basileus, of the princess (helmet, greaves, necklaces, gold and silver earrings) and of the horses (appliqués, bridle bits), plus a set of drinking vessels (silver *phialae* and goblets) and weaponry, and Greek and Getae pottery vessels (Berciu 1969, 33-76; Sîrbu 2008, 268-283).

Also, in the Sboryanovo-Sveshtari region was the most important Getae centre (approx. 350-250/225 BC), including a Hellenistic-type city, sacred zones and a number of necropolises with hundreds

of tumuli, some of them with mausoleums, frescoes and bas-reliefs. One noticed that some of the dynasts/aristocrats started building the funerary monuments during their lifetime, because it was impossible for their subjects to erect such tumuli and build such funerary chambers, sometimes with sculpted or painted scenes, in the short interval from the time of death to the burial (Gergova 1996).

Cremation was the predominant rite for the northern Thracians between the 5th and the 3rd c. BC, since more than 2000 cremation tombs are known, compared to almost 400 inhumation tombs. The gap is even more obvious when taking into account that almost half of the latter category is from the necropolis of Stelnică (Conovici, Matei 1999, 99-144). Therefore, the other almost 110 funerary discoveries total only about 200 inhumation tombs! (Sîrbu 2000, 159-189; 2006, 117-120).

However, the Lower Danube is the site of several necropolises from the 5th-4th c. BC that contain solely inhumation tombs, but with a small number of graves.

The discoveries made so far indicate that inhumation was the dominant funerary rite in the case of rulers or high-ranking aristocracy.

The Getae settlements and graves yielded numerous and diverse Aegean-Mediterranean or Black Sea imports, with an important place occupied by amphorae, which shows that the Thracian elites were connected to the tastes of the southern civilizations. Thus, in the Getae graves, particularly those that can be attributed to aristocracy, one has found many amphorae, some southern, from Mediterranean centres (Rhodes) or Aegean centres (Samos, Chios, Lesbos, Thasos, Knidos, Kos), some from the Black Sea (Sinope, Heraclea Pontica, Chersonesus) (Glodariu 1974, 27-40, 181-205, pl. II; Sîrbu 1983a, 43-67; Teleagă 2008).

For the current presentation, we selected 10 representative necropolises, which include necropolises with just tumulus graves or just flat graves, as well as necropolises with both flat and tumulus grave, on both sides of the Lower Danube or even on islands, throughout the entire period between the 5th c. BC and the 3rd c. BC.

Brăilița

Only 11 flat graves were found, all of them of the cremation type, while the rest were destroyed by a brick workshop. All of them were from the 4th-3rd c. BC. Out of the total of 21 vessels, 14 were Getae, and the rest of 7 were Greek, which is an unusually high percentage (33%). One has identified 4 amphorae, two used as urns and two as recipients for possible offerings. They were originating from Thasos (1 item) and Heraclea Pontica (3 items) (Harțușche, Anastasiu 1968, 31-37, 61-62; Sîrbu 1980, 137-155; 1983b, 13-25, ill. 8-10; 1982, 99-102; Harțușche 2002, 152-156, ill. 113, 114/1-4, 118-119; Teleagă 2008, kat. 361, 418-419, 428, Taf. 4/2, 4-6, 129/8-9).

What is also surprisingly high is the number of stamped amphorae handles found in the nearby Getae settlement – 45 items, coming from Thasos, Knidos, Rhodes, Heraclea Pontica and Sinope – considering that only a small percentage of the site is preserved, while the rest was destroyed by the same brick workshop (Harțușche, Anastasiu 1968, 29-31, 63; Sîrbu 1982, 99-124; 1983, 11-41; Harțușche 2002, 150-152, ill. 112, 114/5-7, 115-117).

Bugeac II

One has found 124 flat graves, all of them from the 4th-3rd c. BC. One of them, for a child, is an inhumation grave. The number of amphorae identified is very low, most of them of the Heraclea Pontica type or the Mende type (Irimia 1968, 193-233; 1969, 23-42; 1979, 109-134; 1980, 219-234; 1986; 1992, 161-172; Teleagă 2008, kat. 314, Taf. 2/3).

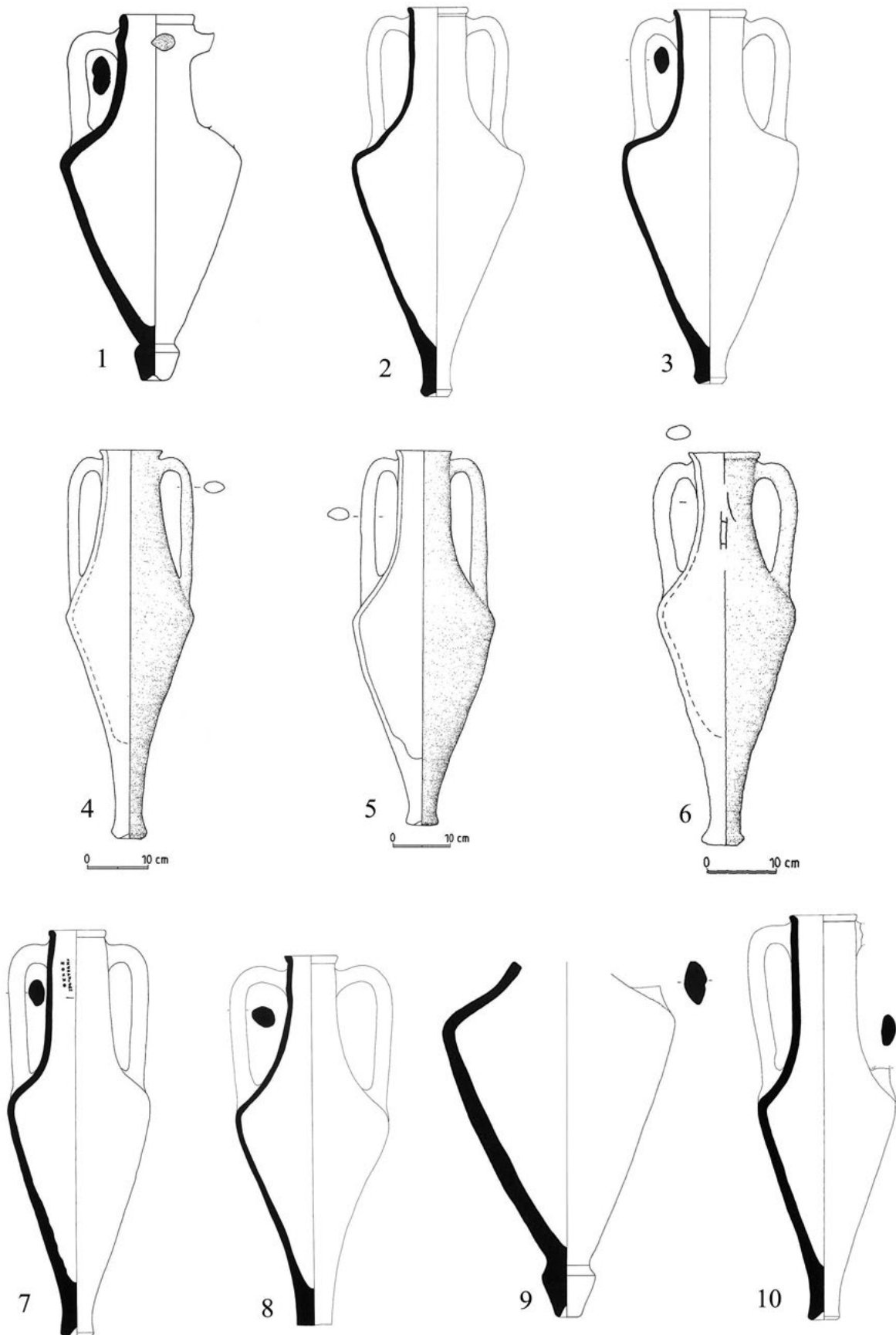


FIGURE 1. AMPHORAE FROM GETAE NECROPOLISES. **BRĂILIȚA**: 1. GRAVE 2; 2. GRAVE 3; 3. GRAVE 8; **CANLIA**: 4. GRAVE 1; 5. GRAVE 4; 6. GRAVE 21; **SATU NOU**: 7. GRAVE 27; 8. GRAVE 28; **STELNICĂ**: 9. GRAVE 139; 10. GRAVE 199 (1-3, 7-10 *APUD* TELEAGĂ 2008; 4-6 *APUD* BOROFFKA, TROHANI 2003).

Canlia

The necropolis contains 77 flat graves, all of them of the cremation type, from the end of the 5th c. – the end of the 3rd c. BC. Six amphorae were identified, five of them from Thasos and one from Heraclea Pontica, four of them used as urns, one in a cenotaph, and another was found in the necropolis area. The graves yielded 150 local, Getae vessels, and only 6 amphorae, which is a very small percentage (4%) (Boroffka, Trohani 2003, 139-198, ill. 6/1-3, 8/4, 10/8, 26/1; Teleagă 2008, kat. 64-66, 360, 441, 308, 360, Taf. 12/1-6; 131/1-4).

Enisala

One has found 400 tumulus and flat graves, of which only 20 are of the inhumation type, while the rest are cremation graves, with a rich and diverse inventory, from the 5th-3rd c. BC. Of the over 700 pottery items, only about 10% are Greek, but the exact number of amphorae is not yet known. The published amphorae are from Chios, Lesbos and Thasos, and after that of the Peparethos / Soloha II and Mende type. They were used both as urns and as containers for possible offerings (Simion 1971, 63-129; 1976, 143-163; 1977, 49-72; Teleagă 2008, kat. 15, 32-33, 40, 59, 80-82, 130-135, 142, 468, Taf. 26/1-2, 27/1, 3-12, 28/6, 31/5, 34/7, 37/1, 137/1-3; 138/8).

Murighiol

In two flat necropolises, containing 36 and 24 graves respectively, all of them of the cremation type, from the 4th-3rd c. BC, one has found amphorae from Thasos, Heraclea Pontica and of the Peparethos / Soloha II type (Bujor 1955, 571-580; 1959, 325-330; 1961, 297-300; Teleagă 2008, kat. 69-70, 99, 181, Taf. 76/4-5, 7, 172/1, 8-9).

Particularly interesting are the finds in two tumuli, located in another area. Namely, Tumulus 1, a cremation grave, contained in agglomerations along the ring 40 stamped amphorae handles from Rhodes, from 201-194 BC. Since only two amphorae were partially complete, it is obvious that they were used in rituals in other locations, either for *ustrinum* or for the funerary feast. From Tumulus 2, only the lower part of 3 amphorae could be reconstituted, two of them with stamps, plus 6 stamped handles, all of them from Rhodes, dating from 212-208 BC (Simion 1995, 265-302).

Satu Nou

The necropolis includes 45 flat graves, all of them of the cremation type, from the 4th-3rd c. BC. A very small number of amphorae were found some of them used as urns, others as possible offerings, originating from Thasos, Heraclea Pontica and Rhodes (Mitrea, Preda, Anghelescu 1961, 283-286; 1962, 369-371; Teleagă 2008, kat. 115-116, 209, 354, 412, Taf. 89/1-3, 5, 185/6-7).

Stelnică

This is an interesting necropolis, both because of the large number of graves and because of the rites and rituals identified. The fitting outs and funerary inventory suggest that this is where the common members of the communities were buried.

So far, one has found over 400 graves, all of them flat, and the research continues. It is the only known Getae necropolis where the number of cremation graves is almost equal to that of the inhumation graves, around 200 of each, all of them from the 4th-3rd c. BC.

Unfortunately, we have better data on only 194 of the graves. Amphorae were found in 11 graves, in two pits with offerings, plus fragments in between the graves. In three cases, the amphorae were used as urns, in other two situations the amphorae fragments were 'markings' for graves. One has identified amphorae from Thasos, Heraclea Pontica, Sinope, Kos and Peparethos-Skoples (Soloha II)

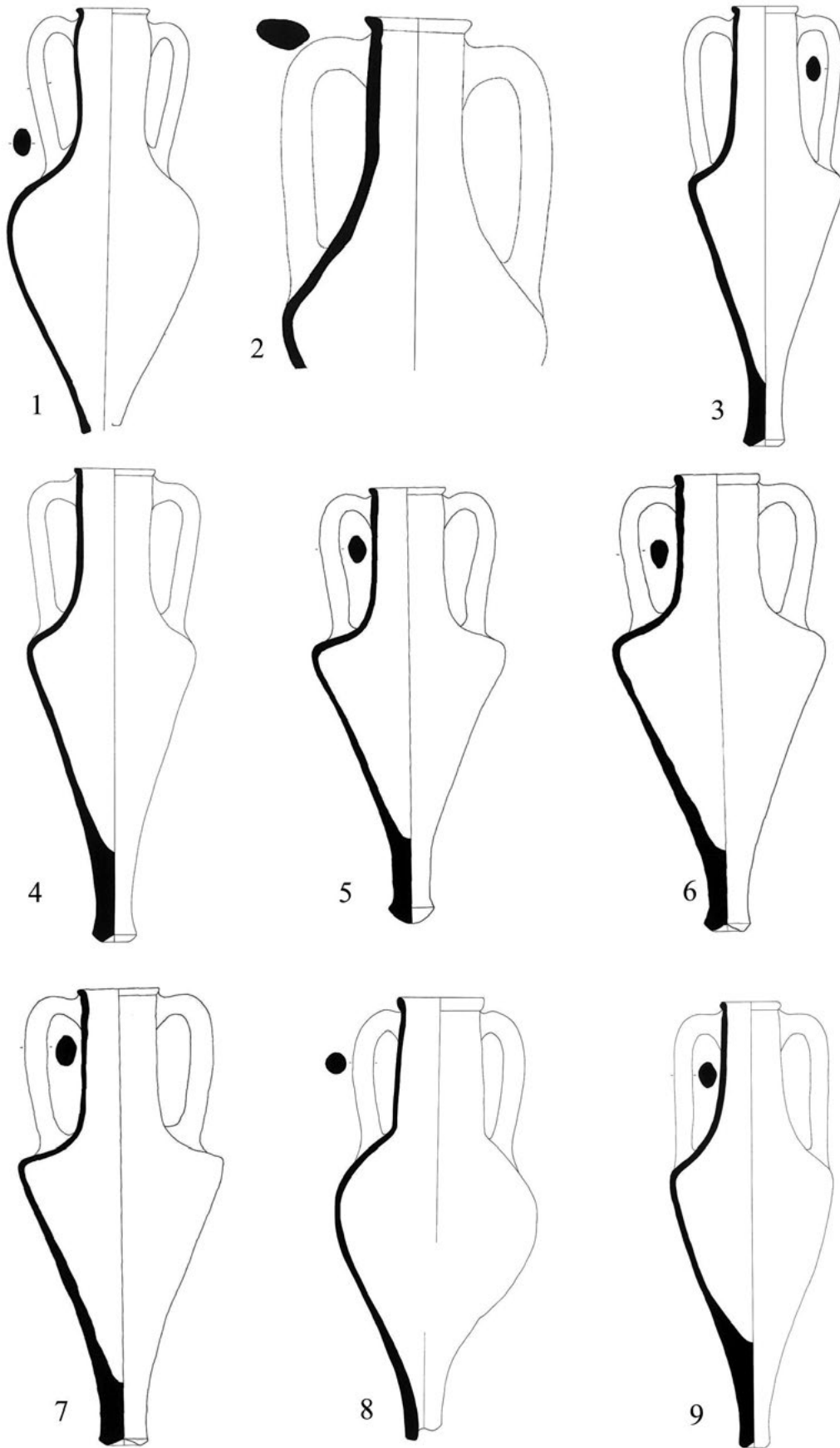


FIGURE 2. AMPHORAE FROM GETAE NECROPOLISES. **ENISALA**: 1. TUMULUS 4B GRAVE 12; 2. TUMULUS 5A; **MURIGHIOL**: 4-5. GRAVE 1; **TELIȚA**: 6-7. GRAVE 6; **TELIȚA-CELIC DERE**: 8. TUMULUS 39 GRAVE 6; **ZIMNICEA**: 10. C10 GRAVE 70 (APUD TELEAGĂ 2008).

(Conovici, Matei 1999, 130-131, fig. 32; Teleagă 2008, kat. 192, 303, 364, 430, 432, 536-537, Taf. 93/3, 94/1-5, 186/6-10).

Telița

In a tumulus with a stone construction, seven inhumation graves were discovered, with a rich and diverse inventory from 325-275 BC. Grave 6 had three whole amphorae from Heraclea Pontica, a kantharos and a plate (Simion, Cantacuzino 1962, 373-381; Teleagă 2008, kat. 422-425, Taf. 102/1, 103/3-5, 192/1-3, 6).

Telița-Celc Dere

We estimated that a total of 137 graves have been excavated until now (86 were central burials in mounds covered by circular or oval stone embankments, 25 were secondary graves in mounds and 26 were regular flat graves found in various sectors of the cemetery). From the 86 mounds, 44% of the main burials were made by inhumation, 34% were cenotaphs, 9% were by cremation and for the rest of 13% the rite is unknown (Simion 2003, 237-246; Sîrbu *et alii* 2013, 347-372; Teleagă 2008, kat. 5, 8, Taf. 102/3, 192/7, 10-11; Bîrzescu 2012, Abb. 77/8).

T39 contained a Lesbos amphora dated around 500 BC, T10 contained a Samos amphora dated about 500 BC, T12 had contained fragments of amphora from Thasos and Chios from the second part of the 5th c. BC, while the most recent date for a tumulus with inhumation is a Rhodes stamped amphora, coming from T1, dated in the last quarter of the 3rd c. BC. Others types of amphorae coming from Heraclea Pontica and Sinope (4th-3rd c. BC) (Sîrbu *et alii* 2013, 347-372).

Zimnicea

The necropolis includes 166 graves, both tumuli and flat, only four of which are inhumation, and the other 162 are cremation graves, from the 4th-2nd c. BC. The number of amphorae is surprisingly small – 5 items (four from Thasos and one from the Heraclea Pontica), found in 3 graves, all of them with rich inventory, so they belonged to aristocrats or warriors (Alexandrescu 1980, 20, 30, ill. 67/3-6, 73/15; Teleagă 2008, kat. 72-74, 290, Taf. 119/1, 120/4, 198/7-8).

In a pit on an island from one of Danube's branches, at Dichiseni – Farm 7, one has found by accident, in the process of erecting a construction, 7 whole amphorae from Heraclea Pontica, Thasos and Rhodes. Unfortunately, we do not know the position of these amphorae, or if there were more of them. They were either stored for later use or were a ritual deposit, so it is difficult to understand how the local population could give up on such valuable recipients.

The analysis of the finds

Although not many of them were found in the Getae necropolises, the amphorae are a constant presence in them, and they were used for various purposes. Compared to the number of local, Getae vessels, the number of Greek amphorae found in necropolises is under 5%, with only one case of over 10% (Enisala) and the case of Brăilița, with 30%, which is the exception.

Use

A significant percentage of them – almost half – were used as urns, in all the cases with cremated bones. No small children inhumed in amphorae were discovered in the area in question. In most cases, the mouth and neck of the item were deteriorated, probably in order to make it easier to put the cremated bones inside.

It is difficult to say how many of the amphorae were used as recipients for offerings, since no specialised analyses were performed on the preserved items.

If there were some liquids present (e.g. wine), then they evaporated and can no longer be identified solely by the usual methods of archaeology. Perhaps the finds with whole amphorae could be used in this regard.

Another part of the amphorae, namely their contents, was consumed during the funerary rituals, particularly the 'feasts', and after that they were broken and only parts of them were placed in graves.

In some cases (such as Stelnică), amphorae fragments were used as surface markings for the location of the graves (Conovici, Matei 1979, 130).

Although their contents could be diverse, the amphorae were mostly used for transporting wine, which is also confirmed by the finds in the north-Thracian area. The presence of amphorae in graves or in the area of the necropolises shows the important role played by superior wines in the Getae funerary practices.

State of preservation

There are various states of preservation of the amphorae in necropolises. A large part of them were deposited whole, either with their content used during the funerary feast or with food offerings. Many of the items are deteriorated (mostly in their upper section – mouth, neck, handles), but it is difficult to know to what extent they were intentionally broken or were used after an accidental destruction. As for the situations where only fragments were found, we could be dealing with the intentional destruction of the amphorae, possibly during funerary rituals. It is suggestive, in this case, that only stamped amphorae handles were placed.

Centres of origin

There is a large diversity in regard to the areas and centres of origin. Thus, there are amphorae from centres on the Black Sea (Heraclea Pontica, Sinope and Chersones), the Aegean Sea (Thasos, Chios, Samos, Lesbos, Knidos, Kos and Peparethos) or from the Mediterranean Sea (Rhodes) (Glodariu 1974, 27-40, 181-205, pl. II; Sîrbu 1983b, 43-67). Of course, there are also items whose origin was not identified, because of the lack of stamps and their fragmentary state. The amphorae from the Aegean and Mediterranean centres are predominant compared to those from the Black Sea (Glodariu 1974, 27-40, 181-205, pl. II; Sîrbu 1983a, 43-67).

Chronology

The establishment of Greek colonies on the western side of the Black Sea was an obvious factor in favour of trade with the local Getae, all the more so as the necropolises that we presented were only 50-200 km away from them. Therefore, Histria/Istros and Orgame/Argamum were founded in the middle of the 7th c. BC, while Kallatis and Tomis, in the 6th c. BC (Avram 2001, 535-543). Also, since all of the necropolises analysed are on the banks or islands of the Danube, or nearby, it is beyond doubt that the great river facilitated the trade between the Greeks and the locals.

Chronologically speaking, the presence of amphorae in the funerary discoveries is felt immediately after their diffusion in the area of the northern Thracians, namely between the end of the 7th c. BC and the beginning of the 6th c. BC. The first identified amphorae are from the Aegean, namely Samos, Chios and Lesbos, and found, for example, in Telița-Celice Dere or Enisala (Teleagă 2008, Taf. 26/1-2, 28/6, 34/4, 102/3, 138/8, 192/7, 10-11; Bîrzescu 2012, Abb. 77/8).

The earliest amphora in the Danube Plains is from Samos, found at Ciulnița, dating from the end of 7th – beginning of the 6th c. BC, but it was in a grave of Eastern origin, probably Scythian (Marinescu-Bîlcu, Rența, Matei 2000, 149-165; Teleagă 2008, Taf. 20/2, 134/3, Bîrzescu 2012, Abb. 91/17).

The highest number of amphorae is from the 4th-3rd c. BC, which is also the period of the largest number of Getae graves.

Besides the use of the products that they contained, the amphorae, particularly the stamped ones, are important chronological markers for dating the graves, because some of the local recipients, particularly those hand-modelled, were used for a much longer period, sometimes for two-three centuries.

Beneficiaries

As for the social categories that used the amphorae in the funerary practices, we can see that the largest number of items and the highest diversity of the centres of origin are from tumulus graves or flat graves with a richer inventory. Therefore, we can conclude that we are dealing exclusively with aristocracy, warriors or affluent members of the community. However, there are also amphorae in flat graves with a poor inventory. In these cases, we do not know if the situation reflects the real wealth of the dead or is related to certain norms of the funerary practices.

Final observations

Seen as a whole, the trade with products stored in amphorae, particularly higher-quality wine, in the Getae world points to several characteristics, regardless of the types of sites where the amphorae were found (settlements, graves or isolated pits). We will mention only a few of them.

Although they were found in almost the entire area inhabited by the northern Thracians, the large majority of the amphorae were found, as they should be, in sites in Dobroudja namely close to the Greek colonies, and secondly on the Danube valley and in the central Moldova. The number of items found in Transylvania, namely beyond the Carpathians, is very low, because of the distance from the Greek colonies and the difficulty of transport over the mountains, but also because of internal reasons, such as the lower structuring of the communities in that area (Glodariu 1974, 27-40, 181-205, pl. II; Sîrbu 1983a, 43-67).

The much larger amount of Aegean-Mediterranean amphorae compared to the Pontic ones is obvious, though the exact number cannot be given.

We are also noticing in certain areas a predominance of certain types of amphorae, which suggests persistent trading with particular Greek centres.

For instance, the amphorae in **Thasos** are obviously predominant in Dobroudja, eastern Wallachia and central Moldova, which points to Histria as a possible middleman, while those from **Heraclea Pontica** are more numerous along the Danube and in southern Dobroudja, emphasising the role of Kallatis, which was, in fact, founded by this colony. On the other hand, the **Rhodes** amphorae are spread out over almost the entire area inhabited by the northern Thracians, even if in different percentages, which suggests that Rhodes distributed by itself most of its wines on this market (Sîrbu 1983a, 11-41).

There are few amphorae from Samos, Chios and Lesbos, but they are present in a large area and they are dated to a period between the first half of the 6th c. and the 5th c. BC (Sîrbu 1983a, 43-67). This suggests that they were routed through Histria, a colony where, in fact, many amphorae from these centres were found (Bîrzescu 2012).

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The Southern Group of Tumuli of the Eastern Necropolis in the Sboryanovo reserve. Greek Amphorae and a Getic Royal burial

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Abstract

The investigations of the Southern group of the Eastern royal necropolis of the religious and political capital of the Getae 'Dausdava' in the Sboryanovo National reserve (NE Bulgaria) propose a unique chance to reconstruct the burials of the Getic elite. Amphorae from Thasos, Knidos, Heraklea Pontica and Chersonesus Taurica in the tumuli of different functions show their almost simultaneous construction not later than the first years of 3rd century BC in connection with the magnificent burial of a Getic ruler, who should be identified with Kotela, known about his contacts with Philip II since 441/339 and having died before the Getic-Macedonian conflict from 294-292 BC.

Keywords: *Getae, Kotela, burial rites, immortality, amphorae*

Résumé

Les recherches sur le groupe méridional de la nécropole royale orientale de la capitale religieuse et politique des Gètes 'Dausdava', dans la réserve nationale Sboryanovo (nord-est de la Bulgarie), proposent une chance unique de reconstruire les enterrements de l'élite gétique. Des amphores de Thasos, Knidos, Héraklée du Pont et Chersones Taurica, trouvées dans des tumuli à diverses fonctions, témoignent de leur construction presque simultanée, pas plus tard que les premières années du IIIe siècle av. J.-C., en relation avec la sépulture monumentale d'un chef gétique, qui pourrait être Kotela, bien connu pour ses contacts avec Philippe II, dès 441/339, et qui est mort avant le conflit Géo-Macédonien de 294-292 av. J.-C.

Mots clés: *Gètes, Kotela, rites d'enterrement, immortalité, amphores*

The religious and political centre of the Getae of 1st mill BC, most probably 'Dausdava' (The city of the wolves or of the Dawn) from the Tabula Nona of Claudius Ptolemaios, was found at the end of the 2nd mill BC along the valley of Krapinetz river. Being preliminary planned it consisted of a complex of sanctuaries that functioned during the whole 1st mill BC and cult places, among which later was set up the Hellenistic polis of Helis. (Гепрова 1988; 2000; Gergova 1997; 2004; 2007; 2010; 2012; Stoyanov *et al.* 2006). The Hellenistic tumuli, organized in groups, were surrounding this complex from the East, North and West (Gergova 1999).

The fact that each group consisted of tumuli piled not only on human graves, but also on animal sacrifices, clay altars, remains of ritual activities, or were just empty, suggests that each of the groups was an entity – expression of a complex system of burial rites.

In accordance with the Getic beliefs in astral immortality, these groups were constructed also as mirror reflections of the brightest constellations. The Western necropolis was corresponding to Sagittarius, while the most impressive groups at the Eastern, royal necropolis corresponded to Canis Major (the Northern group with the Sveshtari tomb and the tombs-twins with sliding doors) and to Orion (the Southern group around the Great Sveshtari tumulus). (Гепрова 1996; Valev 1996).

What were the time span in which these groups were constructed, what was the internal hierarchy of the tumuli and the subordination of the individuals buried in them? These questions are of crucial importance for the reconstruction of the burial rites of the Getae.

The investigations of the Southern group of tumuli of the Eastern necropolis in the last several years lead to the discovery of unknown till now situations, that through new light on the Getic burial rites, allow to reconstruct the logic and sequence of the burial and post burial rites and to give answers to some of the raised questions (Fig. 1).

Greek amphorae from the tombs of the Southern group contribute not only to the reconstruction of the Getic burial practices, but also to the possible correlation of archaeological data and written sources in favor of the materialization of important historical events.

The centre of the Southern group is the Great Sveshtari tumulus – the highest in the necropolis (19 m high). Visible from long distances, it was also a sign of the location of the sacral Getic territory (Fig. 2).

The tumulus was piled over a monumental stone tomb with semicyndrical vault, antechamber and main chamber, with architectural decoration in Doric style (Fig. 3). The tomb was destroyed by an earthquake of 7.5 degree *after Richter* in the beginning of the 3rd c. BC. After that it was partially dismantled, but the embankment was reconstructed in order to preserve the ideal form of the highest tumulus (Gergova, Iliev, Rizzo, 1994).

Fragments of human bones and an iron axe were found near the SW wall of the destroyed tomb. Two urns with the cremated bones of a young woman and two children, may be even earlier than the tomb,



FIGURE 1. THE SOUTHERN GROUP OF THE EASTERN NECROPOLIS. A VIEW FROM NE.



FIGURE 2. THE SVESHTARI TUMULUS AND THE EASTERN NECROPOLIS. A VIEW FROM THE SOUTH.



FIGURE 3. THE TOMB UNDER THE GREAT SVESHTARI TUMULUS.

were found the East of the tomb (Гергова 2014). On the platform of white crushed stones in front of the tomb, to SW, a ritual pit with the skeleton of a dog, and amphora fragments with deposition of the

most expensive Greek wine – the Retsina were found (Gergova 2013; Zareva, Kuleff 2010). In the process of the piling of the tumulus, to the West of the tombs a burial of a sacrificed horse without any other objects had been performed. The reconstruction of the embankment in the area of the tomb after the seismic event was accompanied by the sacrificing of another dog on the additionally constructed supporting the embankment stone wall (Gergova 2013; Gergova, Iliev, Rizzo 1994). Thus the tumulus was a centre of ritual and constructive activities for a long time. Although some amphorae from the embankment of the tumulus can be dated in the wide chronological frame between 325 and 250 BC (report of D. Gergova about excavations in 1999; Teleaga 2008, 373, Taf. 100/5,6), the better dated stamped handles ([Θ]ασίων, trident, [Κρα]τῖνος, c. 290; Θασίων, labrys, Δέαλκος, c. 294; Θασίων, a snake, Αἰσχρίων I, ok. 292) are dated by Ch. Tzochew after a consultation between 300 and 290 BC (report of D. Gergova about excavations in 1992). More detailed analysis of the context of the amphorae from the Great Sveshtari tumulus in a separate work would certainly contribute to the precision of the dates of the phases of the construction of the tumulus and the reconstruction in its destroyed by the earthquake parts.

The discovery of the oak chest with golden gifts in the Western part of the tumulus was decisive for the totally new interpretation of the tumulus (Gergova 2013). The chest (60 x 60 cm and 54 cm high) was installed in the crown of an old living sacred oak tree. The place evidently because of its sacredness was chosen for the construction of a ruler's tomb in its vicinity. At the same time, stratigraphic observations show also that the chest was installed in the tumulus after the second phase of the piling of the tumulus, on a height about 4 m, before its final piling (Γεργова 2014; Gergova 2006) (Fig. 4). The golden gifts consisted of three categories of objects-jewelry, applications to a horse harness and a brocade (Fig. 5). The jewelry was arranged in the box in an anthropomorphic order: the diadem with the procession of lions and panthers lead by unknown till now fantastic creatures (satyresses) near the Eastern wall of the chest, elements of necklaces – in front of it, two pairs of spiral bracelets and a ring with Eros – near the Northern wall. More than 200 golden appliqués to the horse harness were laid in the centre of the chest, around an iron bridle. The golden threads were spread all over the box, suggesting that the brocade was covering the objects. (Gergova 2013; 2015a). The two groups of



FIGURE 4. THE PROFILE OF THE TUMULUS EMBANKMENT WITH THE PLACE OF THE WOODEN CHEST.



FIGURE 5. THE OAK CHEST WITH THE GOLDEN GIFTS IN SITU.

female ornaments and horse harnesses appliqués repeat the structure of the Thracian treasures, buried in the earth, or in tumuli without burials, as sacred gifts to the main Thracian gods – the Mother Goddess – Artemis and Apollo (Gergova 1988, 1988a; Gergova 2013b). The lack of any bones in the wooden box is another argument to the interpretation of this unique find as a sacred gift to the gods, buried in the process of the construction of the tumulus and accompanying the soul of the buried in the monumental destroyed tomb individual to the afterworld.

The style, the decorative system and techniques, applied for the making of the golden objects from the Great Sveshtari tumulus, demonstrate the common features of the toreutics of the Hellenistic world in Greece, Thrace and the North Pontic area since 2nd half of 4th century BC and in the first half of the 3rd c BC. (Gergova 2013a; Tonkova 2008; Калашник 2014; Gergova 2015a).

The excavated till now tumuli from the Southern group by G. Feher in the 30 ies (Фехер 1934) and by the author, show that they were piled over dug out in the earth tombs and graves, some of which with walls faced with stones (tumuli 25, 31a) or additionally stone emplektions paneled with oak beams, and with clay escharae on the floor (tumulus 2 -Feher, tumuli, 25, 31). All the burials are by incineration (Фехер 1934; Гергова 2014).

Tumuli 31 and 31a, situated on the periphery of the ditch of the Great tumulus belonged to women with hinted by the magic objects in the graves priestesses functions (Gergova 2013a; 2015) Tumulus 2 (Feher) which localization is impossible to precise now, most probably belonged to a man.

The gifts in tumulus 31a include hand- and wheel made local ceramic bowls, a black glazed lamp, a kantharos with olive boughs two lekythoi, iron ring and an iron knife, silver, glass and clay beads, as well as magic objects. Three amphorae were installed against the NE and NW corners of the tomb (Fig. 6) two from Thassos with stamped handles. (Γεργова 2014) and one from Knidos and. The emblems of a labrys and of a spear head and the name of the magistrate Κρατιστώναξ according to Ch. Tsochev date the Thasian amphorae around 296 BC. (Tzochev 2009, 65) (Fig. 7).

Tumulus 31 was covering a dug out tomb with oak paneled walls of the stone emplekton and a polychromatic rectangular altar – eschara in the centre of the chamber. (Gergova 2013a; Γεργова 2014) (Fig. 8a). The burned bones of a woman, four bronze fibulae of Thracian type, bronze and golden appliques, glass beads and magic objects, handmade Thracian jug and bowl and a handle of a silver cup have been found along the SE wall of the tomb. Fragments of askos on the SE protuberance of the tomb and of five amphorae between the stones of the emplekton of the tomb have been found (Fig. 8b). They are from Thasos and the stamped handles – two with the name of Κριτίαξ and emblems – a



FIGURE 6. THE AMPHORA IN SITU IN TUMULUS 31A.



FIGURE 7. THE AMPHORA STAMPS FROM TUMULUS 31A.



FIGURE 8A. THE TOMB UNDER TUMULUS 31.



FIGURE 8B. AMPHORA
FRAGMENTS BETWEEN
THE STONES OF THE
EMPLEKTON.



FIGURE 9A-C. AMPHORA STAMPS FROM TUMULUS 31.

– xiphos and a ladle, and a third one with the name of Δέαλκος (Fig. 9a-b) are dated by Ch. Tsochev to 293-292 BC. (Tzochev 2009, 65).

Tumulus 29, situated to the East of the Great tumulus was piled over a pit with a saddle-horse and a stone anthropomorphic ritual construction (excavations of D. Gergova). Fragmented amphorae from Heraclea Pontica (type II after Brashinskij) have a wider chronology between 300-260 BC (Teleaga 2008, 382, Taf. 100/4).

In tumulus 27 a pit with a two-horse chariot (*biga*) was found. It is the first one discovered in Thrace. Two pit graves with burials by incinerations of a man and of a woman on the same level were found to the North of it. (Gergova 2013a; Γεπροβα 2014) (Fig. 10). In Grave 2 – a small and shallow oval pit filled with oak cinders the cremated bones belonged most probably to a female juvenile (15-20 years). Among the golden elements of jewelry-separate miniature rosettes, pendants, and granules, some preserved in their entirety, a fragment of distal phalanx, most probably of a wolf, wrapped by a thick deformed golden lamella and used as an amulet, should be mentioned (Gergova *et al.* 2014).

In Grave 1 – a deep oval pit with a stone truncated pyramid in its eastern part, with a pithos with a round stone lid, Thracian hand – made bi-conical vessel, wheel made jugs and bowl (Fig. 11). is dated by an amphora from Chersonesus Taurica with a stamp with the name Ἀπολλ(-). According to Ch. Tzochev the amphora should be dated to the end of 4th – first quarter of 3rd century BC (Fig. 12).



FIGURE 10. TUMULUS 27
WITH GRAVES 1, 2 AND
THE PIT WITH THE BIGA.

Skeletal remains of two individuals were revealed in grave 1. The cremated bones in the Western part of the pit belonged most probably to a male sub adult. Single inhumated- left thigh bone, belonging to a male adult was also found in the pit.

The *biga*, being always linked to races, including those of the Olympic Games, to cult processions or ritual races at burials of the Thracian aristocracy (Рабаджиев 2014, 86-87), was discovered in a rectangular pit, oriented SE-NW. The two horses of the same size, gender and age – male individuals, one 5, and the other- 4-4.5 years old, belonging to the medium-small breeds, were placed in specially dug holes on three levels. The heads are between stone pillows on the highest level; the bodies in separate narrow holes; supported with stones to stay like they naturally would, the fore limbs are flexed under the torso with humeri pointing back and all other bones-front, the hind legs are straightened up as if the horse were in a forward dash – their natural position in drawing a chariot (Гергова 2014, 180; Gergova *et al.* 2014). The numerous parallels of the *biga* and the bronze applications around the



FIGURE 11. TUMULUS 27, GRAVE 1.



FIGURE 12. THE AMPHORA FROM
CHERSONESUS TAURICA.

wheel hubs, as well as the specific bronze applications to the bridles of the two horses with many analogies from Western and Central Europe suggest the undoubted Celtic origin of the *biga* (Gergova 2013a; Schonfelder 2000, 183, 126). At the same time, the burial of the sacrificed horses in a natural position, known already from several of the tumuli of the Getic Royal necropolis (tumuli 21 and 29) (Гепрова *et al.* 2011) allows to consider it as typical for the burial rites of the Getae.

The dug out tomb with stone emplekton in tumulus 25 offers two amphorae with stamped handles with emblems a mask and a palmette and magistrate Κριτίας dated to 310-295 BC (Teleaga 2009 – after Avram) or to 310-300 BC (Tzochev 2008).

Two other tumuli from the Southern group should be mentioned. One of them (tumulus 28 to the SE of the Great Sveshtari tumulus) (excavations in 1996) was piled only over three circular clay altars. Another one, to the west of the

Great Sveshtari tumulus (tumulus 32) (excavations in 1993), contained only a human femur in a pit without any grave gifts.

The presence of the separate inhumated bones in tumuli 32, 27, grave 1 and in the tomb under the Great Sveshtari tumulus raises additional questions, concerning the burial rites of immortalization – one of the most important characteristics of the Getic cultural behavior.

In an Orphic way, after the original burial, the human remains of kings and priests were dispersed and reburied in different places (Гергова 1985). Where, it is very difficult to say. Now the examples from the three tumuli allow to propose a hypothesis. Although it is impossible to prove that the separate bones from these three tumuli belonged to one person, it is logical to suggest that the dispersal of the remains in the process of the mysterial rites of immortalization of one individual might be connected with their reburial in several later and almost synchronously constructed tumuli. This ritual would add even more meaning to the understanding of the groups of tumuli as a reflection of a completed system of burial rites and as a preliminary designed territories as a reflection of constellations, following the idea of the astral immortality.

The amphorae from the tumuli of the Southern group of the Eastern necropolis show the short period of time at the end of 4th and the only beginning of the 3rd century BC in which they were constructed around the Great Sveshtari tumulus.

With whom the Great tumulus could be connected?

The first mentioned by the ancient authors Hellenistic Getic ruler is Kotela. In 441/339 he signed an agreement with Phillip II against the Scythians. His daughter Meda became the next wife of Phillip II after the mother of Alexander the Great (Йорданов 1998, 82-83) and according to some authors she was the woman buried with the Macedonian king in his tomb in Vergina (Donnelly Carney 2000, 68; 236-237).

We do not know the date of Kotela's death, but we know about the Getic-Macedonian conflict in 294-292 BC in which as an enemy of Lysimachus appear another Getic ruler, evidently the next one after Kotela – Dromichaetes (Йорданов 1998, 192). A hypothesis is attributing the Sveshtari tomb with kariatyds, situated in the centre of the Northern group of the same necropolis, namely to this later Getic ruler. (Stoyanov 1998; Chichikova 2012). The later dates of some of the objects from the Sveshtari tomb would confirm the chronological sequence of the two tombs and their connections respectively with Kotela and Dromichaetes. Thus the death of Kotela should have preceded the Getic-Macedonian conflict from 294-292 BC.

The chronological frame of the Southern group of the Getic royal necropolis and especially for the nearest to the Great Sveshtari tumulus burials with terminus ante quem in the first years of 3rd century BC and their correlation with data from the written sources, allow to connect the Great Sveshtari tumulus and the tumuli around it with the burial and post burial ceremonies of the Getic ruler Kotela, of his possessions, of persons from his circle and with ritual facilities (Gergova 2013; 2013a; Gergova 2015a).

The main aspects of the burial ceremony of Kotela, which traces have been preserved in the separate tumuli of the Southern group can be seen on the wall paintings of the Kazanlak tomb. The paintings – the best-preserved artistic masterpieces from the Hellenistic period, represent the solemn scene of a burial feast in which the central position is given to the royal couple. The procession going towards the woman includes two maids, presenting a box with valuables and a veil, like the valuables and the brocade in the oak chest from the tumulus of Kotela. Behind them a charioteer is driving four horses harnessed in a quadriga, while on the dome three *bigae*, driven by young charioteers in a wild chase are represented.

Thus the investigations of the Southern group of the Eastern royal necropolis would confirm the reality of a royal burial ceremony, as represented on the walls of the Kazanlak tomb. They are the most perfect illustration of the narrative of Herodotus about the burials of wealthy Thracians (Her. 5.8.): 'Their wealthy ones are buried in the following fashion. The body is laid out for three days; and during this time they kill victims of all kinds, and feast upon them, after first bewailing the departed. Then they either burn the body or else bury it in the ground. Lastly, they raise a mound over the grave, and hold games of all sorts, wherein the single combat is awarded the highest prize. Such is the mode of burial among the Thracians.

Even more, the tumuli of the Southern group of the Getic royal necropolis, raised in connection with the death of one Getic ruler – Kotela, throw light on unknown till now aspects and on the range of the practiced by the Getae rites of immortalization.

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Early-Hellenistic barrel-vaulted tombs from Kallatis

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Abstract

The study presents a group of five early Hellenistic chamber tombs with barrel vaults found under barrows in the vicinity of Kallatis (nowadays Mangalia, in Romania), a Greek colony at the Western Black Sea, founded in the lands of Northern Thracians. Their distinctiveness is emphasized by making references to the contemporaneous surrounding Greek cemetery and also to the general impact that 'Macedonian type' tombs have had on Thracian monumental funerary constructions. Questions regarding the identity of their commissioners were asked, while discriminating between technological and ritual influences, in a chronological period of deep cultural synthesis.

Keywords: *Macedonian type tomb, Kallatis, Thracian tombs*

Résumé

L'étude présente un groupe de cinq tombes hellénistiques anciennes à chambre voûtée en berceau trouvées dans les environs de Kallatis (aujourd'hui Mangalia, en Roumanie), une colonie grecque située sur le bord occidental de la Mer Noire, fondée dans les terres des Thraces septentrionaux. Leur spécificité est mise en évidence si on fait référence au cimetière grec contemporain du voisinage ainsi qu'à l'impact général que les tombes du 'type macédonien' ont eu sur les constructions funéraires monumentales thraces. On s'est posé la question sur l'identité de leurs commanditaires, tout en discriminant entre les influences technologiques et rituelles dans une période chronologique de synthèse culturelle profonde.

Mots clés: *Tombe de type macédonien, Kallatis, tombes thraces*

Early Hellenistic Chamber tombs in Kallatis¹

Exhibiting the new fashions in Hellenistic funerary monumental architecture, specific to the Macedonian high elite (Drougou, Saatsoglou-Paliadelli 2008; Miller 1993; Mangoldt 2012), the chamber tombs from Kallatis were known in part since the early 20th c. or were investigated later, during superficial rescue excavations. The three ones that benefitted from some archaeological works were found violated since Antiquity.

The funerary model implemented by the series of five tumuli tombs is very consistent. For the early 20th c. finds (T1, T2) we have indirect suggestions coming from photographs (Fig. 1a-b), but for the other three (T3, T4, T5), we can say they were part of large tumuli structures, after the standards of both Greek and North-Thracian funerary practices (Ștefan 2011). T1 was a single chamber tomb, T3 and T5 (named also Documaci Mound)² had additional built *dromoi* (access corridors); two others were not excavated outside the funerary chambers (T2, T4), so we do not know their entire

¹ Generalities about Kallatis in Avram 2006; 2007.

² The ensemble in Documaci Mound has re-entered the attention of a group of specialists (V. Sîrbu, A. Sion, M. Ștefan, D. Ștefan, M. Ionescu, S. Colesniuc) which are preparing a monographic study.

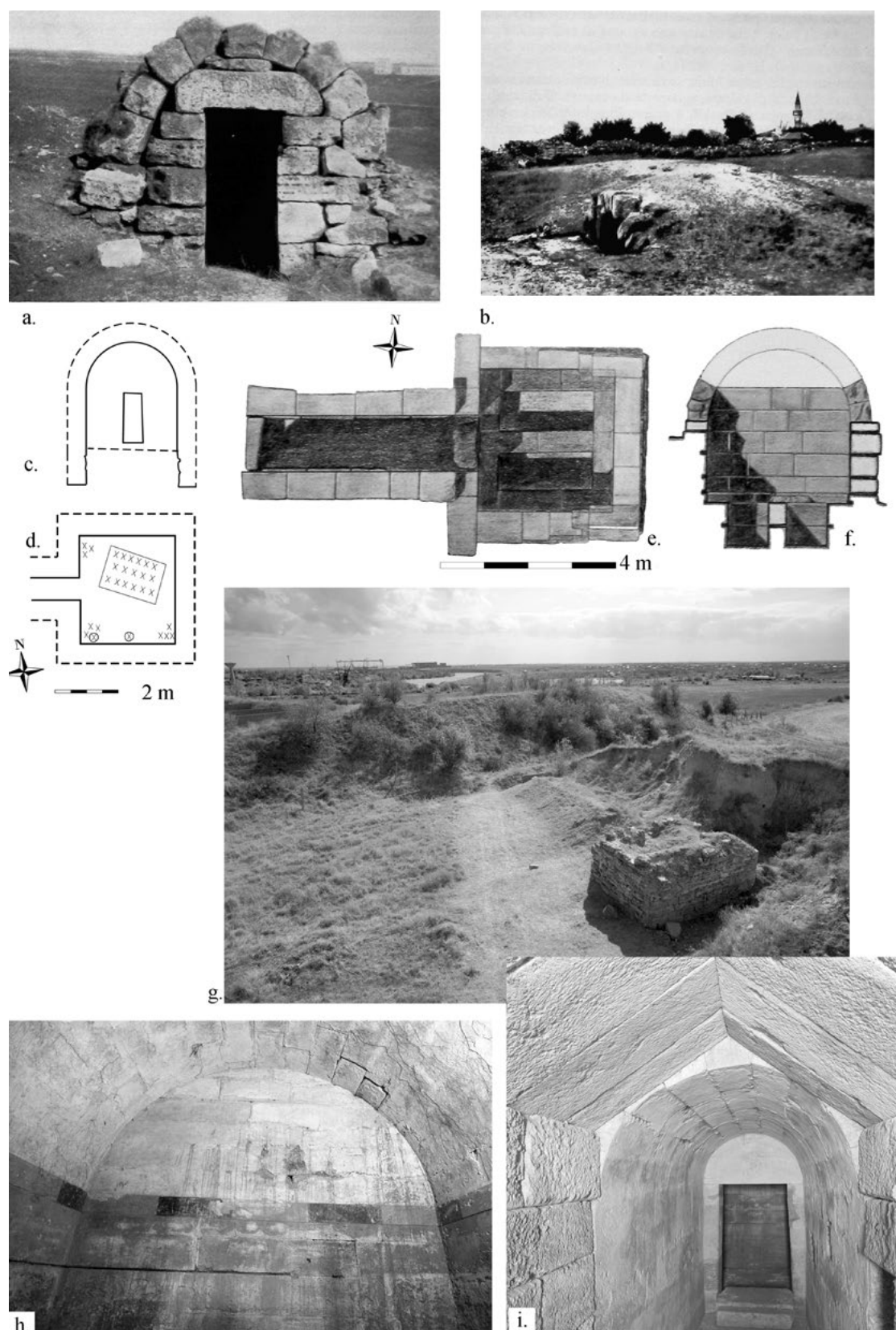


FIGURE 1. BARREL-VAULTED TOMBS AROUND KALLATIS: A – T1 (AFTER PREDA 1962, 165, FIG. 7); B – T2 (AFTER PREDA 1962, 167, FIG. 8); C-D – T3 (AFTER IRIMIA 1983, 87, FIG. 1); E-F – T4 (AFTER PREDA 1962, 160, FIG. 3); G – LOW ALTITUDE AERIAL IMAGE OF DOCUMACI MOUND, IN ITS CURRENT STATE OF PRESERVATION (2014), WITH THE STATUE PEDESTAL VISIBLE IN FOREFRONT AND SEASHORE ON THE FAR BACKGROUND (VIEW FROM WEST); H – DOCUMACI TOMB, THE WESTERN WALL OF THE FUNERARY CHAMBER; I – DOCUMACI TOMB, VIEW FROM THE *DROMOS* TOWARDS THE FUNERARY CHAMBER.

configuration. All the funerary chambers were rectangular, with their sides measuring around 3 m, built of *quadrae*, fitted in the dry masonry technique. The stone blocks were skillfully polished from local porous limestone. The tombs did not have facades or any exterior decorative elements; the vaults were not concealed. In two cases (T1, T5) the funerary chamber walls were plastered and painted. The murals in Documaci were organized in successive horizontal panels colored in dark blue, dark red, yellow and white.

All the tombs were covered with true barrel vaults built of *voussoirs* which, at least in the case of Documaci, were fixed with iron clamps. The vault of T1 was supplementary supported by a single larger block carved with rounded edges orientated downwards, forming the upper threshold of the entrance, similarly to an architrave (Fig. 1a). The vault of T3 was found partially fallen inside the funerary chamber, lateral chamber walls being preserved on variable heights (Fig. 1f). The tombs were underground buildings, at least from the level of the *imposta* downwards, although many details referring to the effective access from surface inside them are still not clear. The *dromos* of T3 was not a stepped one, having the same walking level as the funerary chamber. Nevertheless, the funerary construction was an underground one, being built at the western limit of an older mound, by excavating a pit, in which the blocks were finally polished and fixed, thin layers of debris marking

	T1	T2	T3	T4	T5 (Documaci)
Distance from the Hellenistic fortification	about 1 km S	about 200 m W (in the S sector)	about 2.1 km S	5.2 km NNW	3 km W (in the S sector)
Mound Height	?	?	5 m	8-10 m	8 m
Mound Diameter	?	?	66 m	40 m	60 m
Chamber dimensions	?	?	3 x 3.18 m	3.03 (N-S) x 3.17 m (E-V)	3.60 x 2.99 (N-S)
Entrance	Towards S?	?	Towards W	Towards W	Towards SSE
<i>Dromos</i>	No	?	5.25 x 1.20 m	?	(4.5 x 1.6 m) + (6.9 x 1.5 m)
Closing system	?	?	<i>Dromos</i> blocked with boulders	Room entrance blocked with boulders	Fragment of a marble door frame
Painting	Yes	?	No	No	Yes
Funerary Inventory	?	?	Pottery fragments in the building pit for the tomb	102 Bronze arrowheads, knife, ceramic lamp, spear-head	Gold finger ring with a turtle
Funerary rite	?	?	inhumation	inhumation	?
Violated	Yes	Yes	Yes, since Antiquity	Yes, since Antiquity	Yes, since Antiquity
Year of discovery	Prior to 1923	Around 1940	1961	1970	1993
Excavation	No	No	Rescue	Only observations inside the room	Yes, but partial, with problematic documentation
Publication	Pârvan 1923, 168, fig. 81, p. 208 Preda 1962, 165, fig. 7.	Preda 1962, 167, fig. 8	Preda 1962	Irimia 1983, 97, 118-123.	Ionescu, Georgescu 1997, 164.

the raising level of the pit filling and tomb's construction. The tomb in Documaci had a *dromos* built in two phases, process probably caused by an enlargement of the associated mound (Fig. 1i). The latest segment of the *dromos* was built in steps, ascending towards the surface. The roofing of the first phase of T5 *dromos* was, as well, a semi-cylindrical vault; the second phase extension was covered with a gable roof. The walls of the first phase were interlaced with the chamber's walls, suggesting their simultaneous building. The same situation was observed in T3. The roof type of T3 *dromos* was unclear, as it fell in time.

The entrances in the *dromos* of T3 and in the chamber of T4 were blocked with very large rectangular stone boulders, placed on top of each other. No stone furniture or interior funerary structures were found in the tombs, except T3, where two adjoined cists from well-dressed stone blocks were built under the funerary chamber (Fig. 1f). The two slabs, initially covering the cists, were found placed aside, as a result of an ancient violation. Bones from two individuals were found scattered, including above the slabs, without other traces of inventory. Instead, some early Hellenistic pottery fragments (Preda 1962, 164, fig. 6) and charcoal were found in the filling of T3 building pit, with analogies in other graves of the Kallatian necropolis dated to the end of 4th – beginning of the 3rd c. BC.

T4 was violated twice since Antiquity. On the funerary chamber floor there were found only fragments of a spear-head, a knife and 102 arrow-heads arranged in groups, corresponding to three quivers, also a Hellenistic lamp dated in the 3rd c. BC (Irimia 1983, fig. 13/13) and some scattered human bones. T5 was, as well, violated since Antiquity. However, a golden ring in the shape of a turtle was found in unclear conditions. A gold ring decorated with a turtle, between a bunch of grapes and the head of a griffin was found in the Thracian tomb Sineva (Kitov 2008, 116, fig. 152) along other items broadly fitting into the 4th c. BC.

A special mention should be made for Documaci, where at 3 m behind the funerary chamber, a pit was dug in the mound, sometime later than the tomb, and inside it, a monumental pedestal (Fig. 1g) for a statue or other type of exterior funerary structure (altar, mausoleum) was built. This basement was aligned with the funerary chamber sides, measuring 4.9 m x 5.90 m, and perhaps, initially, as much as 8 m in height (it is difficult to establish the size of the corresponding mound, as more phases were documented; the tumulus measured 8 m in height in the state preserved in 1993). The massive pedestal had lateral walls built from large limestone blocks, only superficially worked, but with perfectly aligned corners. Its core was made of crushed stones and soil.

The other graves

Even if the number of excavated graves dated in the Hellenistic age from Kallatis is impossible to assess due to the manner of research and publication,³ we have some data for at least 100 graves dated to the late 4th – 3rd c. BC. These were mainly inhumations with head towards east, in cists (see graves 1, 5, 7, 11, 28, 37, 38, 46, 47 in Preda, Georgescu 1975), in simple pits (see graves 1, 2, 4, in Radu 2007) or in pits covered with tiles (see graves 3, 4 in Cheluță-Georgescu 1974). Even if less, incineration was also practiced, with the cremated bones deposited either in urns (Zavatin-Coman 1972; Cheluță-Georgescu 1974 – grave 6; Preda, Bârlădeanu 1979 – graves 5, 6, 7), in cists (Preda, Bârlădeanu 1979 – grave 1) or left *in situ*, in pits (Preda *et al.* 1962, fig. 8; Preda, Georgescu 1975 – grave 16). The usual funerary inventory contained iron strigils (Cheluță-Georgescu 1974, pl. VI-1, VII-8), funerary golden wreaths (Zavatin-Coman 1972; Preda *et al.* 1962), in some cases adornments, bronze mirrors (Cheluță-Georgescu 1974, pl. VII), coins, but most often pottery for oils and drinking. A specific type of funerary inventory seems to have been the terracotta figurines, probably crafted in local workshops (Bârlădeanu-Zavatin 1985). Some graves presented elements of monumentality – tumular embankments (Săuciu-Săveanu 1945; Bounegru, Zavatin 1990), *krepidai* with pseudo-isodomic masonry, *periboloi*, altars (Preda 1961), ditches for offerings (Ionescu *et al.*

³ All these graves were researched during various rescue excavations, on the occasion of works for the building of the naval site or seaside resort in Mangalia. Some synthesis on the funerary practices data can be found in Donnellan 2006.

2002), amenities that reveal the practice of various memorial cults. A specific familial character of the interments has to be emphasized – the tumuli contained multiple burials, sometimes organized around a central one, like in the case of the grave with papyrus (Preda 1962, fig. 1); also the prevalence of double cists reveals the significance of funerary familial strategies.

Funerary spaces – family plots versus peripheries

The spatial distribution of mounds (Fig. 2a) was retrieved based on various types of aerial,⁴ satellite and cartographic⁵ documentation, the most helpful being the Luftwaffe aerial image which depicted a field reality before the urbanization age of Mangalia (Fig. 2b). They revealed that Kallatis had an impressive tumuli cemetery, encompassing hundreds of mounds, organized in various spatial configurations. The most crowded sectors, the northern and north-western one, were regularly spaced, with tumuli built in rows, aligned to what looks like a regular system of plots and roads, with a general configuration probably derived from the orientation of the main road entering the city from Tomis, parallel with the seashore. Traces of plots' division were detectable on various aerial and satellite images. Funerary plots seem to belong to a unique system of land division which included, as well, agricultural lands, as the delimitations extended outside the main funerary areas, towards west. Some traces are visible on the southern side of the lake too, but they need further clarification. Some divisions were spaced at 419 m,⁶ others, from what is discernible, at 189 m. The largest agglomerations of graves, of various ages, were detected in the vicinity of the gates, the Hellenistic rampart being the necropolis limit towards the city. The greatest extent of the cemetery was reached in the early Hellenistic age, as the map of discoveries shows (Fig. 2a). Apparently, tumuli and plots were used until the first centuries AD.

All the mounds containing chamber tombs were found outside the main funerary areas of the city, so not referring to the traditional ancestries and citizens' families of Kallatis. Three tombs were located towards the south, one to the north and one to the west, at varying distances from the fortification ditch, from under 1 km to 5 km. The case of Documaci is the clearest, as we actually documented its position. This mound and others in its vicinity, which can be still observed in the field or from the air, were aligned along a ridge – the highest and furthest section in the surrounding relief, visible from the city (Fig. 2c). From this ridge towards west, the landscape descends and is hidden. The density of tumuli dramatically drops outside this boundary and, as the view shed analysis proves, we may argue that this was, in fact, the western limit of the Hellenistic necropolis which was marked by a road.

Visibility and symbolic funerary discourse

It is absolutely remarkable that, even if many tumuli were aligned on this ridge, perhaps to an east-west road that was leading to an ancient harbor on Mangalia lake (?), the maximum visibility area from the city included only the spot occupied by Documaci Barrow – where, as we know, a base for a monumental statue was included at some point in the tumulus construction. So, the statue (or other type of commemorative monument) was erected in the furthest single tumulus visible from the city and sea, on the background of its western landscape. This proves the implementation of an elaborate symbolic funerary strategy and the clear intention to address a public and large scale message to the Kallatian community. Even if the ensemble from Documaci exhibits clear traces of multiple phases in its construction, the connection between the Macedonian type tomb and the base for monumental statue is clear, as the base was built later, but with its sides aligned to the funerary chamber, so embedding a similar architectural strategy. It is one of the arguments to consider that the building of this particular Macedonian type tomb was linked to a social category that needed to make use of monumental architecture and impress an entire city community.

⁴ Orthophotoplans from 2005, 2009 by ANCP (Romanian Agency for Cadastre) – <http://geoportal.ancpi.ro/>; aerial image taken by Luftwaffe during 1943 (<http://wwii-photos-maps.com/>).

⁵ Romanian Military Shooting plans (1/20000) – 1950s, Romanian Maps 1/25000 – 1970s (<http://www.geo-spatial.org/>).

⁶ Close to the Hellenistic standard of 420 x 630 m used in the Chersonesean chora (Nikolaenko 2003).

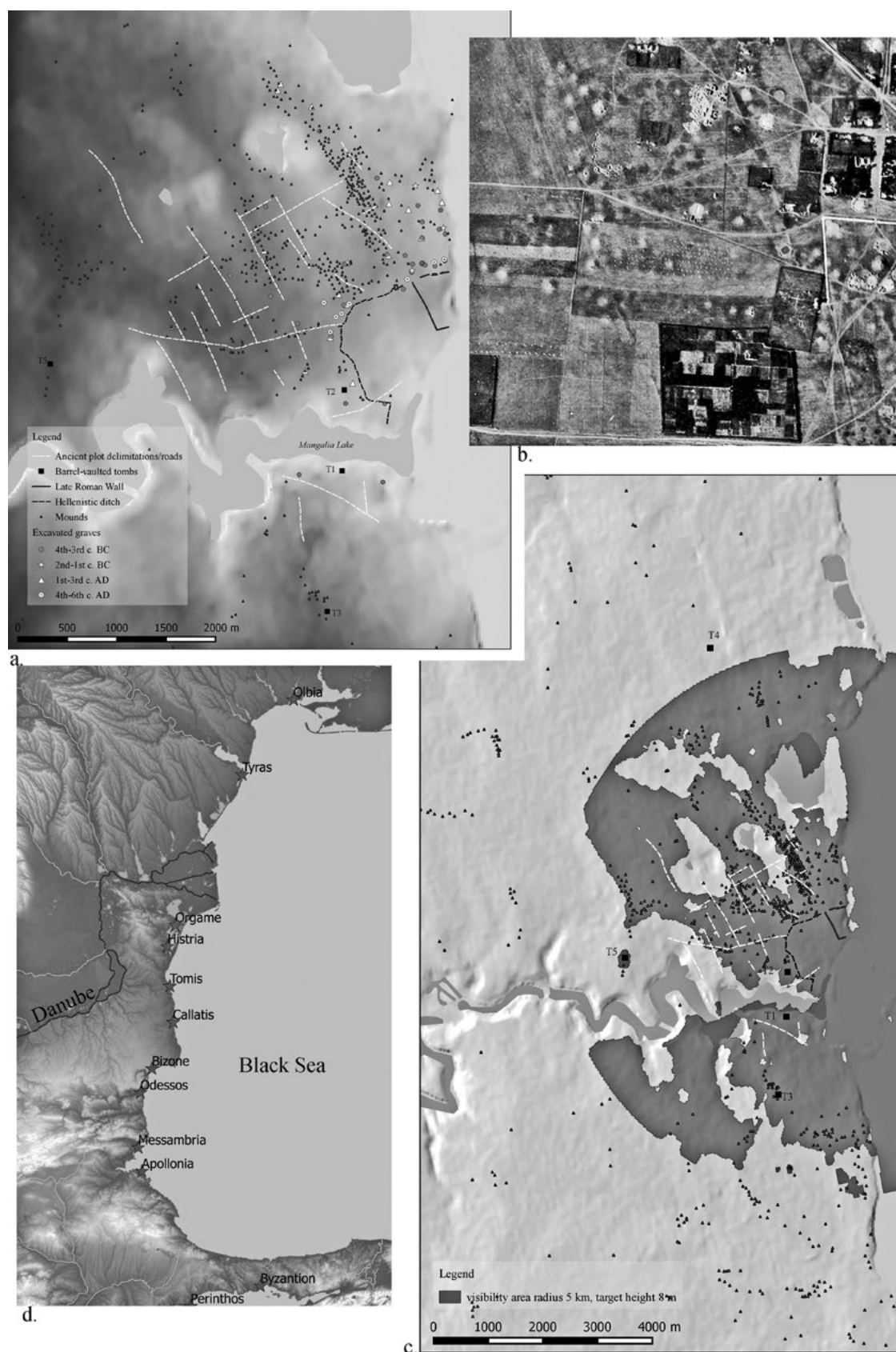


FIGURE 2. A – THE CEMETERY OF KALLATIS; EXCAVATED FINDS WERE APPROXIMATELY MAPPED ACCORDING TO VARIOUS PUBLICATIONS; TUMULI WERE MAPPED USING VARIOUS SOURCES (SEE ENDNOTES 4-5); B – DETAIL OF THE LUFTWAFFE IMAGE OF MANGALIA FROM 1943 (SEE ENDNOTE 4); C – VISIBILITY AREA, AT 5 KM RADIUS, CALCULATED FOR KALLATIS CITADEL, USING DEM EUROPEA; D. MAP OF MAJOR GREEK CITIES IN THE WESTERN BLACK SEA AND SURROUNDINGS.

Funerary spaces have traditionally been meaningful for the living, as a symbolic mirror of the social organization, at least the claimed one. They did not develop just anywhere. Graves were a proof of ancestry, of lineage based transfer of citizen rights (Morris 1987). That is why spatial arrangement and visibility of funerary areas from the city were significant, especially in the cases of tumuli. Therefore, many imposing funerary monuments of the Greek and Roman ages were built along main roads, for everybody to see, admire, commemorate the dead and praise the value and strength of the living family.

Even if peripheral in relation to the core families of the city, the chamber tombs from Kallatis should be considered as belonging to the larger funerary space relevant by means of visibility to the population inside the city.

Confusing identity

The series of 5 chamber tombs from Kallatis is in obvious contrast with the rest of contemporaneous burials in the city cemetery, by choice of location in relation with the city organized burial grounds, monumentality of architecture and related beliefs about death and afterlife that such house-like burial would imply. Still, 4 of 5 discoveries were located clearly inside the funerary areas visible from the city, and in two cases (T3 – underground double cist and T5 – with double phased *dromos*) we can assume connections with repeated familial burials; so, a compact phenomenon, but running on several generations and belonging to a group (which might have included families). In particular, Documaci Mound stands out as a remarkable marker in the landscape, exploited in the past as such, by construction of a monumental statue, which by size, cost and message was meant to address a public message.

The divergence in funerary model with the contemporaneous early Hellenistic graves of Kallatis cemetery was traditionally interpreted as not suited for the democratic regime of the city, so, therefore, the chamber tombs were considered as belonging to local leaders, accustomed to the habits of Greek life, their collaboration with the Greek city being mandatory for the city successful development in the territory. These local leaders were seen, thus, as non-Greek, either Thracians (Florescu *et al.* 1980, 214) or, most often, Scythians⁷ (Condurachi 1951; Irimia 1983, 76, 54; Avram 2006).

Due to their barrel vaults, analogies with Macedonian type graves were established since the early stages of research (Preda 1962, 170-171), however, these connections were not enough explored, being considered references to a model with a too large geographical and chronological span to be regarded as meaningful (barrel vaulted tombs were found in Thrace, around Greek cities of the Northern Black Sea in Scythian territory or in Asia Minor, some of them being dated later, during Roman times, and were, in general, perceived as just one of the many types of monumental funerary architecture implemented in the area). We consider, however, that these references were not enough explored and contextualized.

The series is very consistent in terms of technological implements and funerary model as a whole, without precursors in the necropolis. No other types of earlier or contemporaneous chamber tombs were found in the area. The constructions were built following the Macedonian type tomb models, but not only because they had semi-cylindrical vaults. Other significant parts of the model were also respected like the large tumuli, the fact that the constructions of *quadrae* were underground, the dry masonry, stepping *dromoi*, entrances blocked with large stones, semi-cylindrical vaults built with *voussoirs*, mural paintings with panels. An identical painting model like in Documaci was used in tomb E in Pella (Lilimpaki-Akamati, Akamatis, 2004, fig. 121).

⁷ The presence of Scythians in southern Dobruja and in the area of Kallatis is supported by literary (Avram 2007) and numismatic evidence, but not by archaeological data. The chronology and nature of their power relations with Kallatis is however unclear. The coins minted in the names of some Scythians basilei, most probably in Kallatis, belong to the 2nd c. BC, including those with the names Ataias (Preda 1998, 126).

Also, it is very important to consider the chronology of the series, late 4th-3rd c. BC, a period in which Macedonian elites were the key players on the political stage, now greatly enlarged after Alexander's conquests. Many smaller polities were in need to define their identity in relation to the Hellenistic Kingdoms of the Successors, and Hellenic values became common ground for negotiating these power relations. This was the case of Thracians dynasts included under the authorities of Philip II, Alexander the Great and then under Lysimachus (Archibald 1998; Delev 2000); but also the case of Greek poleis controlled by Macedonian military garrisons, confronted with the revival of the idea of kingship and divinization of mortals (Ma 2006). In their fight for preeminence for the inheritance of Alexander, the Successors succeeded to run wars on three continents, involving complicated diplomacy and changing alliances, establishing large-scale power networks, family connections and diffusion of ideas and goods of various origins to the remotest regions.

In this context, and especially in the cases of elite graves, it is difficult to speak in terms of identity, especially ethnic identity. *Who were those buried in the chamber tombs from Kallatis?* Moreover, when we speak of identity we shouldn't disregard that the overall architecture result was influenced by the identity and experience of the master masons, as well. But then again, judging the model as a whole and thinking at both technology and social-religious dimensions of the funerary act, might help in establishing some research directions. Furthermore, Macedonian type tombs, in particular, had a symbolic political value in a conflictual and competitive system of identities. For example, Thracian elites had an established tradition of building monumental funerary architecture under barrows as a sign of their status,⁸ prior to the emergence of the Macedonian type tombs. It is interesting to observe that in the context of the military successes of the Macedonians over the Odrysian kings, the general impact of the Macedonian type graves in Thrace was a reduced one, no exact copies of the tombs from lower Macedonia being found here. Even if some techniques were adopted, not very often⁹ and sometimes with clumsiness,¹⁰ the differences between the conceptual religious and social models was striking and we can see that, in its most representative way, in the case of Sboryanovo tombs (Gergova 2006), where the most exquisite examples of constructions with Macedonian influences from Thrace were built, but in a total new interpretation, with constructions above ground, with burial rites based on bones manipulation, with horses sacrifices and associated ritual fireplaces. In fact, more tombs with barrel vaults were built north of the Balkans (where the tholos was not fashionable,¹¹ and, in general, the dressed-stone masonry was less used), than on the Maritsa valley and we shouldn't disregard a possible explanation for this divergence in the different way local authority centers in the two regions evolved and selected their symbols, especially in what concerns the shaping of their power relations with the Macedonians.

Ancient sources refer to Kallatis as a powerful player in the heyday politics, the head of a war coalition of other Greek cities, of Thracians and Scythians, against the Macedonian military garrisons in 313 BC (Diod. 19.73-78). So, Kallatis was controlled by a Macedonian garrison, stationed perhaps from 323 BC, maybe even earlier, since Philip II defeated Ateas and established relations with Odessos (Iordanes Get. 65; Iustinus IX, 2, 10). As reaction to Kallatis' rebellion, Lysimachus, the named ruler of Thrace, which included Kallatis at the time, actually besieged the city, personally, for several years.

Among all the tombs with barrel vaults built in Thrace, the series from Kallatis and the very similar ones from Odessos¹² are the closest to the Macedonian originals, which despite some preconceptions were not only large, elaborate buildings, with ornate facades, but varied greatly, in time, from region

⁸ Examples in Archibald 1998; Rousseva 2000; Sirbu 2006; Kitov 2008.

⁹ A good review on barrel-vaulted tombs in Thrace in Stoyanova 2010; also relevant discussions with bibliography in Delemen 2006.

¹⁰ For example, the imperfect barrel vaults from Naip (Delemen 2006); Symbola (Triandaphyllos, Terzopolou 1997, p. 935-6) or Helvetia (Kitov 2008, p. 94, fig. 120).

¹¹ In the 5th-3rd c. BC North-Balkan Thracian tombs, the circular plan was used only at Yankovo (Dremsizova 1955).

¹² Five barrel-vaulted chamber tombs were found around Odessos (older bibliography and a good contextual interpretation, including their association with Macedonian garrison in Damyanov 2010).

to region and according to the commissioner's taste or architect's skills. Those who commissioned the tombs in Kallatis obviously had resources and access to architects that mastered the original techniques; at least in the first construction phase of Documaci tomb, because in its second, some techniques resembled more those implemented in Thracian chamber tombs (gable roof, exterior reinforcement of walls with unworked stones, constructions adjacent to the *dromos*). These commissioners were not members of the original citizen families of Kallatis, but they had the power, intent and knowledge of how to address public messages through monumental free standing structures.

If they were tribal *basilei*, it is clear that we still don't understand the nature of their relations with Kallatis. Graves of community rulers were usually built around their residential centers, because funerary symbolic discourse should be primordially focused on the communities these leaders reined and who invested them with power. If we refer to tribal rulers in Kallatis, either Thracian or Scythian, we should take in consideration the humans behind them, that made them powerful, and the authority they could have over the Greek city institutions.

The best analogies for the graves in Kallatis (layout, preference for *dromoi*, monumental statue topping a tumulus) are to be found in the Macedonian type tombs from Amphipolis (Mangoldt 2012, taff. 29-36), which is in fact quite interesting, Amphipolis being a Greek city built in Thracian lands, then subjected to the Macedonians and transformed in one of their most significant centres (Lazaridis 1997). In the light of the newest discoveries in Kasta Hill we can consider the Caryatides from the new tomb¹³ as a model for Sveshtari, and also the Monumental Lion topping this tumulus as a possible example of what could have been placed on the pedestal from Documaci.

The five chamber tombs built under barrows from Kallatis clearly differentiate themselves in the surrounding contemporaneous Greek funerary environment, establishing links to large-scale cultural-social phenomena affecting the northern peripheries of the Hellenistic Kingdoms, during the wars of the Successors. There are many arguments against their commissioning by local chieftains. Thracian rulers built tombs around their residential centres and, in general, preferred other types of rituals and architectural models. Even when they implemented Macedonian type architecture they adapted the techniques to their cultural needs. Chamber tombs used around North-Pontic Greek cities, in Scythian environment, were of many types, barrel-vaulted ones being the latest and not the commonest (Machowski 2011). The eventual authority of Scythians over Kallatis in the end of 4th c BC is not clearly understood at the moment. Moreover, the practice of using a monumental statue to make public statements addressed to the inhabitants of a Greek city was a refined political statement, not customary for a Barbarian leader. Therefore, since we know that Kallatis (and Odessos) took part political events along leading Macedonian rulers and armies, in the exact same period the barrel-vaulted tombs were built, we should strongly consider the probability of assigning them to the Macedonians military themselves or to their political supporters.

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¹³ <http://www.theamphipolistomb.com/caryatids>

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