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Head and Shoulders Above the Rest: Birch-Bark Hats and Elite Status in Iron Age Europe

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HEAD AND SHOULDERS ABOVE THE REST: BIRCH-BARK HATS AND ELITE STATUS
IN IRON AGE EUROPE

by

Cara Reeves

A Thesis Submitted in
Partial Fulfillment of the
Requirements for the Degree of

Master of Science

in Anthropology

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ABSTRACT

HEAD AND SHOULDERS ABOVE THE REST: BIRCH-BARK HATS AND ELITE STATUS IN IRON AGE EUROPE

by

Cara Reeves

The University of Wisconsin-Milwaukee, 2015
Under the Supervision of Professor Bettina Arnold

As competition between Celtic elites increased in Iron Age continental Europe (c. 800-25/15 BC), ornamentation of the head figured prominently in status displays across the Celtic world. Mortuary and iconographic contexts reveal that headgear made of both metal and organic materials marked elite status, but materials varied regionally by gender and age throughout the Iron Age. The purpose of this project was to capitalize on the rare opportunity provided by birch-bark hats from west-central European elite burials to investigate organic headgear and the possibility that different types of headgear may have marked different social positions within the elite class. Birch-bark hats were compared to contemporary functional and symbolic metal headgear in both mortuary and iconographic contexts to see how they differed and compared. Costly Signaling Theory was then applied to the birch-bark hat dataset to generate hypotheses for the possible symbolic nature of the hats. While these hats very well may have served a functional purpose in some contexts, the specific use of birch-bark and other factors suggest that it is equally, if not more, likely that birch-bark hats in elite burials were symbolic items used to signal a separate position within a specific social category in European Iron Age society.

Key words: Birch-bark hats, Status, Ideology, Gender

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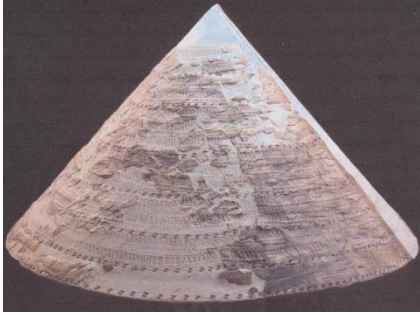


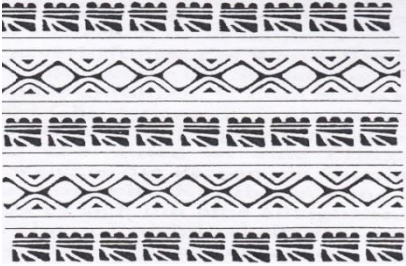
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Chapter One

Introduction

Ornamentation of the human head is a practice that is widespread through both time and space, though its meaning varies from culture to culture. While ethnographers are able to study the meaning of material culture through observation of its production and use, archaeologists must infer from material remains the relationships, behaviors, and intentions of people in the past (Rapoport 1988:317). Landscape approaches have often been used to understand how people mapped their ideology and social structure onto the spaces in or between settlement sites. Monumental architecture, clustering patterns of burials or settlements, and the distribution of raw materials and other material culture on the landscape are just some of the indicators of how past peoples controlled and moved through space (Arnold 2011; Knapp and Ashmore 1999; Rapoport 1988; Trigger 1990). This idea of space as ‘place’ (Arnold 2002), the relationship between people and their environment (whether natural or constructed) (Knapp and Ashmore 1999:10-13), is significant in regards to Iron Age Celtic ideology and social structure (Arnold 2002). While extremely useful, landscape approaches alone are not always sufficient to analyze prehistoric material. To understand intentions or meaning in pre-literate societies a multidisciplinary approach is essential. This thesis compares functional and symbolic headgear from mortuary and iconographic contexts in west-central Europe and applies Costly Signaling Theory to generate hypotheses regarding the possible purposes of the Iron Age Celtic birch-bark hats found in half a dozen mortuary contexts to date (Table 1.1). As wood, leather and other organic materials are rarely preserved in the archaeological record, these hats provide a unique opportunity to analyze headgear more generally within the larger framework of Celtic ideology and social organization.

Table 1.1: Existing birch-bark hat sample utilized in this thesis (Birkhan 1999; Böckmann 2009; Egg and Zeller 2005; Hansen 2010).

Mortuary Site	Birch-bark Hat Finds
A. Bad Dürnberg, Province of Salzburg, Austrian Republic (Grave 352), c. 464 BC (Böckmann 2009).	
B. Bad Dürnberg, Province of Salzburg, Austrian Republic (Grave 351), c. 516 BC (Egg and Zeller 2005).	No image available
C. Bad Dürnberg, Province of Salzburg, Austrian Republic (Grave 373), Hallstatt D3 (Hansen 2010).	No image available
D. Bad Cannstatt, Stuttgart, Germany (Grave 2), Late Hallstatt (Hansen 2010).	
E. Eberdingen-Hochdorf, Germany (Hochdorf burial), c. 540 BC (Birkhan 1999)	
F. Mardié, France (Cremation burial), Late Hallstatt/Early La Tène, impressed decoration on hat fragments (Hansen 2010).	

It is important to keep in mind that the term ‘Celtic’, while it was in use during the Iron Age in the Mediterranean world, was assigned to peoples spread across a vast geographic area and time period by outside groups that considered themselves superior to these ‘barbarians’ (Collis 2003:14; Diodorus Siculus V.26.1-27.1, 29.4-30.2; James 1993:7). Although named the *Keltoi/Galatae* or *Celtae/Galli* by the Greeks and Romans respectively (Caesar, *De Bello Gallico*, I.1-2; James 1993:8-9), it is unlikely that these peoples actually considered themselves a single group. As there were many tribes spread across the continent, Celtic-speaking peoples likely identified mainly with their specific tribes rather than with a pan-Celtic ethnicity (King 2000:9-10; Megaw and Megaw 2001:9). For the purposes of this thesis, the term Celtic will be used as a heuristic device to refer to Celtic-speaking peoples of the Iron Age in western and central Europe who engaged in similar cultural practices that resulted in similar material culture.

Conical hats made of birch-bark (*Birkenrindehüte*) have been found in six continental Iron Age mortuary contexts to date and are represented in at least three possible iconographic contexts. Burials, both with and without rich grave goods (Egg and Zeller 2005; Hansen 2010), excavated in France, Germany and Austria, contain fragments of decorated birch-bark that are similar in design and measurement to the better preserved birch-bark hat from the Hochdorf burial (Hansen 2010:52-53,139-144), discovered in 1978 in Eberdingen, Germany (Table 1.1 E; Biel 1987:23-24). The burials containing the hats have been dated between 550 and 350 BC (Egg and Zeller 2005; Hansen 2010), a relatively short period in the Iron Age on the Continent (c. 800-25/15 BC) (Arnold 2012a:89). The recent finds of birch-bark hats in Graves 351 and 352 from the Dürrnberg in Austria (Table 1.1 A, B), combined with evidence from the analysis of the birch-bark hats from Grave 373 at the Dürrnberg (Table 1.1 C, a cremation burial in Mardié, France (Table 1.1 F), a burial at Bad Cannstatt, Germany (Table 1.1 D), and the Hochdorf burial

in Eberdingen, Germany (Figure 1.1); iconographic evidence from the Hirschlanden tumulus near Stuttgart, Germany (Figure 1.2); and two East Alpine situlae, now make it possible to analyze birch-bark head coverings from the perspective of social status and elite signaling (Armit and Grant 2008:412-413; Biel 1987:25; Birkhan 1999; Böckmann 2009; Egg and Zeller 2005; Frey 2002; Hansen 2010).



Figure 1.1: The Hochdorf mound as it can be viewed today (“Keltenmuseum Hochdorf/Enz”2013).



Figure 1.2: Hirschlanden statue on display in the Keltenmuseum at Hochdorf/Enz (“Keltenmuseum Hochdorf/Enz” 2013).

Based on previous work on mortuary ritual in the Iron Age and Celtic burial practices specifically (Aldhouse-Green 2014; Arnold 2002; Arnold 2012a; Frey 1991a:127-128,136-140; Frey 1991b:78-89), these hats are known to have been interred with elite Celtic individuals at various levels of status. While some of the graves are more poorly outfitted than others in terms

of grave goods, all of the deceased individuals are of a higher status than the rest of the population, most of whom were disposed of in archaeologically unrecognizable manners and locations. Laurent Olivier (1992:52) estimated that out of more than a hundred burials dating to the late sixth century, less than five percent of the total population is represented. Arnold (2011:164) has suggested that despite the lack of social differentiation found in settlement contexts in the early Iron Age, estimates of population density from settlements could potentially be compared to the mortuary data to determine what percentage of the population is absent.

As elite material culture, such as torcs and drinking/feasting equipment, dominates the mortuary record as well as the iconography of the Iron Age, elite individuals have often been considered as a group distinct from the lower classes and labeled using feudal terminology for positions of power, such as ‘princes’ or ‘chiefs’. Arnold (2011) has cautioned against lumping all high status individuals into an overall elite category as this masks the power struggles that can be seen archaeologically in the manipulation of material and mortuary ritual in the early Iron Age (Figure 1.3). This competition between elites meant their hold on power was constantly in flux and they should not be considered a static, bounded social category throughout the Iron Age (Arnold 2011:154-164). Differences between paramount and secondary elites are reflected in the varying quantity and quality of grave goods in burials across west-central Europe (Arnold 2011:154-164; Olivier 1992:52). While the Hochdorf individual, for example, was buried with various types of artifacts signaling elite status (Figure 1.4; Figure 1.5), the quality of that material is not as high as those same types of objects in other high status burials. It has been suggested that his burial was manipulated by the living whose intentions were to raise their own status, without any risk to themselves, through claiming kinship with the enhanced deceased individual. This consideration of the quality of material, as well as spatial analysis of the

landscape (where individuals are buried relative to other elites, how mounds are grouped, where grave goods were manufactured, etc.), can reveal more about social stratification than just looking at the types of material associated with elites (Arnold 2011:164). By examining the landscape as well as the material in the grave it has been discovered that, like many burials at this time, the Hochdorf burial had basal demarcations around his tumulus. While these may have functioned as markers of the mortuary space, it has been suggested that they may have also had ritual significance, separating the dead from the living. Further, evidence from inside the grave, specifically the placement of the individual's shoes on the opposite feet, indicates that preventative measures were taken to keep the dead within a separate, bounded area (Arnold 2002). If birch-bark hats were used to mark a certain type of elite ritual specialist, as some have suggested (Krausse 1999), then these other indicators of potential post-mortem potency in the Hochdorf burial take on new significance.



Figure 1.3: Hallstatt Social Structure with the Hochdorf male depicted in the top of the pyramid (“Keltenmuseum Hochdorf/Enz” 2013).



Figure 1.4: Reconstructed Hochdorf central chamber (“Keltenmuseum Hochdorf/Enz” 2013).



Figure 1.5: Hochdorf gold shoes, 30cm (Biel 1987:27).

The purpose of this research was to explore the significance of these birch-bark hats specifically in relation to other types of headgear, both functional and symbolic, within the wider context of Celtic social structure and ideology. Twentieth and twenty-first century scholars have provided various definitions of structure and ideology. While some in the school of processualism have equated ideology with religion and consider it purely limited to the mental realm (Bernbeck and McGuire 2011:41-46), more recent scholars who stress meaning and agency (post-processualists and practice theorists respectively) have defined ideology as involving both shared beliefs and their material representations (DeMarrais et al. 1996). In the year 2000, a number of papers were published on ideology as an integral part of order or social structure, which is maintained through legitimacy and wealth. The idea that a certain group should have power or that certain materials represent that power must be accepted and reinforced by the majority of people in a society for the structure to be maintained. Legitimacy for an individual or group to rule comes from both social memory and material wealth (Baines and Yoffee 2000; Richards 2000; Yoffee 2000). Ideology will be defined in this paper as both shared beliefs and their materialization.

Although headgear as materialized ideology does not always neatly fall into either the functional or symbolic categories, for this thesis objects were explicitly grouped by their most likely primary purpose. Functional headgear is defined as headgear that is primarily intended to protect the head, from blows or the weather. This type of headgear may range in type depending on the status of the individual and the secondary desire to intimidate the enemy in battle, but protection is still its primary function. Symbolic headgear is defined as headgear that was primarily intended to send a message to a particular audience. Symbolic items may have been functional as well, but they were grouped according to their primary intended purpose if this was to display status or some other social category. Birch-bark hats were compared to material in each category, taking into consideration gender, age and status associations, as well as the cosmology of Iron Age peoples in west-central Europe.

Research Questions

In the early 1990s Ian Hodder (1991) wrote a seminal article in which he argued that processual archaeologists had not placed enough emphasis on interpretation in relation to internal understanding within particular cultural contexts. He suggested that processualists were too concerned with method, whereas post-processualists were too concerned with theory (1991:8). Attempting to provide a solution to these observed problems, Hodder suggested an interpretive post-processual archaeology with “three components: a guarded objectivity of the data, hermeneutic procedures for inferring internal meanings, and reflexivity” (1991:7). Hermeneutics involves putting an object or event into context and comparing it to one’s own knowledge. This is known as part-whole relations because the archaeologist tries to fit pieces into the whole (or their own context) while simultaneously constructing a whole out of the pieces of data (context of the data). Hodder provides three perspectives that combine processual archaeology with

hermeneutics and self-reflection: the past is organized in contexts that differ from our own; we must compare our external knowledge to internal relations and try to understand people as well as systems; and we must engage in self-reflection which involves the public. Processual archaeology and hermeneutics can be combined by remaining objective while trying to interpret meaning by asking questions through hermeneutics. A more complete meaning then can be understood through critical reflection.

An earlier volume edited by Ian Hodder (1989) contained several articles which focused on the use of material culture in symbolic expression in various cultures. In this book, Roland Fletcher argued that people communicate both verbally and non-verbally. Material culture and spatial arrangement are two mediums through which non-verbal messages can be sent to an audience (1989:33-38). Rapoport (1988:320-322) argued that non-verbal communication, which targets vision rather than hearing, is less likely than verbal communication to be censored, though non-verbal communication is not completely separate from verbal or vocal communication. He argued:

Thus, paralanguage and kinesics greatly clarify spoken language: tone of voice, facial expressions, and shared habits such as the meaning of relative physical positions, stances, gestures, and relations among participants all help to clarify the meaning of spoken language...It seems likely that the sociocontextual aspects of communication-which are, of course, those one calls nonverbal-are the most important in the sense that they are the most immediately noted (1988:320).

About a decade before these articles were published, Martin Wobst (1977) authored an article on material culture and the range at which nonverbal messages are understood. It is not only the production of material, but also its treatment that yields insight into its significance. Miranda Aldhouse-Green has recently argued that the destruction or transformation of objects or images, such as representations of the human form, may have played a significant role in the symbolic

function of Iron Age European images. Analysis of the material can reveal whether an object was deliberately or accidentally destroyed. Furthermore, the deposition of these objects and the materials used in production may also be significant (Aldhouse-Green 2004:19-20,24,87-112).

Advocating for an emphasis on a combined approach to gender, age, ideology, and cultural and political context when interpreting archaeological remains, this paper will attempt to apply a post-processual approach to interpret the recently discovered birch-bark hats at the Dürrenberg, through comparison with headgear from other Iron Age contexts and with reference to Celtic ideology and social organization. In addition to focusing on ideology, social background, and differences in ornamentation of the head based on gender, age and status, color theory (Gil and Bigot 2014; Jones and MacGregor 2002; Young et al. 2013) and materiality (Aldhouse-Green 2004:87-112; Hodder 1989; Mills 2004; Wobst 1977) will also be applied. The color of material items related to costume is an important part of identity construction and social distinction (Davis 1992; Jones and MacGregor 2002). A combination of these approaches may help further our understanding of the significance of the head and status marking in the Iron Age.

The following research questions will be tested against the mortuary and iconographic evidence:

1. If the headgear was a symbol, what was the intended audience?
2. Were other social roles besides status marked by headgear? If so, what distinguishes birch-bark hats from these other types of headgear?
3. Were birch-bark hats indigenous to central Europe or was this a fashion adopted through trade/contact with other regions? How might this be tested?

4. What other materials or objects considered markers of elite status are found in association with birch-bark hats?
5. What is the association between birch-bark hats and gender/age? Does the evidence imply a separate position within the social hierarchy that only individuals of a certain status and gender could achieve?
6. Is the color white found in any other non-functional contexts that might inform interpretation of this headgear category?

Hypotheses generated from these questions will be tested using a combination of Costly Signaling Theory and a qualitative comparative analysis, discussed further in Chapter Two. The hypotheses are:

1. If birch-bark hats are found in association with other material that signifies elite status and do not appear without such items, then they must mark status in some way. Restrictions based on age and gender may indicate that the hats denoted a specific social position or role within Celtic society.
2. If birch-bark hats were functional, iconographic depictions of headgear may show how they were used.
3. If birch-bark hats were symbolic, then they will meet the four criteria of Costly Signaling Theory.
4. If head ornamentation was a pan-Celtic phenomenon, then specific headgear may have been used to mark different positions within the social hierarchy.

Literature Review

Drawing analogies between ethnographic accounts and ancient cultures can be dangerous, as interpretations may be biased in various ways; however, Ian Armit (2012) makes a

convincing case for the significance of the head in western and central Europe during the Iron Age using this approach. In his book entitled *Headhunting and the Body in Iron Age Europe* (2012), Armit explores ethnographic accounts, iconography and mortuary remains from the Continent and the British Isles in an effort to ascertain how Iron Age European peoples may have viewed the human head. His focus on the British Isles has no direct relevance for this thesis, as there was no significant concentration of Celtic-speaking peoples in Britain, Scotland or Ireland during much of the continental Iron Age (Cunliffe 2008:354-363,371-379; Green 1996:4; James 1993:91), though later evidence of Ogham (Atkinson 1874; Connelly 2015; Gifford 2000; O'Sullivan and Downey 2014) and medieval literature from insular contexts will briefly be discussed in this thesis. Arnold (1999) argues that even though caution should be used referring to these later sources, there are similarities between insular and continental Celtic cultures that justify the analogy in some cases. Armit's discussion of cross-cultural comparisons of head-taking and the archaeological evidence from Iron Age France is useful in setting up the hypothesis that the human head had special significance in west-central Europe. His argument that the head may have represented fertility and liminality, varying both regionally and temporally (Armit 2012), is important to keep in mind when considering how birch-bark hats fit into Iron Age ideology.

Images and Representations

Iconography from the continent is permeated with head imagery, referred to by some scholars as the 'Cult of the Head' (Almagro-Gorbea and Lorrio 2004:8; Armit 2012:18-44; Collis 1996:163; Megaw and Megaw 1996:366-370; Ritchie and Ritchie 1996:54). The notion that there is a pan-European or pan-Celtic cult of the head is debated by Armit (2012:36-37), however, and various Celto-sceptics such as John Collis (2003) and Simon James (1993), as well

as other experts in the field such as Miranda Aldhouse-Green (Aldhouse-Green 2014:96-110). Miranda Green is of the opinion that the head in iconography is not evidence of a head cult, but was actually meant to represent the whole being (Green 1986:216). Armit agrees that there was no uniform pan-European 'cult of skulls' (2012:37,222-225), but there are similarities between these Iron Age cultures and the importance of the head which he feels need to be explored more critically than they have been so far (Armit 2012:36-43; Arnold 2013:142-144). Though Armit extensively covers the significance of the head itself and its place in the traditions of Iron Age Europe (Arnold 2013), he does not explore the connection to headgear unrelated to defensive armor (i.e. helmets), which has preserved mainly due to the material of which these objects were made (bronze or iron). Additionally, Armit draws his conclusions about all of west-central Europe without considering much of the evidence for special treatment of the head on the Continent apart from late Iron Age Gaul (Arnold 2013).

In addition to documents from antiquity and medieval literature (Aldhouse-Green and Aldhouse-Green 2005; Ford 1977), a combination of iconography and mortuary remains from Iron Age continental Europe forms our current understanding of the significance of the head among the ancient Celts. Armit's analysis includes all of these, focusing on head-taking rather than headhunting, which he believes is more in line with the evidence from certain areas of Iron Age Europe. Head-taking is when the head being acquired belongs to a specific, important individual. This could be the head of an enemy, as described by several Classical authors, or the head of a venerated ancestor (2012:83). As previously stated, one must use caution when consulting these Classical sources as they were biased and many authors wrote of events or cultures that they did not personally witness, often long after they occurred; however, these sources are useful for comparison to the archaeological record. In reference to the significance of

the head in the Iron Age, Diodorus Siculus wrote as follows in the first century BC of Celtic peoples (James 1993:12):

When their enemies fall they cut off their heads and fasten them about the necks of their horses...and these first-fruits of battle they fasten by nails upon their houses, just as men do, in certain kinds of hunting, with heads of wild beasts they have mastered. The heads of their most distinguished enemies they embalm in cedar-oil and carefully preserve in a chest... (Diodorus Siculus V.28.6-30.2)

Iconography from Iberia and elsewhere shows that this practice did actually occur in Celtic society (Figure 1.6; Figure 1.7; Almagro-Gorbea and Lorrio 2004; Armit 2012:27-28).



Figure 1.6: Small bronze fibula of a horseman showing an enemy's severed head (175-125 BC) (Almagro-Gorbea and Lorrio 2004).

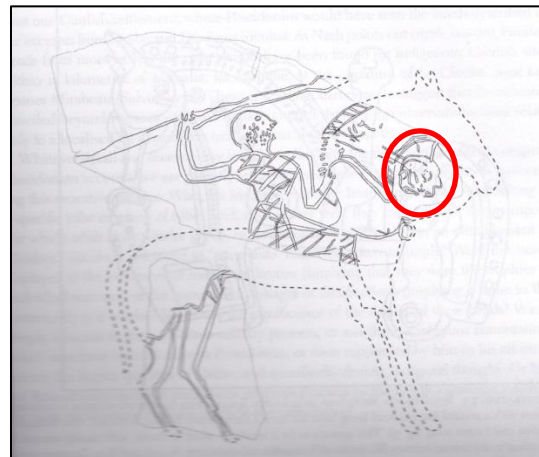


Figure 1.7: Drawing of pottery fragments from the Iron Age settlement of Aulnat, near Clermont Ferrand in the Auvergne (Armit 2012:27).

Based on the written evidence, with some archaeological support, this custom of taking and preserving the heads of enemies or ancestors is rooted in the belief of Celtic peoples that the head was the seat of the human soul (Armit 2012:8). Distinguishing between enemy and ancestor in the archaeological record may be impossible in most cases, though Armit does make an attempt by examining both cemetery and domestic contexts (Armit 2012:8-9,83), suggesting that the context affects the meaning of the manipulation of this body part. Though Celtic social practices were impacted by this belief, the Celts were not the only peoples who valued the

human head. Herodotus gives the following detailed description of the Scythian peoples, who also practiced head-taking:

The heads themselves, not of all but of their bitterest foes, they treat in this wise. Each saws off all the part beneath the eyebrows, and cleanses the rest. If he be a poor man, then he does but cover the outside with a piece of raw hide, and so makes use of it; but if he be rich, he covers the head with the raw hide, and gilds the inside of it and so uses it for a drinking-cup. Such cups a man makes also with whom he has been at feud, and whom he has worsted in a suit before the king; and if guests whom he honours visit him he will serve them with these heads, and show how the dead were his kinfolk who made war upon him and were worsted by him; this they call manly valour (Herodotus IV. 64-68).

This shows that the human head during this time period was considered important across the European continent, as it was used in various ways by the Celts and other peoples to convey social messages to various audiences. Considering the ornamentation of the heads of living individuals as well as the deceased in early Iron Age contexts may provide further information about the types of messages that were being relayed and why the head was significant in the socio-ideological environment of this society.

Elements of this preoccupation with the head can be seen in iconography from the continent dating back to the Paleolithic. Transformation of the human form and decoration of the head has long been a part of European peoples' cultural practices (Aldhouse-Green and Aldhouse-Green 2005; Arnold and Counts 2010). These depictions of transformation and ceremony, as well as the locations of the depictions themselves, have been used to support the hypothesis that Celtic beliefs were based in shamanism. Shamanism involves the crossing of liminal boundaries through transformation. Human-animal hybrids, for example, appear in the Bronze Age rock art of Scandinavian cultures. Depictions of humans with raised hair, which may represent a connection with a spirit animal, in mock battle or ritual dance, have been found in iconography from rock art of the Bronze Age Val Camonica, Italy to the bronze couch of the

early Iron Age Hochdorf burial (Figure 1.8; Figure 1.9; Aldhouse-Green 2004:21-23; Aldhouse-Green and Aldhouse-Green 2005:90-91,101-103; Biel 1987; James 1993:89). Eventually, human figures and heads began to appear in stone, wood and metalwork in the La Tène iconographic record (Frey 2004; Megaw and Megaw 2001). Ian Armit argues that Celtic head-takers were like ‘shamans on the march’, based on Robert McKinley’s (1976) analysis of the cosmology of headhunting. Journeys of headhunters into other lands to obtain heads, according to McKinley (1976), took on a mystical quality similar to trance journeys of shamans. While Armit acknowledges the criticisms McKinley’s viewpoint has amassed, he states that the argument of the head itself as a liminal object linking the worlds of the living and the supernatural is valid (Armit 2012:27-28,60-61).

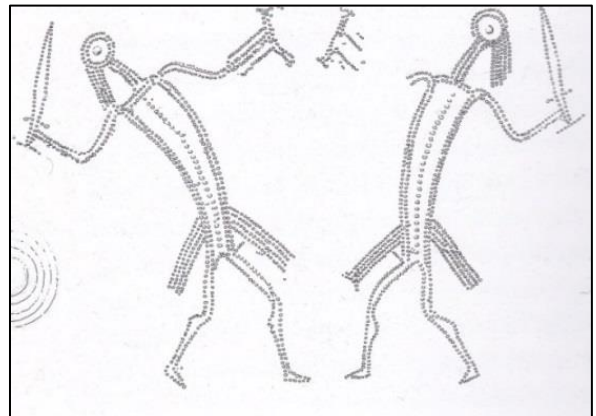
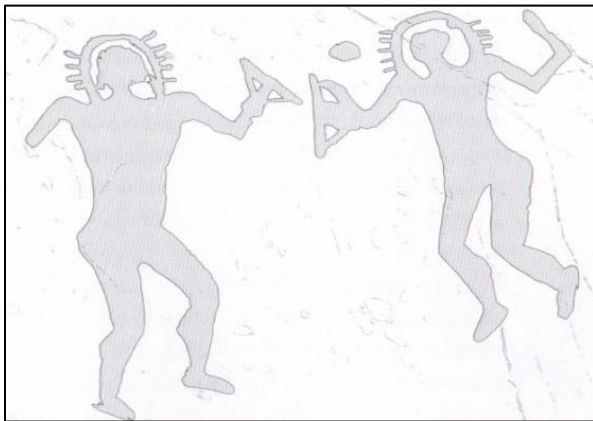


Figure 1.8: Symbolic combat scene between shamans, possibly in the context of a funerary ceremony (Aldhouse-Green and Aldhouse-Green 2005:101). Figure 1.9: Figures on the Hochdorf *kline* engaged in symbolic combat (Aldhouse-Green and Aldhouse-Green 2005:102).

If the figures on the Hochdorf *kline* were shamanic figures, then other items in this grave may also be symbolic in nature. This has been suggested by Dirk Krausse (1999), who argues that the Hochdorf burial was that of a *Sakralkönig*, or ‘priest-king’, based on the presence of four objects in the burial: an ash-handled socketed axe, a 40 cm long iron knife, a long iron spear with wood residue in the shaft, and the distal end of a perforated deer-antler (1999:353). This may be

further supported by the fact that the Hochdorf burial has several basal demarcations (Arnold 2002:130). If the Hochdorf individual was marked in these ways as a different kind of elite, then the birch-bark hat in this grave, as well as the one likely represented on the Hirschlanden statue from a contemporary tumulus in the same region (Armit and Grant 2008:412; Frey 2002; Frey 2004), may also be symbolic. The closeness of these hats to the buried or cremated individuals was taken into consideration in the analysis of these hats, as it has been suggested that distance of material objects from the body in mortuary contexts is significant to the interpretation of meaning (Arnold 2012b; Olivier 1992).

The Color White

While there is no clear evidence that these hats were completely white, as recent evidence indicates that the decorated portions of at least one of the hats (Grave 352) may have been stained an unknown color (Böckmann 2009), birch bark in its natural state is white (Gifford 2000). It cannot be overlooked that these hats are all made of birch bark, the color of which may have been at least a partial reason for its initial selection. Previous work on the use of the color white may provide insight into the intended purpose of these hats. Bettina Arnold (2012b) analyzed the significance of the placement of white stones in Iron Age burials and alongside the bodies themselves, suggesting that the color white may have been associated with death or transcendence among Celtic peoples. Various scholars, in a volume edited by Jones and MacGregor (2002), discuss the symbolism of color and the patterns on material culture within various cultures. In the context of Neolithic Ireland, white quartz/quartzite and its brightness may be symbolic of light, mind, knowledge and/or the spirit being. The frequent occurrence of the color white with geometric and repeating patterns, found on clothing, vessels, or on the body itself, is said to be enchanting and may have been intended to trap or confuse harmful forces.

Geometric patterns in some cultures even represent the liminal boundaries between worlds and objects placed with the newly dead may be intended to help them on their journey to the afterlife (2002:26-27,97). Textile remains from the Hochdorf burial have geometric patterns (Figure 1.10; Biel 1987:25) that may have had significance specifically in the mortuary context, as many of the imported and locally-made materials from this grave were made after the death of the individual (Arnold 2011). On a different note, Miranda and Stephen Aldhouse-Green state that in some cultures practicing shamanism, the color white may be used to symbolize semen (Aldhouse-Green and Aldhouse-Green 2005:32; Boriç 2002:25; Jones and MacGregor 2002:7,11). All of these possibilities were considered in the analysis of whether or not birch-bark hats were primarily functional or were intended to signal some form of elite status or other social role. Since the hats appear to have been worn not only in death but in life as well (Böckmann 2009; Hansen 2010), the individuals who wore them may have been involved in practices related to death, religious ritual and/or reproduction; however, other explanations may apply.



Figure 1.10: Textiles from the Hochdorf burial, Germany (Biel 1987:25).

Elite Material Culture

Miranda Aldhouse-Green (2004) argues that it is not only the representations that are significant, but also the use of different materials for image-making. She states that wooden

objects, specifically, are similar to flesh in that they are “subject to change, burning and decay, but are preserved in water.” Comparing wood to stone, Aldhouse-Green argues that wood represents the transience of existence on earth while stone represents permanence and is often connected with the ancestors (2004:24,98-102). This notion of an ancestor cult, or the heroic ancestral dead, has been discussed by numerous scholars (Arnold 2011:157-158; Arnold and Gibson 1995:8; Frey 2004:112). Monumental stone sculpture marking tumuli, such as the Hirschlanden and Glauberg statues, may have represented ancestors that were transformed by death into intermediaries between the living and the dead (Arnold 2011:158).

The social structure of the Celts, which was necessarily linked to both iconographic production and ideology, has been discussed extensively by many scholars. Otto-Herman Frey (1991a; 1991b; 1996; 2004) has contributed greatly to the discussion on the evolution of Celtic social structure as represented in art. While Frey focuses on the *Fürstengräber*, or ‘princely graves’, of the Celts and various forms of ornamentation, Miranda Aldhouse-Green’s (2014) research on sacrifice and bog bodies in Europe has not only contributed to an understanding of ideology, but social organization as well. Bog bodies reveal another category of individuals who cannot be considered commoners, but have not been definitely identified as elites. The possibility of these individuals being shamans is one suggestion that has been proposed, while sacrificial victims and capital punishment have also been debated. Focusing on burial rites on land, regional patterns changed throughout the Iron Age. For example, mortuary evidence from southwest Germany shows that Bronze Age urnfields were reused for inhumation burials in the early Iron Age (Murray 1992), corresponding with the increase in social stratification (see Figure 1.3). As urbanization increased in the later Iron Age and social status was increasingly ascribed (Arnold 2011) the burial rite shifted to inhumation in flat graves and cremation (Murray 1992).

Contemporary France, on the other hand, had several different traditions. While the Armorican area of northern France maintained early Iron Age traditions until the last few centuries BC, La Tène culture was adopted in the Aisne-Marne area. While inhumation continued to be the dominant rite between the fifth and the first centuries BC in the Champagne region, with chariot graves being less extravagantly furnished than in the earlier Iron Age, the practice of cremation spread southwards from the northern Champagne region during the third and second centuries BC (Büchsenschütz 1996:554-556). These patterns show that mortuary ritual was tied to social structure and fluctuated regionally. The placement of the deceased on the landscape in designated areas, the manner of death, and the type of mortuary treatment were impacted by the deceased's social position and the beliefs of the living (Aldhouse-Green 2014; Aldhouse-Green and Aldhouse-Green 2005). As analysis of individuals who are archaeologically visible can provide insight into changes in ideology and social structure, the analysis of headgear in relation to these individuals could reveal divisions within the elite class and what types of materials marked status regionally and temporally.

The relationship between material culture and gender throughout the Iron Age must also be taken into account. Janet Levy (2006) has discussed the importance of studying the lateral divisions within complex societies, including gender and age, which cross-cut the hierarchical divisions and may be based on status. Interpretations of mortuary remains in relation to gender have changed through time. Gendered archaeology is a relatively recent development in the discipline, emerging out of dissatisfaction with the androcentric view of power, structure and agency in the past. While focusing on males, females, and other possible gender categories in order to better understand social structure and ideology in the past is the goal of a gendered archaeology, one must be careful in developing these interpretations (Nelson 2004). The Vix

‘princess’ burial, for example, has undergone a number of interpretations as views on gender have changed in more recent times (Arnold 1991; Knüsel 2002). While Knüsel (2002) suggested that the grave goods and skeletal evidence of the Vix ‘Princess’ indicate that she was a ritual practitioner, Arnold (2012c) has argued that the focus on third genders has been mainly invoked to explain how women could have held positions of power. Mortuary remains can reveal a great deal about gender and social structure, but regional and temporal variations must also be taken into account in order to understand changing power relations (Arnold 2011; Arnold 2012a).

Literature on birch-bark hats is generally limited to descriptions of their associated burial contexts and catalogs of artifacts. Leif Hansen (2010) and Otto-Herman Frey (1991b:86-87) are the only scholars who have attempted an interpretation of the hats to date. They both discuss the association of these hats with other grave goods. While Frey (1991b) argues that the birch-bark hat from Hochdorf must have been related to the status of the individual, Hansen (2010) suggests that the deposition of birch-bark hats in burials both rich and poor in terms of grave goods, such as Grave 352 and Grave 351 at the Dürrenberg respectively, possibly indicates that the hats were common items of dress. This thesis further develops these efforts by analyzing mortuary and iconographic evidence, as well as taking into account color, shape, relationship to gender, ideology and the political and social organization of the Celts in west-central Iron Age Europe. The possibility that the hats represent a particular role within the elite status category is considered in light of ancillary evidence.

Cultural and Temporal Context

The first recognizable evidence for the peoples known as the Celts comes from the Hallstatt period in continental Europe, named after the type site in Austria. Hallstatt was a high

valley salt-mining community, the earliest settlers of which can be traced to the Neolithic period, approximately 7000 years ago, based on the radiocarbon dating of a deer-antler pick from the salt mines (Kowarik and Reschreiter 2009b:44). The earliest definitive evidence of salt mining dates to the Bronze Age. Due to the preservative nature of salt, some textiles, wood, leather, rope, bone and other organic remains have been found in the mines and burials, along with metal objects and pottery, allowing for a deeper understanding of the late Bronze and early Iron Age peoples in this area, as well as their trade connections with other people across west-central Europe (Kowarik and Reschreiter 2009a:40-41; Kowarik and Reschreiter 2009b:44-45; Reschreiter and Kowarik 2009:35-39). Excavations at the Hallstatt cemetery began in 1846, under the direction of Johann Georg Ramsauer, and continued into recent times under the supervision of various archaeologists and museum organizations. Material remains in the burials, both inhumations and cremations, have been dated to both the Hallstatt and La Tène periods (800-400 BC) (Kern 2009:116-124).

The early Hallstatt A and B periods refer to the Late Bronze Age when the main burial rite was cremation. After a period of instability around 800 BC, the control of trade and the use of material wealth to signal social status became a hallmark of rising elites. Competitive display is visible in mortuary and iconographic contexts, often including monuments erected in significant places on the landscape (Arnold 2011:166-167; Arnold and Gibson 1995:5-8). This shift towards display and changes in burial practice marks the beginning of the Iron Age, known as the Hallstatt C period or the early Iron Age. The pre-Roman Iron Age continues into the La Tène period (late Iron Age) and does not end on the Continent until the Roman Conquest in the first century BC (Table 1.2; Arnold 2012a:89; Wells 1996a:213; Wells 1996b:240). This paper

discusses changes in headgear after the disappearance of birch-bark hats in the archaeological record, but the Roman expansion into the Celtic world is beyond the scope of this research.

Table 1.2: Iron Age chronology in west-central continental Europe (after Arnold 2012a:89)

Hallstatt A/B (Urnfield)	1200-800 BC
Hallstatt C (Early Iron Age)	800-700/650 BC
Hallstatt D	700-475 BC
La Tène A/B (Late Iron Age)	475-275 BC
La Tène C	275-150 BC
La Tène D	150-25/15 BC

Hallstatt and La Tène material culture is found unevenly distributed spatially as well as temporally in Europe. The areas that are the focus of this paper are the western Hallstatt and La Tène culture areas, including parts of Iberia, Gaul, Switzerland, Germany, Austria and Italy. Slovenia will also be included in the discussion of East Alpine *situlae* (Figure 1.11).

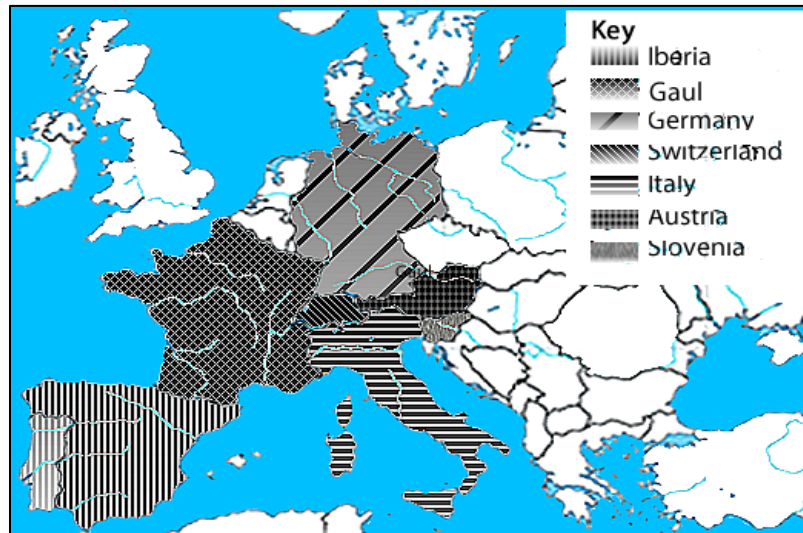


Figure 1.11: Map showing the Western and Eastern Hallstatt and La Tène areas as represented by modern nation-states.

Hallstatt B/C (900-600 BC) marks a change in the configuration of political power from the earlier Bronze Age, becoming more individualized, with fortified sites serving as the seats of the local aristocracies (Arnold and Gibson 1995:5; Brun 1995:15-16; Cunliffe 2008:270-316).

Craft specialization became more prevalent as elites consumed products that required specialized skill and significant investments of time and expense (Wells 1996a). In the Hallstatt C/D and early La Tène A periods, the West Hallstatt Zone (southwest Germany, eastern France, and Switzerland north of the Alps) saw increased stratification. This is represented archaeologically by large fortified hilltop settlements and elite burials in tumuli (Arnold and Gibson 1995:5; Brun 1995:15-16). As social stratification increased, trade in exotic materials became essential to competing elites (Arnold 2011:155,159-161). The connection between these elites and Mediterranean contacts is evidenced by the grave goods found with some elite individuals. The establishment of the Greek colony of Massalia (Marseilles) ca. 600/540 BC at the mouth of the Rhône River increased the opportunity for trade between the Celts and the Mediterranean world, though links to the southern regions already existed via the Alpine passes to Etruria (Cunliffe 2008; Frey 1996). While there were various groups across west-central Europe with few political connections outside their region, Celtic society in general is historically referred to as a chiefdom-level organization due to its complex social stratification and the function of elite individuals in the social hierarchy (Arnold and Gibson 1995:5; Brun 1995:15-16). Social status in the early Iron Age was a mixture of ascribed and achieved status. During the later Iron Age status was primarily ascribed and the competitive displays that once took the form of grave goods shifted to votive deposition. Also, rulers were no longer performing the role of priests, but a specialized elite group of ritual practitioners controlled the deposition of personal ornament and weapons instead (Arnold 2011:163,167,172).

It was during the later Iron Age, around the fifth/fourth centuries BC, that Celtic peoples began moving out of central Europe on a large-scale (Cunliffe 2008:21). As shifts in people, social organization, and trade contacts occurred, there were also changes in Celtic art. Though

the human head already held significance for the Celts prior to the La Tène period, it did not become a prominent feature of Celtic art until around 500 BC (James 1993:89; Megaw and Megaw 2001:69-88). In conjunction with the increase in craft specialization, the human head in symbolic form appears on situlae and other vessels, as well as weapons and other metal objects and stone monuments. Stone monuments in particular are significant because they are placed on the landscape in highly visible locations, usually functioning as both memorials to the deceased and reminders of the legitimacy of the descendants (Arnold and Gibson 1995:5-8). In Iberia, evidence of this connection to the cultures of Hallstatt and La Tène in central Europe are seen from the fifth century BC onward in the Meseta cultures of north-central Spain, utilizing weaponry and armor of Celtic style that symbolized status, and in the Castro culture in north-western Spain that flourished between the fifth and the first centuries BC, where a Celtic language was definitely spoken and prestige objects such as torcs figured prominently in hoards and iconography (Figure 1.12; Lenerz-de Wilde 1996).

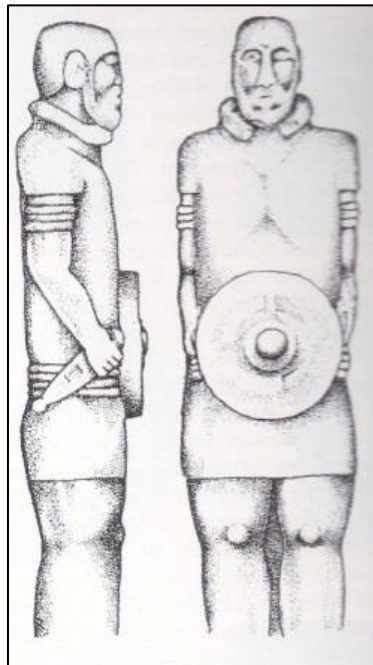


Figure 1.12: Torcs, daggers and shields depicted on *guerreros galaicos* (Lenerz-de Wilde 1996:548).

This paper will explore the presence of functional and ceremonial headgear in both iconography and mortuary contexts in these areas to generate hypotheses regarding the significance of the birch-bark hats in elite status-marking and how this particular materialization of ideology changed in response to social pressures during the course of the Iron Age.

Chapter Two

Methods

A supra-regional analysis is the best way to study the changing trends in headgear throughout the Iron Age in relation to status, gender and age. A selection of Celtic art and headgear from Austria, Switzerland, Germany, Italy, Gaul, and Iberia will be collated and analyzed to generate hypotheses regarding the relationship between the human head and elite status marking at this time. Simultaneously, a qualitative approach comparing birch-bark hats to other kinds of headgear represented in mortuary contexts and iconography will be attempted (Table 2.1). Milner (2003) applied a similar qualitative approach at Cahokia (11th-14th c. AD) in Illinois to better understand rank within Mississippian culture as a whole. Like the Iron Age Celts, Cahokians operated within a chiefdom-level society (although the term “tribal state” has recently also been used for this type of cultural system in connection with the late La Tène period [Collis 1995:76; Collis 2014:16]). The Iron Age inhabitants of west-central Europe were divided into more groups and were more widely dispersed across the landscape than the people of Cahokia, but the relationship between material and rank is still comparable.

Milner’s examination of architecture, mortuary facilities, and artifacts allowed him to determine whether there was a difference in material based on rank, and whether it was a difference in kind (qualitative) or degree (quantitative). As Iron Age European headgear is so varied in terms of decoration and quantity varies depending on the depositional context, this paper focused on the differences in kinds of headgear rather than specifically focusing on differences in quantity, size, *et cetera*. Birch-bark hats, and organic headgear in general, would be difficult to analyze quantitatively as preservation bias, as well as methods of excavation, have affected their representation in the archaeological record, though size of the hats will still be a

consideration when comparing them with one another. Qualitative analysis may yield important information about the use of birch-bark hats in status marking when it is combined with a comparative approach to the head more generally. By examining the different kinds of headgear that appear in Iron Age iconography and mortuary contexts and dividing them into two categories- functional and symbolic- insight may be gained into what types of headgear may have distinguished elites from other members of society, as well as what types of headgear marked divisions within the elite class at certain points in time and space. The rarity of birch-bark hats in comparison to helmets and other metal headgear might be attributed to their use in marking a particular role within a specific status category. An examination of iconography and application of ethnographic analogy will help to counteract the preservation bias that exists due to the perishable nature of the material and will provide additional examples of the use of headgear in differentiating individuals based on various criteria in Iron Age Europe.

Table 2.1: Types of evidence that will be discussed from Iron Age west-central Europe.

Head Ornament	Time Period	Region	Context
Hair Pins	Hallstatt C/D	Southwest Germany, eastern France	Mortuary
Rings (Ear and Hair)	Hallstatt and La Tène periods	West-central Europe	Mortuary Iconography
Torcs, Necklaces	Hallstatt and La Tène periods	West-central Europe	Mortuary Iconography
Helmets	Eighth-Third centuries BC (but mainly La Tène)	France, Italy, Spain, Austria, Slovenia	Mortuary Votive Iconography
Birch-bark hats	Sixth-Fourth centuries BC (c. 550-350 BC)	Southwest Germany, Western Austria, and central France	Mortuary (n=6) Iconography (n=3?)

Approach for Grouping Material

Material was grouped by type and regional gender associations were listed for each entry. The incorporation of various types of headgear into this analysis was necessary in order to test the hypotheses presented for birch-bark hats. A detailed description of the hats had to be generated before an in-depth comparison could be carried out. The decoration on the hats, the color of the bark utilized in production, and hat dimensions were taken into account in order to identify any similarities and differences. The purpose of these hats cannot be evaluated until their mortuary and iconographic contexts are described, including age and possible gender associations. As these hats have not been analyzed in detail elsewhere, their possible purpose will be considered here by first comparing them to other forms of headgear that can be divided into categories by functional and possible symbolic use, as previously defined.

Headgear that fits into the functional category in this thesis is represented solely by metal helmets, as these were intended to serve as protective gear. However, this kind of defensive armor can also be assumed to have marked status, since helmets of metal represent significant wealth. This also does not rule out the possibility of other types of functional headgear made of organic material, such as leather or felt, but it does provide a useful comparison of elite head coverings for the discussion of the birch-bark hats. The decoration of these helmets is later discussed as a means of identifying workshops as well as secondary intended purposes, such as intimidation or status display. Iconographic depictions, mortuary deposition, and disposal in ritual contexts are all considered, noting regional patterns throughout the Iron Age. Types of disposal changed over time in accordance with changes in sociopolitical organization and ideology (Aldhouse-Green 2014; Arnold 2011). Gender, status and age associations are discussed where this information is available. In an attempt to determine how organic headgear

such as the birch-bark hats may have differed from metal headgear and what this may mean regarding elite signaling, the fact that no helmets have been found in mortuary or votive contexts together with birch-bark hats, and are not combined in iconographic representations either, are discussed. Distribution patterns, as well as the degree of functionality, are discussed for these helmets as this also appears to differ from that of the birch-bark hats, though it is emphasized that the numbers of the latter category are not representative due to preservation bias.

Under the overall category of symbolic headgear, torcs, or neckrings, are the first type of head ornament described. Gender associations, associations with power and ideology, occurrence in mortuary and ritual deposits, and association with birch-bark hats are discussed. Necklaces and their gender associations are next, followed by hair and ear ornament. While some of these items, such as hair-rings and pins, would have been attached to other head coverings, they will be considered as symbolic rather than functional materials due to their primary display purpose. The depiction of all of these items in iconography, as well as their associations with gender and status by region and over time, are discussed in order to better understand elite display and how birch-bark hats may fit into the pattern of elite competition.

After all of the material was grouped, it was possible to see regional differences in elite headgear and how design was impacted by changes in social structure, ideology and cosmology. Funerary ritual and material deposition patterns throughout the Iron Age are also impacted by these changes. At this point, association of the birch-bark hats with the other types of elite material culture in both mortuary and iconographic contexts can be discussed, but the hats cannot yet be grouped into either of the designated categories. Their appearance in burial contexts with other elite symbolic material, but not with functional headgear, raises the question: was this type of headgear symbolic and, if so, how did it differ in meaning from other symbolic markers of

status? To answer this question and test the hypotheses laid out in Chapter Two, Costly Signaling Theory (CST) will be applied to the birch-bark hats.

Costly Signaling Theory

Costly Signaling Theory is applied to the birch-bark hats specifically in an attempt to understand their possible purpose within Iron Age society. This approach has been used in other contexts as a way to develop hypotheses about public behavior that seems, on the surface, to be a handicap but actually has deeper meanings in the sociopolitical organization of a group. There are four criteria for determining if the purpose of a behavior is display: (1) The behavior must be observable for an intended audience, (2) The behavior must be costly in order to deter imitation of the signal, (3) The behavior must be a reliable signal, and (4) The signaler must receive benefits to outweigh the risk (Sosis 2000). As there is no way to observe the behavior of Iron Age peoples the material produced for possible display must be analyzed. Color, form, decoration, production effort and the symbolic importance of material derived from trees in general are considered, in addition to comparisons with other headgear and associated mortuary and iconographic materials, in order to analyze the possibility that birch-bark hats were intended to mark a specific type of identity.

Audience

Martin Wobst's (1977) work on stylistic behavior was consulted, as he discusses the potential target audience of headgear and other aspects of stylistic behavior. Following this, it needed to be established whether the hats were worn in life or produced specifically for burial. This was done by noting any evidence for repairs or modification. Establishing who the intended audience may have been was more difficult and was not able to be answered definitively in this

thesis due to the limited evidence available; however, multiple lines of evidence were considered. Iconography (and its distribution or visibility) and similarities in hat design were considered in an attempt to understand the range of the signal (if the hats were indeed symbolic markers). Also, as feasting was a large part of Iron Age society, the possibility that these hats may have been worn at political public events that involved the consumption of alcoholic beverages was considered.

Costly Behavior

For a behavior to be costly, it has to have an element of risk involved. People will avoid certain activities or avoid adorning their bodies with items that are restricted to certain individuals. Expected and prohibited behaviors, according to Wobst (1977), may be signaled by particular objects. If an audience understands a signal, they can avoid personal risk. Additionally, the power of any individual within a society cannot be maintained if there is large-scale resistance or imitation. To investigate whether birch-bark hats may have been costly in this sense, iconography and other elite materials were examined. If birch-bark hats appeared with other items restricted to the elite, then they were not likely to be items of common use.

Signaling

If these hats marked a specific social position, ability to control resources and labor may have been a part of the signal. To determine the symbolic significance and value of the hats in terms of time and skill required for production, ethnographic sources on the production of birch bark items were consulted for estimates of effort required (time and energy expended). As the birch bark necessary to create these hats had to reach a certain length, ethnographic data may also reveal how long a tree had to grow before its bark could be stripped and whether only

certain types of trees were “farmed” in this way. The use of birch in other mortuary contexts was also discussed. Also, the skills required for metalworking were considered, as the punch technique used on the hats indicates similarities with repoussé metalwork. The fact that the hats were placed in burials, rather than reused, also says something about effort and possibly the need to bury certain materials. Consideration of who was producing these hats will also be important, as the necessity for skilled craftsmen could have restricted access to the hats to elite individuals. Further costs may have been involved if the hats were being imported. An examination of the distribution of birch trees in west-central Europe, when compared to the locations of mortuary sites that have produced birch-bark hats, may reveal whether hats were being made locally or imported for elite individuals. Various sources contained in the European Pollen Database (EPD) tested pollen data from various sites, producing lists of site elevation and radiocarbon dates for different plant species, including birch (*Betula*). The time-depth varies depending on the type of analysis and the material that could be analyzed, but many of the pollen samples (collected from lakes and bog sites) date from the Holocene to more recent times. To better understand elite activity in the Iron Age in relation to these hats, it will first be determined where and what kinds of birch grew in Iron Age France, Germany and Austria, as well as the range of these trees in comparison to the burials with birch-bark hats. Areas where no hats have been found, including Spain, Italy and Switzerland, will also be examined. If there are pollen data suggesting people in these areas had access to birch bark, then other social or ideological factors, as well as preservation bias, must be considered to explain the absence of birch-bark hats. Mortuary site locations as well as the three possible iconographic depictions of birch-bark hats will be overlaid on a map displaying the distribution of birch.

A reliable signal is one that conveys reliable information about what is being portrayed. In Sosis's (2000) ethnographic study of the behavior of the men of Ifaluk, a coral atoll in the Caroline Islands in the Pacific Ocean, torch-fishing was meant to reliably signal a man's productivity and that of his matriline to the women of the group. Sosis explains that women ordinarily are unable to observe the work ethic of the men in their society, but through this ritual they can gather information from witnessing the display. To determine if the hats were a reliable signal, it must first be considered what the signal may have been. Color, form, and dimensions of the hats are considered. The growth of these trees at high elevations and near bodies of water, as well as the color of their bark, will be discussed within the framework of Iron Age ideology to better understand their significance as status markers. Later insular sources suggest a tree language (Ogham) may have had ritual significance. Examination of the symbolic meanings of trees among the insular Celts, as well as in other cultures, may reveal the possible symbolism in the type of wood used for these hats and what values/ideas they may have evoked in those who viewed them. Miranda Aldhouse-Green's (2004) materiality approach was applied to birch-bark hats, as wood may have been intentionally used for both its functional and symbolic properties. A comparison of headgear, organic and metal, may also reveal differences in intended messages. Mortuary data are important to consider here as gender and age restrictions as well as other cases of birch being used in burial contexts may be helpful in determining what signal the hats may have been sending to their intended audience.

Risks and Benefits

The risk associated with wearing these hats, first and foremost, was due to their visibility. By marking themselves with symbols of a special status (whatever the specific role may have been) the individuals wearing these hats could have been vulnerable to people who wished to

target them. This section of the analysis, then, considers possible benefits that the signaler might have received that outweighed the risks involved. The respect of followers is one possibility. The distribution of the hats suggests that the signal was understood across a large area (see Figure 3.1), so it could be that these hats protected the individuals wearing them even if they traveled to other areas. There also may have been benefits for others within these societies, as there are many uses for birch wood, sap, tar, and bark in general. Ethnographic and archaeological sources on the many uses of birch are discussed in the analysis, as this may indicate how these communities may have benefited from this material. People wearing hats made of the same birch bark that helps their community may have been marked as healers, providers, or some other related category. Lineages with a birch-bark hat wearer may have had access to special privileges or resources.

Limitations

There are some limitations to this approach that should be kept in mind. The first is that preservation bias is certainly responsible for the small number of birch-bark hats that have been found. Not only natural weathering and decay processes are to blame, but also many elite burials were not methodically excavated, or were looted in antiquity, so it is possible that much of the organic material was missed or discarded at the time of excavation. We have found no way of estimating the prevalence of this headgear in the temperate European Iron Age. The perishable nature of the wood, combined with disposal practices, certainly means the archaeological record is incomplete. The wide area of usage, from Gaul to Austria, over approximately two centuries, suggests that there may have been other hats that have either perished or not yet been excavated. Unlooted paramount elite graves that have been systematically excavated are limited to four burials: Vix (Arnold 2011) and Lavau (Gliksman 2015) in eastern France and Hochdorf and the

Glauberg in Germany (Arnold 2011). Like Vix, the recently discovered burial of Lavau included no evidence of a birch-bark hat, though this site is much later in date (early fifth century BC) (Gliksman 2015), so this may be the result of changing practices from the late Hallstatt to the early La Tène. The Glauberg burial is similar in date to Lavau and contains a wire and organic headdress rather than a hat (Frey 2004). Isotope analyses of samples taken from the individual in Glauberg Tumulus 1 Grave 1, those buried nearby in simple inhumations, and those in conical storage pits, have produced results that the individual buried with the headdress was a young male whose diet was superior to the rest of the study population (Knipper et al. 2014). Further, settlement evidence for the early Iron Age is not a reliable source of information on social differentiation as no structures that can be identified as palaces or elite residences have yet been found in temperate Europe (Arnold 2011), and any birch bark or other organic remains that may have been used in everyday life is not likely to survive.

Another limitation is the range of the birch tree itself. While pollen data does exist for the areas of Europe where these hats have been found and surrounding regions where no hats have been found, previous research into birch-bark hats makes no mention of the species of birch that was used. Further, no comparisons beyond the genus level have been made between the hats, so there is no way to distinguish by subspecies. Without knowing if all of the hats were made of the same species of birch, or if there was a preferred type of birch, it will be difficult to get a full understanding of the significance of this material in elite contexts. The only birch species that can be eliminated are the shrub varieties that would not have produced bark of the necessary diameter for producing the hats. As for the color of the hats, the mention of at least one of the hats being white (Hansen 2010) makes it likely that they were produced using either *Betula pendula* (European white birch) or *Betula pubescens* (downy birch). Due to the state of

preservation of these hats and the small sample size, there is no way to know if all of the hats were left their natural color or if they were enhanced with pigments or other organic materials that no longer survive. The hat from Grave 352 may have been stained over the decorated bands, while the natural white of the bark remained in the undecorated zones. Color was considered in this analysis to generate ideas about possible signals, though it should not be overly emphasized due to the limitations of the current sample. Ethnographic accounts from native North Americans and from areas of Northern and Eastern Europe were consulted to further understanding of the production process.

Chapter Three

Categories of Headgear

Birch-bark Hats

A total of six birch-bark hats has been found to date in Iron Age Europe: One from the late Hallstatt Hochdorf burial in Eberdingen, Germany, three from the late Hallstatt and early La Tène graves at the Dürrnberg (Graves 351,352,373) near Hallein in Austria, fragments from Bad Cannstatt (Grave 2) in Stuttgart, Germany, and fragments from a central cremation grave in the Mardiac region of Gaul dating to the late Hallstatt/early La Tène period (Figure 3.1; Hansen 2010:139-140). The hats in the inhumation graves in Austria and Germany were all placed on or near the foreheads of the male individuals found in them (Biel 1987:27; Böckmann 2009; Egg and Zeller 2005:350; Hansen 2010:139), while the hat from Gaul was likely placed over the opening of the vessel containing the cremated remains of an individual whose sex remains undetermined (Hansen 2010:139).

As the name suggests, these hats were made of birch bark and were decorated in concentric bands of what is known as punch-dot, punch-line or stamp decoration on the outside, while the inside remained undecorated (Biel 1981:17; Böckmann 2009:81,84; Hansen 2010:52). These designs consist of alternating geometric patterns of circles and triangles (Hansen 2010:52). The hats are conical in shape (Biel 1987:27; Hansen 2010:52), with a diameter of 34.5 cm, based on the Hochdorf and Mardiac hat measurements (Hansen 2010:52). While the bark itself was white (Hansen 2010:139), there is evidence now to suggest that the decorated portions of at least one of the hats may have been a different color than the undecorated sections; however, what this

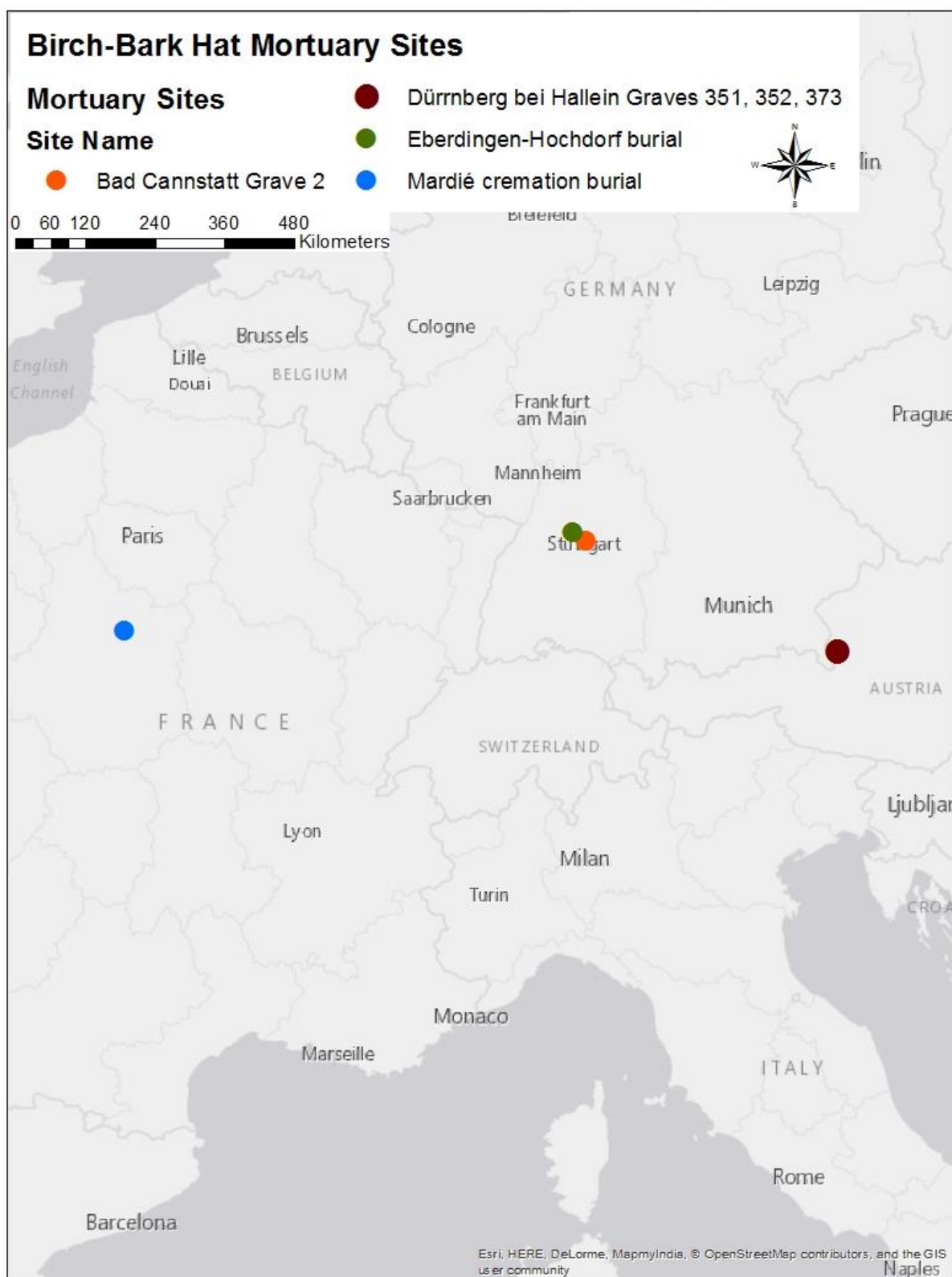


Figure 3.1: Map of mortuary sites where birch-bark hats have been found (modified from National Geographic base map).

color may have been remains unknown (Böckmann 2009:87). There may be some connection between this striped pattern and that found on textiles, as seen on an early Bronze Age striped textile found at the cemetery of Franzhausen in Germany which formed part of a headdress for a female individual (Figure 3.2). Metalwork from the seventh century in Austria also has bands of repetitive decoration, in which both nude warriors and horses are depicted (Figure 3.3a), which looks very similar to the design on the sixth century BC gold torc from the Hochdorf burial (Figure 3.3b).

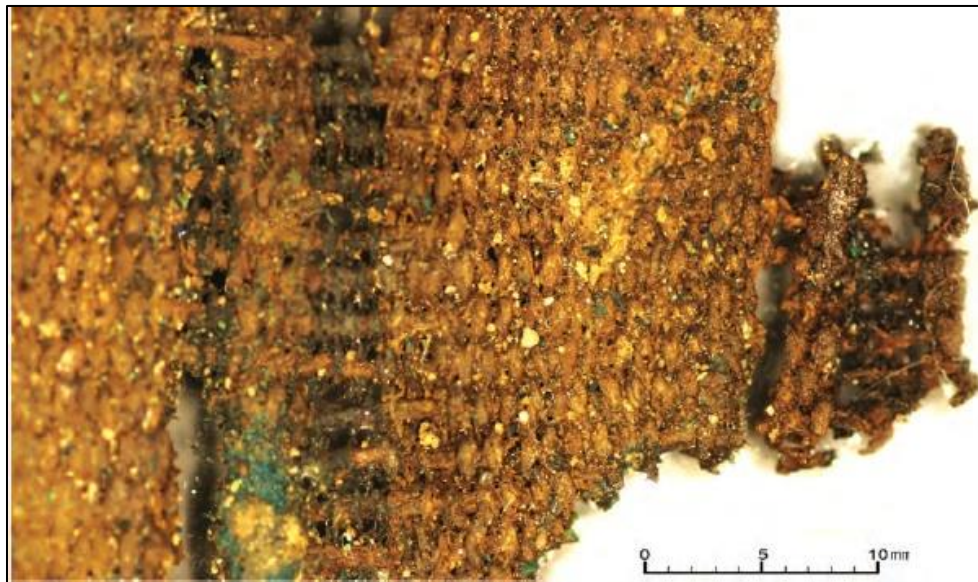


Figure 3.2: Striped textile from a female burial in the Franzhausen cemetery, early Bronze Age (Grömer 2012).

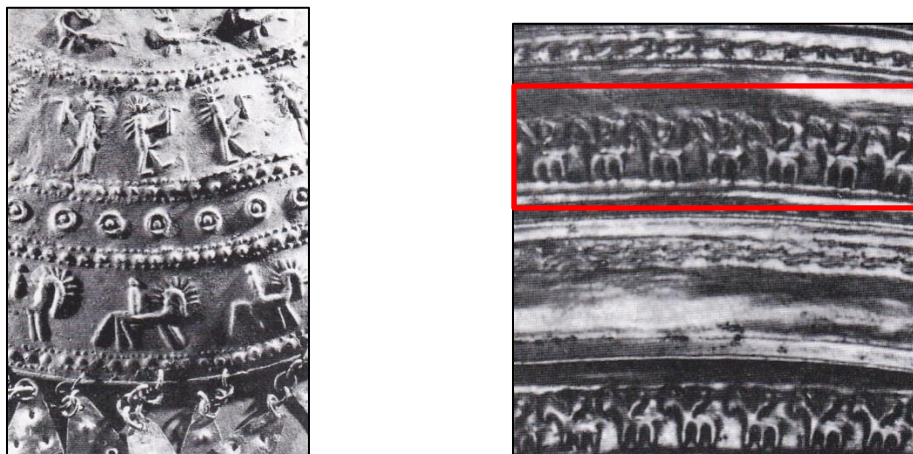


Figure 3.3: (a) Bronze chest lid, barrow grave at Kleinklein, Steiermark, Austria, 7th c. BC; (b) Detail on the Hochdorf torc, 6th century BC (Megaw and Megaw 2001:34, 42).

Interred in all of these graves were adult individuals (Biel 1981; Biel 1987; Böckmann 2009; Hansen 2010), with Grave 352 in Austria also containing the remains of an infant (Egg and Zeller 2005). The dates of burials with these hats thus far range from around 540 to 460 BC in Austria and Germany and into the early La Tène period in France, a time of increased mobility, fluctuations in trade stability and shifts in burial practices in the west-central European and Mediterranean regions (Arnold 1995:51; Brun 1995:16-22; Büchsenschütz 1996; Cunliffe 2008:317-363; Dietler 1995:65-71; Frey 1996; Lenerze-de Wilde 1996). The Dürrenberg especially, where three of these hats have been found, was a significant center of trade during the Iron Age as this area replaced Hallstatt as the major center for salt mining (Aspöck et al. 2007:110; Jope 1996:383). At least 2000 people are estimated to have lived there between the fifth and the third centuries, though burials decreased in the course of the later Iron Age (Aspöck et al. 2007:110). Evidence for salt-mining in this area continued into at least the first century BC (Naturhistorisches Museum Wien 2015), indicating that the migration of people out of central Europe in the later Iron Age did not completely disrupt life in this region.

When fragments of a birch-bark hat were first discovered in a princely burial at Bad Cannstatt in Germany, they were assumed to be part of a helmet. It was not until 1978 when a complete hat was found in the late Hallstatt Hochdorf grave in Eberdingen, ten kilometers from the Hohenasperg, that these hats began to be the focus of more systematic study (Figure 3.4; Biel 1987:23-24,27-28). While the Hochdorf male, approximately forty years old at the time of his death (Aldhouse-Green and Aldhouse-Green 2005:125; Biel 1987:23; Olivier 1992:54) around 540 BC, was buried with a number of prestige artifacts (Figure 3.5; Biel 1981; Biel 1987; Krausse 1999:343; Megaw and Megaw 2001:41-44; Hansen 2010:140), the grave goods from

Austria, Gaul and other areas of Germany vary in quantity and quality. Apart from Hochdorf, none of the other graves with birch-bark hats contained a wagon, daggers, arrows, razors or drinking horns. The Hochdorf and Bad Cannstatt graves were the only two to contain gold neckrings and belt-plates, but Hochdorf, Bad Cannstatt Grave 2, and Grave 352 from Austria all contained gold arm rings. All of the graves apart from Mardié and Grave 351 contained fibulae. The fibula from Dürrnberg Grave 373 dated the burial to the Hallstatt D3 period. This grave also contained three lances and two bronze vessels. The cremation grave from Mardié, located along the Loire river and approximately 350 kilometers away from Stuttgart, Germany, contained only one lance point, two small iron rings and the birch bark fragments that likely covered the ribbed pail containing the cremated remains (Table 3.1; Hansen 2010:139-140).



Figure 3.4: Birch bark hat, Hochdorf burial, late Hallstatt (540 BC) (Birkhan 1999:126).

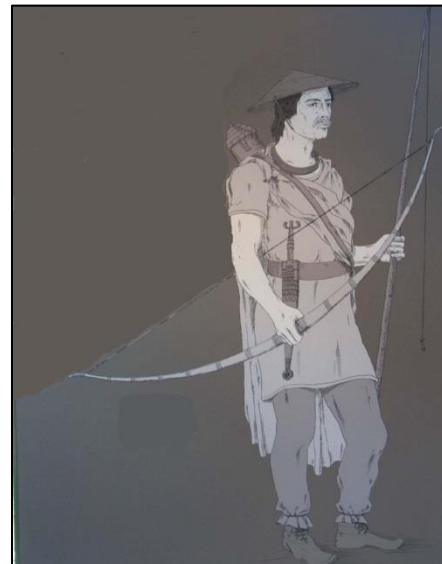


Figure 3.5: Recreation of the Hochdorf Individual (“Keltenmuseum Hochdorf/Enz” 2013).

Dürrnberg Grave 351 (c. 516 BC) did not contain any grave goods of imperishable material (i.e. metal or pottery). Aside from the birch-bark hat, this burial contained only a 17cm long flat wooden object, identified as a possible spatula, and a wicker basket placed beside the

legs of the individual (Egg and Zeller 2005; Hansen 2010:139). Leif Hansen (2010:140) suggests that the inclusion of birch-bark hats in graves with as well as without rich grave goods indicates that these hats were a common, widespread form of headgear; however, there are reasons to doubt this assertion, as the following discussion will show. Not only is the sample size limited, but due to the evidence of disturbance of Grave 351 it is difficult to say what else this burial may have contained (Böckmann 2009). Other factors could have affected the number of birch-bark hats that have been recovered to date, including the excavation methods of Iron Age mortuary sites and looting in ancient times. Looting began to be a serious problem as early as the La Tène period, occurring simultaneously with increasing conflict between the governing elite and secondary elite (Arnold 1995:50-51, 2002:131). Laurent Olivier suggests that this internal division within the elite class is evident in the differences in grave furnishings of elite burials (Olivier 1992:52-53). The Vix female burial and the Hochdorf male burial, the latter dating about a century earlier than the former, are the only unlooted burials recovered to date (Arnold 2011), with the exception of the recently discovered Lavau burial, which is dated to the early fifth century BC (Gliksman 2015) and appears to be that of a male (Arnold personal communication 2015). Comparisons between Hochdorf and Vix have shown that the Hochdorf male may have been one of these secondary elites whose burial was manipulated by his community in an effort to increase their social status (Arnold 2011). It may be that the individual in Grave 351 was also one of these secondary elites, although the lack of grave goods makes this difficult to determine with any certainty. The birch-bark hats, however, may eventually aid in the interpretation of the social standing of the individual in Grave 351.

Table 3.1: Artifacts associated with birch-bark hats in the mortuary context (after Hansen 2010).

	Hat	Dagger	Arrows	Lance	Axe	Wagon	Horse-harness	Knife	Razor	Gold neckring	Gold armring	Gold earring	Belt	Brooch (<i>Fibel</i>)	Drinking horns	Bronze vessel
Hochdorf	1	1	14		1	1	1	1	1	1	1		1	4	9	13
Cannstatt Burial 2	1			2						1	1	2	1	2		1
Dürrnberg 351	1															
Dürrnberg 352	1				1			1			1			1		2
Dürrnberg 373	1			3										1		2
Mardié	1			1												1

Approximately 15 meters away from Grave 351 at the Dürrnberg (Figure 3.6; Egg and Zeller 2005:346) is the slightly later Grave 352, dendro-dated to around 464 BC. This is the most similar of all of the graves to the Hochdorf burial in terms of quantity of artifacts. This burial contained an adult male individual with a wicker basket, animal bones, a wooden couch decorated with geometric patterns, a bronze fibula, an iron axe with a bronze attachment, a bronze basin with bossed decoration, a cup, a gold bracelet, a ceramic cup with a handle, and an iron knife with a horned handle decorated with circle-dot decoration. Unusually, an infant in a flexed position was placed in the grave inside a wooden box (Egg and Zeller 2005). Analysis of the birch-bark hat fragments from Grave 352 has revealed a pattern of stamp decoration similar to that found on the hat from the Hochdorf burial (Hansen 2010:139-140). Similar stamped decorations are also found on the Hochdorf torc (Figure 3.7; Megaw and Megaw 2001:41-42).

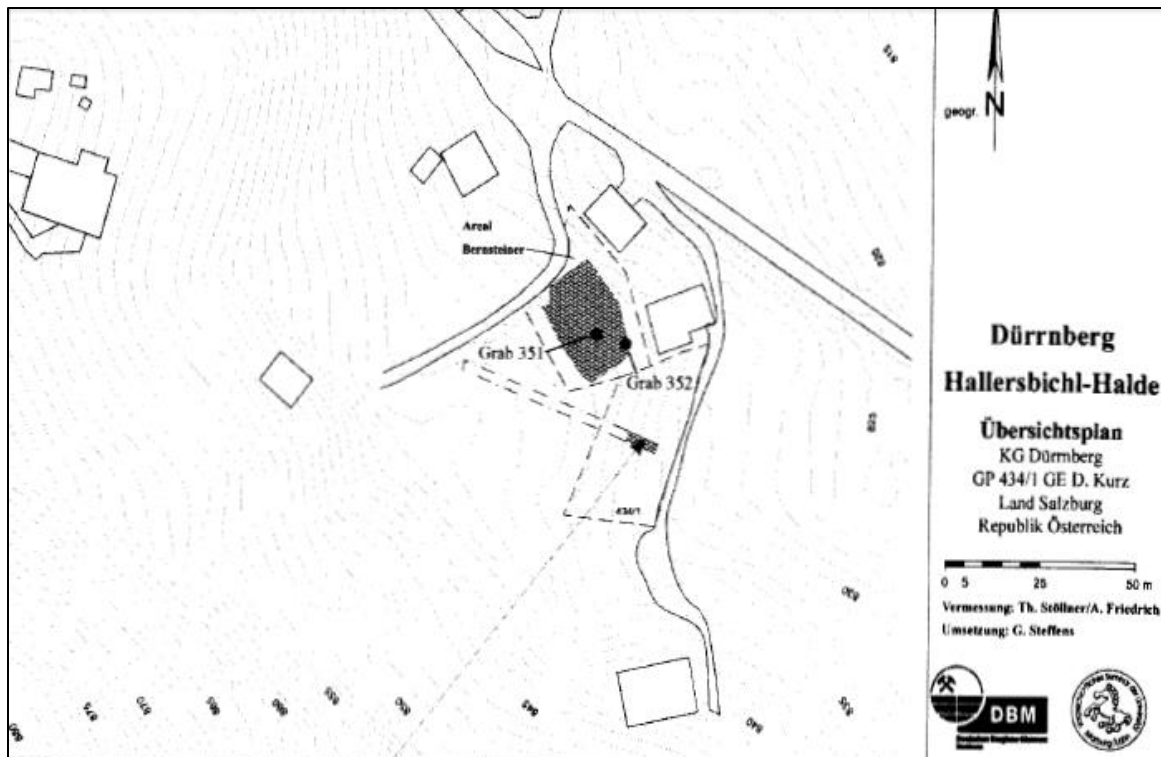


Figure 3.6: Dürrenberg Graves 351 and 352 (Site map from Egg and Zeller 2005:346).



Figure 3.7: Torc from the Hochdorf burial, c. 540 BC (Hansen 2010: Cover page).

Otto-Herman Frey has suggested that the birch-bark hat from Hochdorf was a mark of social rank, especially when analyzed in association with other elite objects in the burial (1991b:86-87). Belt-plates, for instance, specially commissioned so that no pieces were identical, also have been suggested as possible indicators of rank (Megaw and Megaw 2001:41). There is a possibility that the hats may have also had a functional, rather than completely symbolic purpose, such as protective head coverings for outdoor activities (Figure 3.8a) or even for armor (Figure 3.8b), as birch and lime were often used (in addition to metal) in the production of Iron Age weaponry and armor because of their light weight, while oak was used for its strength (Ritchie and Ritchie 1996:48). However, the evidence for birch-bark hats possibly being used in a military context is limited to one iconographic depiction that may or may not represent a birch-bark hat (Figure 3.8b; Hansen 2010:142; Mihovilić 1992). Other headgear of a similar form, but possibly made of metal, appears in iconography from Etruria in later periods (discussed later in this chapter). In the Nesactium situla (Figure 3.9), there are clearly other types of headgear in use marking different activities or social positions. While the male behind the plow wears conical headgear, the higher panels depict warrior figures with crested and horned helmets. Another East Alpine situla, currently in Providence, Rhode Island (Figure 3.8b; Figure 3.10), depicts a group of six men carrying spears and oval shields wearing conical headgear that appears to be decorated, at least around the brim. Another group of men appears to march in front of them bearing the same armor, but wearing rounded or crested helmets instead (Figure 3.10; Figure 3.11; Lucke and Frey 1962:Tafel 5, 9). Like the Hirschlanden statue from Leonberg, Germany (Figure 3.12), dated to around 550 to 500 BC (Armit and Grant 2008; Birkhan 1999:126; Megaw and Megaw 2001:45-56; Spindler 1983:172-185), the ploughman in the Nesactium situla wears some type of conical headgear with no decoration depicted and appears unclothed (Mihovilić

1992). Though the stamp decoration is not visible on the conical hat of the Hirschlanden figure, possibly due to weathering, the shape of the hat as well as its association with weapons and a tumulus burial have led scholars to connect this statue and the birch-bark hat of the Hochdorf burial (Megaw and Megaw 2001:39-46), though there is still some debate on interpreting this similarity (Armit and Grant 2008). One possibility is that these individuals had special powers and some may have been transformed into euhemerized ancestors after death.

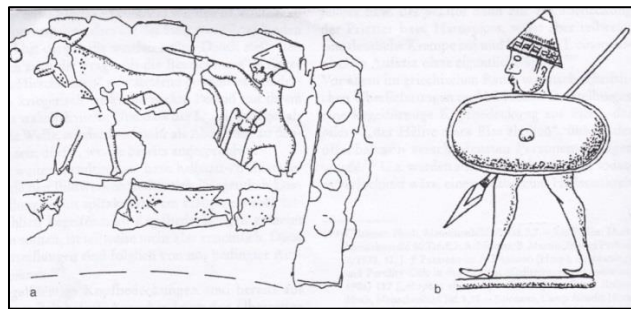


Figure 3.8: East Alpine situlae (a) Nesactium, Croatia (b) Providence, Rhode Island (Hansen 2010:142).

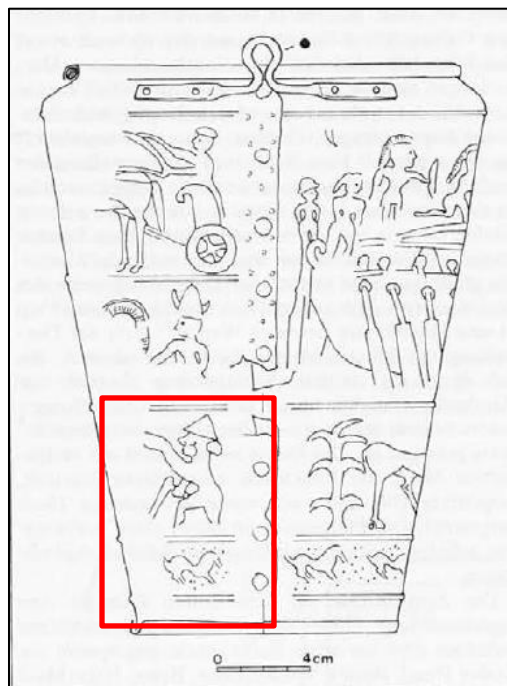


Figure 3.9: Situla from Nesactium with possible birch-bark hat on the figure in the bottom left (Mihovilić 1992).

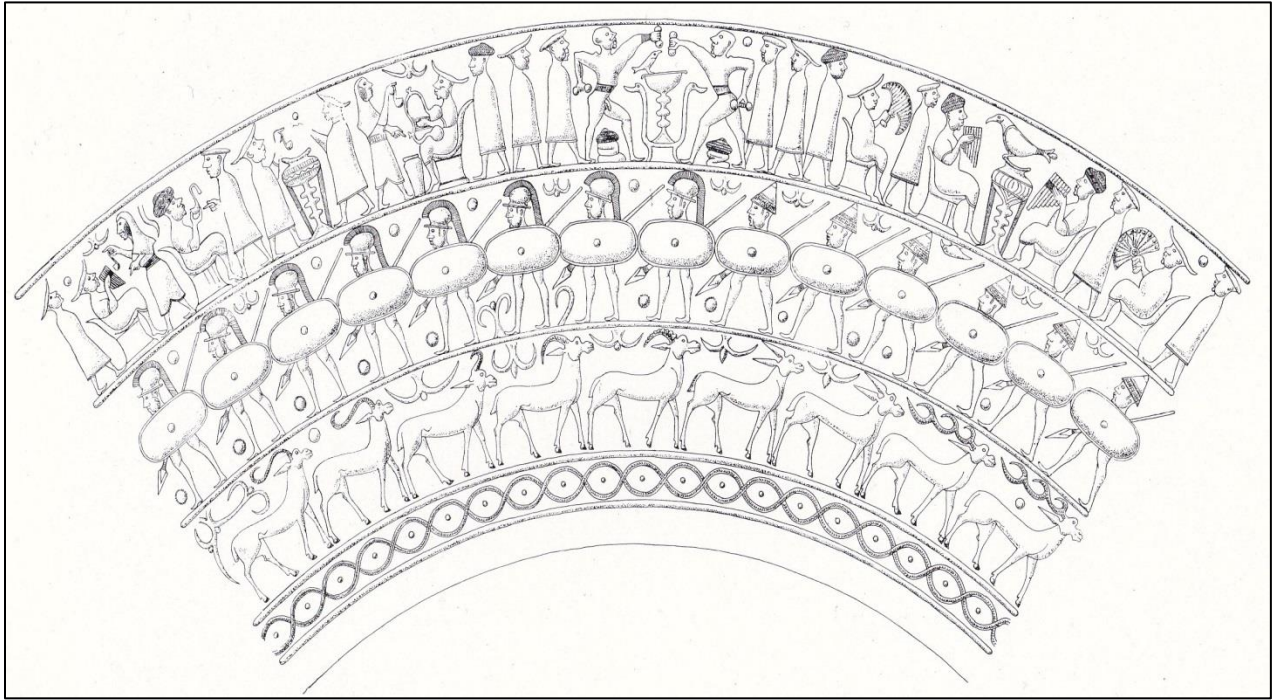


Figure 3.10: Providence situla (Lucke and Frey 1962:Tafel 5).

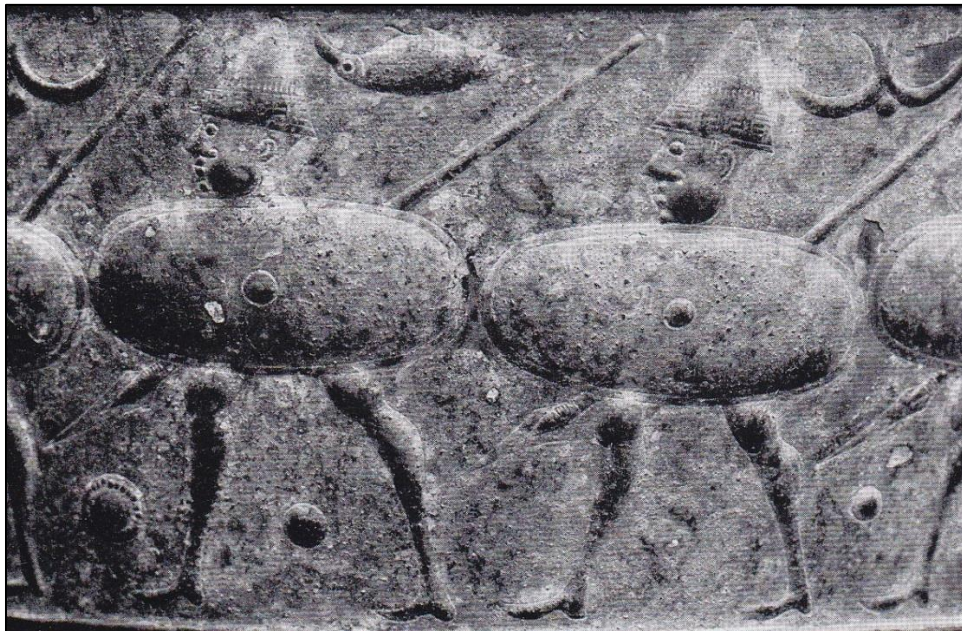


Figure 3.11: Providence situla detail (Lucke and Frey 1962:Tafel 9).



Figure 3.12: Hirschlanden statue, late 6th/ early 5th c. BC (Birkhan 1999:126).

It is important to also consider where the hats have not been found, with what types of people they are not buried, and with what materials they are not associated. These hats have not been found in Spain, Italy or Switzerland and there is no evidence to suggest they were represented in the iconography of any of these regions; however, iconographic representations of headgear worn by elite individuals do exist in these regions and are discussed later in this chapter. Was birch not available in these areas? Is this a result of differences in burial practices or preservation bias? Were the hats not part of the culture in these regions for political, religious, or social reasons? It is known, for example, that the Celtiberians had aristocratic tombs between the sixth and fifth centuries BC, but warrior tombs became more prevalent in the fourth through the third centuries as warrior elites developed into hereditary gentiliate clans. In the fifth century BC the cemeteries in the Upper Tagus area in northern Iberia contained rich military grave goods, including bronze helmets. However, as the ideology and social structure shifted towards urbanization in the later Iron Age, torcs, fibulae and sumptuary vessels replaced weapons as status symbols and the display of wealth became more important than that of warrior status (Almagro-Gorbea and Lorrio 2004:2-3,12-15,21).

Thus far, no birch-bark hats in burials or iconographic representations have been associated with women or children, with the possible exception of the Mardiac cremation burial whose sex remains undetermined (Hansen 2010). Even in Dürrnberg Grave 352, the child was not the possessor of the hat as indicated by the proximity of the hat to the adult male individual in the same grave. This shows that although this type of hat appears in burials with other ceremonial headgear (discussed later in more detail), it is distinguished by the fact that it appears to be gender and age restricted even within the elite class, possibly because of the material of which it is made or the role/position it may have marked. Prominent Iron Age women's burials, such as Vix in eastern Gaul (Arnold 1991; Arnold 2012c; Knüsel 2002) and Reinheim in Germany, have revealed no traces of birch-bark hats (Arnold 1991; Megaw and Megaw 2001:42-47,59), though not all male graves have them either. The recently discovered male burial, dated to the fifth century BC, found in a monumental funerary complex in Lavau, eastern France, contains no traces of birch, but did include many high status items, including a chariot and a large bronze cauldron of Mediterranean origin (Gliksman 2015).

No birch-bark hats have been found in sanctuary sites such as Ribemont-sur-Ancre or Gournay-sur-Aronde in northern Gaul either (Armit 2012:197-203). Though these sites, along with Entremont and Roquepertuse in southeastern France, have provided evidence for the significance of the head and ritual practices involving the human body (Figure 3.13; Armit 2012:127-162;173-190), they lack any materials made of birch-bark or representations of figures wearing these hats. These sites do contain images that, when compared with the fibula decoration and other iconography from west-central Europe, show the importance of animals in Iron Age society (Frey 1991a; Megaw and Megaw 2001:87). It should be kept in mind, however, that these ritual sites are mostly later in date and changed throughout the Iron Age in response to

various social pressures (Armit 2012). Iconographic depictions of human mastery over animals and the natural world is a common occurrence in the Iron Age (Arnold 2011:157-159; Arnold and Counts 2010), appearing in the later medieval Welsh text *The Mabinogion* (Ford 1977) as well, which may contain remnants of older European traditions from the continent. The importance of multiples of three seen in the Hochdorf burial, for example, also appears in these later texts in the stories of human-animal transformations and cycles of time (Arnold 1999:72, 76-78).

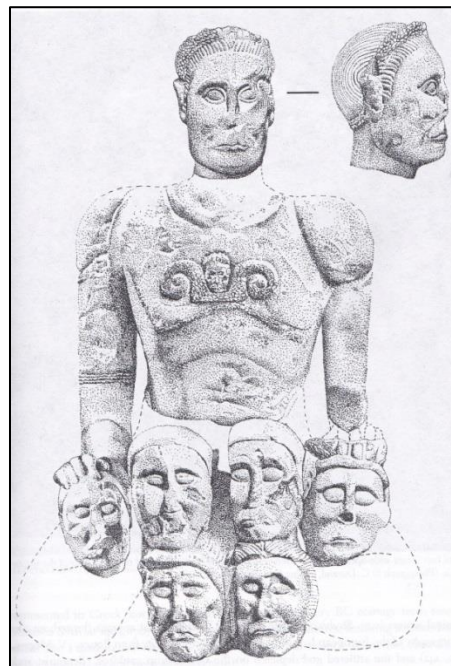


Figure 3.13: One of the Entremont warrior statues from southeastern France, reconstructed from fragments (Armit 2012).

Now that birch-bark hats have been described in detail, it is possible to compare the possible functional and symbolic aspects of the hats to other headgear from mortuary and iconographic contexts that can be assigned to functional or symbolic categories. Headgear in all forms and materials was subjected to a qualitative, comparative analysis to identify possible distribution patterns, gender associations and functional contexts. To interpret the primary purpose of the hats as symbols, Costly Signaling Theory was applied determine whether they

could be symbolic, and if so, what their intended message might have been. Ian Armit has suggested that ithyphallic imagery, as well as images of disembodied heads and vegetal motifs, indicates an association between the human head and fertility. Armit also argues that the head is a symbol of liminality (Armit 2012:57-61,101-118,165). Considering all types of headgear in relation to the significance of the head, the ultimate goal of this analysis was to interpret how birch-bark hats fit into the wider ideology of the Iron Age Europeans and determine if different types of headgear marked internal social distinctions within the elite class.

Comparative Analysis

Functional Headgear: Metal Helmets vs. Birch-bark Hats



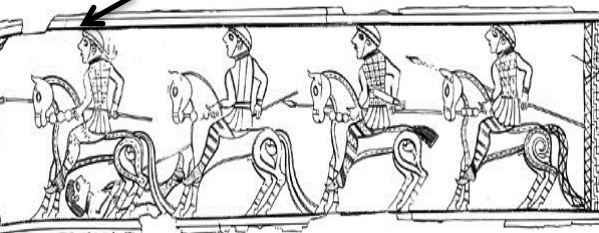



Headgear that fits into the functional category in this thesis is represented solely by metal helmets, as these were intended to serve as protective gear and preserve well. Iron Age helmets have been found in hoards, votive deposits, and some burials as well as being depicted in iconography (Table 3.2). While some Iron Age helmets were decorated in great detail, there was usually a functional purpose behind their creation, as they were made of bronze, iron, or leather to protect the head from blows in battle. However, helmets were also frequently decorated in a manner that was intended to intimidate the enemy in battle.





For armour they use long shields, as high as a man, which are wrought in a manner peculiar to them, some of them even having the figures of animals embossed on them in bronze, and these are skillfully worked with an eye not only to beauty but also to protection. On their heads they put bronze helmets which have large embossed figures standing out from them and give an appearance of great size to those who wear them; for in some cases horns are attached to the helmet so as to form a single piece, in other cases images of the fore-parts of birds or four-footed animals (Diodorus Siculus V.29.4-31.1).

Helmets with three-dimensional animals on the crest have been found in the later Iron Age. One such example from Ciumești, Romania, iron with a bronze crest, dating to the third-second centuries BC, has parallels in the later images on the Gundestrup Cauldron (1st c. AD, Thracian origin) (Megaw and Megaw 2001:176-177). While such simultaneously decorative and functional helmets did exist, helmets with little to no decoration are also represented in the archaeological record in hoards, graves and iconography. As Table 3.2 shows, helmets dating to the La Tène period have been found across Europe. Apparently the jockey-cap style and ‘Berru’ type helmets that appear in Austrian contexts originated in Italian workshops (Megaw and Megaw 2001:64,72,80,110,266; James 1993:42,59,76). The Negau hoard in Slovenia, discovered in 1811 at the village of Negau, contained twenty-six bronze Etruscan helmets. These early La Tène helmets are mostly undecorated, but seem to have changed in significance around the second century BC when Celtic inscriptions began to be inscribed around their rims, denoting important religious figures (Paddock 1993; “The Negau Inscriptions” 2014; Weiss 1999:47). Even though these helmets may have had a symbolic function, they also provided some degree of protection to the wearer. To distinguish between functional and ceremonial use of body armor and weaponry, use-wear analysis has been very effective. Erin Farley applied this technique to La Tène period weapons from Switzerland and France. Damage on these weapons had to be categorized as either the result of ritual killing or warfare. The placement of the damage on the object was one determinant of its purpose, while decoration was another (2008:44-57).

The Ramsauer excavations (1846-1863) of the Hallstatt type site in Austria (Kern 2009:116) produced detailed drawings of male and female graves and records of the age of individuals as well as associated material, allowing later archaeologists to analyze status differences and create a seriation sequence for the material remains (Hodson 1990).

Table 3.2: Examples of decorated helmets from mortuary and iconographic contexts: (1) “The Negau Inscriptions” 2014 (2) Megaw and Megaw 2001:80-81 (3) Birkhan 1999:377 (4) Megaw and Megaw 2001:266 (5) Megaw and Megaw 2001:122 (6) Megaw and Megaw 2001:72 (7) Birkhan 1999:378 (8) Cunliffe 2008:359 (9) Megaw and Megaw 2001:111 (10) Birkhan 1999:268.

Decoration Minimal/Absent	Highly Decorated
<p>1. Negau-type helmet, bronze, c. 500-450 BC; Negau Hoard, Slovenia</p> 	<p>6. Agris helmet, bronze and iron with gold and coral decoration, LT A/B (4th c. BC); Grotte des Perrats, Agris, France</p> 
<p>2. Jockey-cap type helmet, LT A (400-350BC); Bronze Scabbard from grave 994, Hallstatt, Salzkammergut, Austria</p> 	<p>7. Bronze helmet with iron bands, gold and enamel, LT B (later 4th c. BC); Amfreville-sous-les-Monts, Eure, France</p> 
<p>3. Bronze Berru-type helmet, LT A/B; Marne region, France; Dürrenberg grave 44/2, Austria</p> 	<p>8. Iron Italo-Celtic helmet with coral inlay, Canosa di Puglia; LT B (later 4th c. BC), Bari, Italy</p> 

<p>4. Iron Helmet, Gailtal Hoard LT C (3rd c. BC); Förker Laas Riegel, Carinthia, Austria</p> 	<p>9. Iron helmet with bronze covering, LT B (later 4th c. BC); Umbria, Italy</p> 
<p>5. Gold Flannery Brooch, LT C (3rd c. BC); Spain</p> 	<p>10. Animal-crested helmet of a goddess on a bronze statue; Late LT; Armorica (Gaul)</p> 

While a number of weapons are present in these cremation and inhumation burials, helmets were only recorded for three graves (Graves 259, 776, 799) (Hodson 1990:42-50,56,71-100,154). The 1972 excavation report of the Dürrnberg mentions only one helmet. Unlike the *Schiüssel* (bowl) helmets at Hallstatt, the Berru-type helmet in Grave 44/2 (La Tène A/B) was not placed anywhere in the vicinity of the head, but was found about half a meter away from the feet of the individual (Hirschhuber 1972:97-100). While the 1974 Dürrnberg report describes weaponry and armor dating to the Hallstatt and La Tène periods, there were no helmets in these graves (Moosleitner et al. 1974). A Berru-type helmet was also found in a late fifth century BC elite burial at La Gorge Meillet, Marne, France in 1876 (Ritchie and Ritche 1996:38-40). Overall, helmets in this region of the Celtic world are rare in the earlier Iron Age, occurring most frequently in Italy. When helmets do appear in other areas of west-central Europe, they often

show influence from Italy or can be traced back to workshops in Italy. The helmets in the eastern region, including those from Port bei Nidau (Bern, Switzerland), Giubiasco (Ticino, Italy) and Novo-Mesto (Slovenia), also tend to be better designed for protection than helmets from western Europe (Ritchie and Ritchie 1996:40,43,44).

Aside from the deposition of helmets in burials with specific, high status individuals, it became common in the later Iron Age to place items of wealth, including helmets, in hoards and votive deposits (Arnold 1995:50). Hoards are defined as deposits to which people intend to return, whereas votive deposits contain dedicatory offerings, usually to a deity for the purpose of securing a particular outcome (Aldhouse-Green 2014:19-20; Kubicek 2008:106,110). These items are usually sacrificed by ritually destroying the object, both to negate its ability to function and to make it possible for the boundaries between worlds to be crossed (Aldhouse-Green 2014:24,40,47-51; Aldhouse-Green and Aldhouse-Green 2005). The Gailtal hoard of helmets, for example, was discovered at Förker Laas Riegel, Carinthia, Austria in 1989. This hoard of fourteen iron helmets, sixteen iron spearheads and at least nine iron swords with scabbards dates to the third century BC (Megaw and Megaw 2001:266). Votive deposits occur in special locations, on land or in water. Gournay-sur-Aronde was a major votive site in northern France where spears, swords and shields, as well as bone, were placed in a ditched enclosure (Ritchie and Ritchie 1996:46-51). At Ribemont-sur-Ancre, also in northern France, an iron helmet dating to the third or second centuries BC was found ritually damaged (Aldhouse-Green 2014:51). Watery deposits from the La Tène site by the Lac de Neuchâtel, Switzerland reflect the dedication of weaponry at a sacred location in the Iron Age. As spears, swords, sheaths and human remains were deposited here, but no helmets, it seems that the primary focus was on offensive weaponry (Kubicek 2008:105-120). Working with this La Tène material, Erin Farley

(2008) used a combined comparative archaeological and textual approach to show the symbolic as well as functional aspects of Celtic weaponry.

Helmets are not only found in graves, hoards, and votive deposits, but also appear in contemporary iconography across Europe. Figures wearing helmets and elongated hats of unknown material are found in scenes on situlae from Vače (c. 400 BC) and Magdalenska gora in Slovenia, as well as the situla in Providence and the Bologna Certosa situla (early 5th century BC; Figure 3.14) (Egg and Lehnert 2011:57-66; Lucke and Frey 1962; Megaw and Megaw 2001:38). Though helmets are not usually associated with women in either the mortuary or iconographic context, the Vix krater from the Vix ‘princess’ burial (500 BC-450 BC) near Mont Lassois, contains images of helmeted males in some kind of procession (Figure 3.15). This vessel has been sourced to either southern Italy or Corinth, possibly travelling through Massalia at a time when the trading port was declining in popularity (Megaw and Megaw 2001:46-47). The appearance of veiled females on the Certosa situla, possibly also indicating the use of rings or pins, further shows the differences in head coverings between male and female elites.



Figure 3.14: Certosa situla, Bologna, Italy, Grave 68, early 5th century BC (“Keltenmuseum Hochdorf/Enz” 2013).



Figure 3.15: Rim of the Vix krater showing a helmeted warrior procession (Birkhan 1999:208).

Helmeted males have also appeared in other types of iconography besides vessels, such as standalone miniature warrior figures and those found on brooches and weaponry. The scabbard from Grave 994 at the Hallstatt site (c. 400-350 BC) depicts a scene with several men wearing jockey-cap style helmets (Megaw and Megaw 2001:80-81). Helmets also figure prominently in eastern Europe in the Iron Age. A late sixth-century barrow burial in Vače, Slovenia contained a locally-made bronze figurine of a nude male warrior wearing a helmet. A contemporary bronze belt-plaque from Magdalenska gora, Slovenia (Barrow IIB) in which two figures appear to box in the midst of figures in armor also depict helmets. In this particular scene, the helmet appears to be a trophy for the winner of the match (Figure 3.16; Megaw and Megaw 2001:38-39,80-81). This parallels the fighting figures that appear on the Hochdorf *kline*, which have been interpreted as representing dancers in a shamanic rite (Aldhouse-Green and Aldhouse-Green 2005:125-128) or some other type of ritualized behavior. As situlae were used as containers for alcohol, and it is known that drinking took place at politically and socially significant feasts (Arnold 1999), these depictions could indicate the presence of warriors or warrior-elites at these events. Thus, while helmets were primarily functional in their design, their

deposition in votive contexts, decoration, depiction in symbolic iconography, and placement in elite burials indicate that they held some degree of symbolic significance as well.



Figure 3.16: Belt-plaque from Magdalenska gora, Slovenia, 5th century BC (Megaw and Megaw 2001:39).

Birch-bark hats

Other headgear possibly made of organic material is seen in contemporary iconography from regions such as Etruria, including the so-called “Murlo cowboys” (Figure 3.17), though the exact material of which these hats were made is unknown. The figures in the Certosa situla, sitting with pointed hats on their heads and musical instruments in hand, wear elongated hats that are definitely not the conical shape of these specific birch-bark hats, nor do they appear to be in any way functional, unlike the helmets depicted on the same situla.



Figure 3.17: ‘Murlo cowboy’, seated male figure, Italy, 570-550 BC (Bonfante 1975:196).

Based on the occasional depiction of multiple types of headgear within a single situla art scene or panel, it can be argued that different types or shapes of headgear marked specific ranks or roles in this particular group, which may be representative of actual practices. As for the material of this conical headgear, however, there is at least one other possibility. Hansen (2010:141) mentions that two helmets like the ones shown in Figure 3.8b and Figure 3.10, made by riveting two bronze plate halves together and ornamented with geometric and figural decoration, have been found in Cremona and Oppeona in Verona, Italy and have been dated between the late sixth and fifth centuries. Given the proximity of the origin of these situlae to Italy, as well as the lack of birch-bark hats in this area, it is possible that decorated, conical metal headgear is depicted in the Providence situla rather than birch-bark hats. Conical headgear was actually quite common in Etruria. In the eighth and seventh centuries BC brimless, pointed plain hats made of felt or leather were worn in everyday life by men (Figure 3.18). Bonfante (1975) discusses the Near Eastern influence of this hat form. As this style became naturalized in Etruscan culture, the shape was applied to helmets as well as soft hats. The style persists through the fifth century and later, appearing in iconography on figures participating in outdoor work or sports. Bonfante argues that this functional use of the hat led to its eventual association with the lower classes in the Roman period (1975:67-68). The possibility should not be ruled out that the shape of the birch-bark hats was influenced by this style through contact with the Etruscans; however, material must also be taken into account. While Etruscan conical headgear is attested in felt, leather, and metal, birch-bark hats (at least at this point in time) seem to be restricted to a very specific hat type. This is not to say that they could not have served a protective purpose, but depictions of warriors wearing helmets that are clearly made of metal greatly outnumber



Figure 3.18: The *pilleus* hat on bronze representation of Silvanus or Heracles, early 5th century BC (Bonfante 1975:208-209).

depictions of warriors wearing possible birch-bark hats. This is not to say that they could not have served a protective purpose, but the quantity of depictions of warriors wearing helmets that are clearly made of metal greatly outnumbers the possible depictions of warriors wearing possible birch-bark hats. While all of these functional types of headgear seem to be restricted to males in both mortuary and iconographic contexts, a female does appear in iconography in a pose similar to that of the Capestrano Warrior of the sixth century BC (Figure 3.19) and the Hirschlanden statue. Though the absence of a head makes it impossible to speculate on what headgear may have been depicted on this female torso, it was found near the wide-brimmed stone discoidal helmet of the male Capestrano Warrior (Basile 1993). This headgear may very well be made of organic material as well, which further emphasizes the consistent use of large and elaborate headgear to mark figures that are clearly elite individuals.



Figure 3.19: Capecetrano Warrior, Italy, 6th century BC (Bonfante 1975).

Functional purposes of the hats aside from military use include evidence from contexts like the Nesactium situla. This type of hat could have been used as protection against the weather, as the ‘ploughman’ appears to be working outdoors. The situla dates to around 500 BC, which makes it contemporary with the birch-bark hats. However, this does not necessarily mean that this hat was made of birch bark even if it was made of an organic material. The depiction of the hat likely has some symbolic significance, as headgear figures prominently in situla art and situlae were used at important ceremonial events. While there could be a functional purpose to wearing organic headgear outdoors, the representation of a figure ploughing could represent some association with fertility or prosperity rather than a scene from daily life. Further, the nudity of the figure suggests that there may be a connection to fertility. The Hirschlanden statue, appearing in a similar state of undress as this ploughman, with a conical hat, has also been interpreted as possibly representing fertility (Armit 2012). It is debated among scholars whether the headgear on this statue is a birch-bark hat or a helmet, though other symbolic aspects such as

body pose and the possible depiction of a mask have also been discussed in connection with iconographic depictions of headgear that may also be made of organic materials (Armit and Grant 2008; Frey 2004). Horns were symbols of power, as well as fertility, in Iron Age culture, although artistic representations of horned-human individuals are not restricted to Celtic peoples (Green 1996:480). Images of warriors wearing horned helmets appear in Scandinavia and in the Mediterranean as early as the Bronze Age. Bronze warrior figures appear in Sardinia in the eighth-seventh centuries BC (Cunliffe 2008:233,243,250). A life-size bronze statue of what has been interpreted as a possible *Gaesetae*, naked except for a belt, torc and a horned helmet, has been found in Italy. This figure may represent one of the Celts who migrated into Italy during the later Iron Age (James 1993:34,81,84).

Symbolic Headgear: Metal Headgear

Headgear can be found in the burials of paramount elites, secondary elites, and moderately wealthy individuals throughout the Iron Age; however, some items took more time, effort and skill to make, thus restricting them to elites who could control both resources and people. Neckrings (torcs) were one of the most emblematic items worn by elites to symbolize power and status. While not headgear in a strict sense, neckrings do separate the head from the rest of the body. Torcs had no functional purpose and some later examples were decorated in a style that would have been uncomfortable to wear. They were created for display and status marking and are found in mortuary and iconographic contexts, as well as hoards and votive deposits (Megaw and Megaw 2001:71,88-92,124,136,137,171-175; Northover 1996:299-300).

Torcs were not restricted to a particular gender, though the trends changed through time. Throughout the Hallstatt period torcs, usually made of gold, bronze, and less often iron, were

placed in a small number of rich male and female graves. In this early period, males were interred with gold torcs while bronze torcs were more typically buried with females and children (Arnold and Hagmann 2014:1; Megaw and Megaw 2001:88-93; Planck 1981). There was a gender shift in the La Tène A/B period in regard to gendered grave goods. Elite female graves became more archaeologically visible than male graves at this time. In the Rhineland especially, torcs were restricted to the female gender during this period and many were made of gold. The Vix 'princess', for example, was buried with a gold torc around 500-450 BC in France (Figure 3.20; Arnold 1991:367-368; Knüsel 2002:281; Megaw and Megaw 2001:88-93). In La Tène C and D, there was a return to the early Iron Age pattern of gold torcs occurring more frequently with males (Champion 1996:413-414). Not only did torcs accentuate the head, they were often decorated with images of the human figure as well (Figure 3.21; Birkhan 1999:128,168; Frey 1991a:132; Megaw and Megaw 2001:120,137).

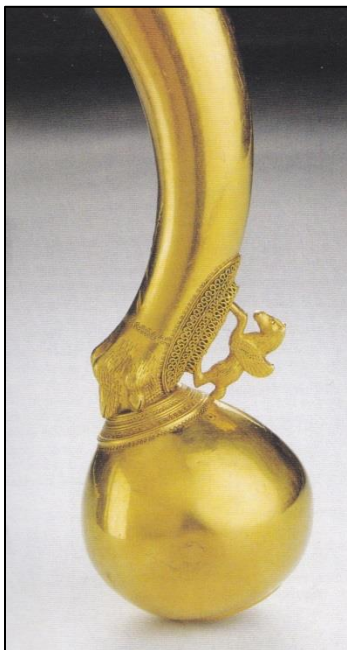


Figure 3.20: Gold torc, Vix burial, Mont Lassois, Burgundy, France, c. 500 BC (James 1993:23).



Figure 3.21: Detail on the gold torc, Glauberg Tumulus 1 Grave 1, Germany, late 5th/early 4th century BC (Birkhan 1999:128).

Necklaces, like torcs, accentuated the head and shoulders of individuals. Various materials were used to make these necklaces throughout the Hallstatt and La Tène periods. Amber, jet, coral, and glass are some of the luxury materials used to create these necklaces, some of which consist of thousands of beads (Birkhan 1999:172; Jordan 2009:35-39; Wells 1996b: 231). While they were display items, such necklaces may have also had an apotropaic function, since amber and raw coral were believed to provide protection to the wearer (Champion 1996:414-415). Although necklaces are more typically found in female mortuary and iconographic contexts, pendants attached to necklaces and neck-rings have been found in both male and female graves and are not restricted to adult individuals. These pendants sometimes included anthropomorphic figures, further emphasizing the head and human form (Champion 1996:414-415; Megaw and Megaw 2001:262-263).

Ear and hair ornament did not carry as strong of an association with power as the torcs, but these were also luxury items restricted to an elite class, particularly when made of precious materials. The items varied in form and material throughout the Iron Age, starting out as hollow crescents, tubes or strips made of gold or bronze in the Hallstatt period and becoming more boat-shaped in the Early La Tène period (Arnold and Hagmann 2014:1,4; Champion 1996:412-413). It was not uncommon for these rings to be decorated with geometric ornament or punched circle decoration. Rings may have been worn in the ears, but they were also attached to various forms of headgear, such as hairnets, veils or other head covering (Arnold and Hagmann 2014:1-2; Champion 1996:412-413). It is also possible that the rings were put directly into the hair to accentuate a certain hairstyle. Pins were also used to attach to head-coverings, but they were a short-lived fashion of the Hallstatt C and D periods. Some of these pins had decorative heads of amber, jet or coral, and are mainly found in graves in southwest Germany and eastern France.

While hair pins were only associated with females, there is evidence from mortuary contexts that females as well as males wore earrings, especially of gold. Gender distinctions are marked by the symmetry of these objects on the body. While females tend to have symmetrical ring jewelry, males tend to wear single rings or only one arm- or ear-ring (Arnold 1991:369; Arnold and Hagmann 2014; Champion 1996:412-413; James 1993:45; Lenerz-de-Wilde 1989:252-254,258-260). This is one of the reasons that Canstatt Burial 2 is unusual: the gold earrings in this grave were found on either side of the head, typically a “female” marker.

The importance of the decoration of the head in Celtic society is evidenced by its prominence in iconography throughout the Iron Age. Torcs appear in numerous images of leaders, male and female, as well as gods (Birkhan 1999; James 1993; Megaw and Megaw 2001:171-177), though other types of symbolic headgear are also depicted in contexts that send a message about status and gender. The quality and degree of representativeness varies considerably. For example, the stone female statue known as the Dama de Baza from fourth century BC Spain (Figure 3.22) differs greatly from the slightly earlier male statue of Hirschlanden from Germany in both adornment and artistic style, though both are thought to represent elite individuals (Birkhan 1999; Jiménez 2011:105-109; Kimmig 1987). Hirschlanden is more similar in design to the contemporary Capestrano statue, which both exhibit influence from the Mediterranean region (Armit and Grant 2008). All of these stone sculptures emphasize the status and role of the individuals depicted through dress, weapons, and adornment, and all of the male statues have some form of elaborate or noticeable head covering.



Figure 3.22: Dama de Baza, Granada, Spain, first half of the 4th century BC (Jiménez 2011:109).

Costly Signaling Theory Applied to Birch-Bark Hats

To reiterate, Costly Signaling Theory (CST) provides criteria for testing whether or not a behavior is symbolic. The material above has already been grouped into functional and ceremonial categories based on previous research. Placement of birch-bark hats in either category may be possible if they are examined using the four steps of CST laid out in the previous chapter. Evidence that will be used includes ethnographic and archaeological findings relating to the various uses of birch trees, symbolic meanings of birch known from studying Ogham and the values certain cultures ascribe to aspects of the natural environment, pollen data from a variety of sources, and all aspects of the hats themselves.

1) The behavior must be observable for an intended audience.

The question of audience and distance from signal emitter is addressed by Martin Wobst (1977) in his discussion of stylistic behavior. According to Wobst, the intended message of a material object is less likely to be received as the distance between the signaler and the audience increases (Figure 3.23). Headgear is one of the primary objects used in signaling because it is

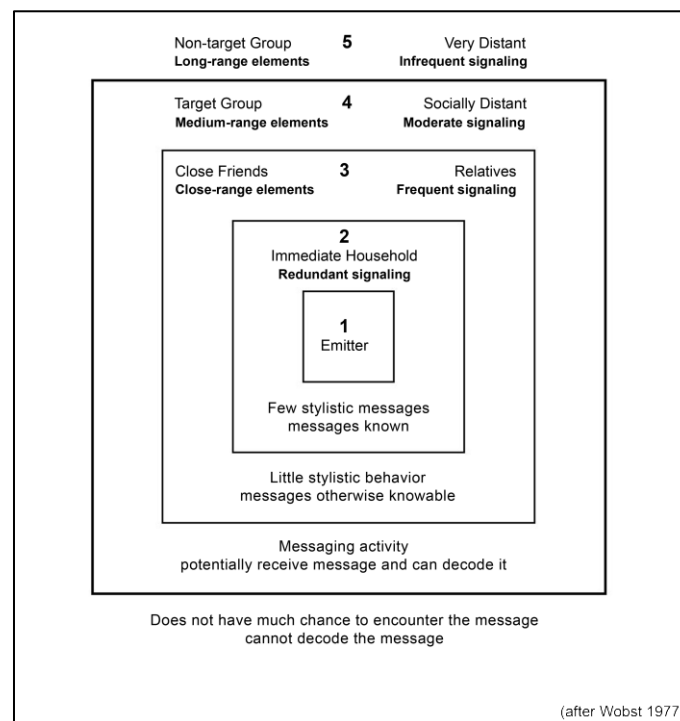


Figure 3.23: Target groups of stylistic messages (Arnold 2008; after Wobst 1977:325).

highly visible from a distance (Wobst 1977). Headgear, specifically, obscures the face and changes the silhouette of a person. The birch-bark hats were probably mainly intended to communicate status to people outside the immediate family or settlement, based on the long-range signaling effectiveness of such headgear (Figure 3.23; Figure 3.24; Arnold 2008). However, this does not mean that every kind of headgear is imbued with symbolic meaning. Different aspects of the culture being studied and the headgear itself must be analyzed to determine if the headgear is significant, which is why CST is a useful application in this analysis.

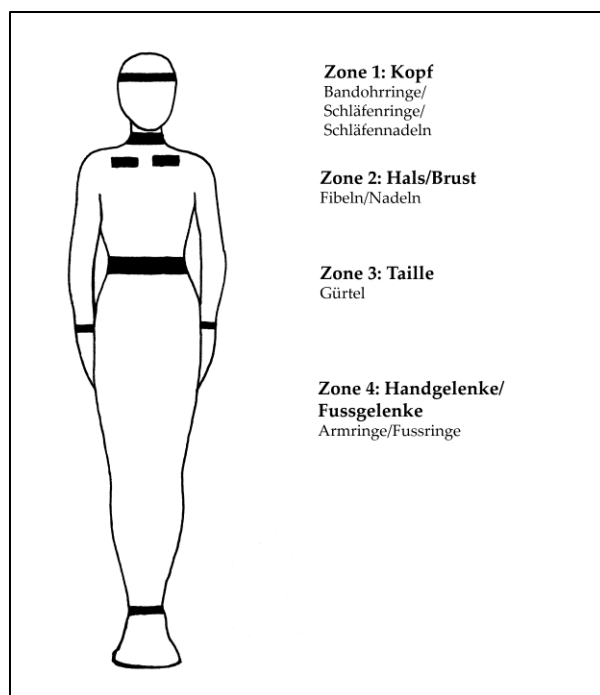


Figure 3.24: Zones of the body that are ornamented/enhanced for signaling, with the head (*Kopf*) labeled as Zone one and the neck and shoulders as Zone two (after Arnold 2008).

As there is no way to know who may have attended elite funerals and viewed the placement of the birch-bark hats inside the graves, for these hats to have been observable to any significant degree they must have been worn in life as well as in death. Unlike many of the metal items placed in the Hochdorf burial (Arnold 2011:165), these hats do not seem to have been made post-mortem for burial with the deceased. At least two of these hats (due to the state of their preservation relative to the other hats) have been shown to have been worn in life, presumably by the individuals with whom they were interred. Evidence for an attachment for a chin-strap on the hat from Dürrnberg Grave 352 suggests that some type of movement occurred while the hat was worn (Böckmann 2009:86-87). This would be an unnecessary addition if the hat was only meant to be worn in the funerary context. The cremation burial of the individual from Gaul (Hansen 2010) likewise would not have required a chin-strap attachment for the hat to be placed on the funerary urn. Additionally, the hat from Hochdorf has a repair on the inside

near/in connection with what Leif Hansen identifies as a probable hole for a cord which required repair due to overuse (Hansen 2010:53). Examination of the hats from the Dürrenberg has revealed that bast sutures were used to connect the two halves of the cone and attach a lining to the inside (Figure 3.25; Böckmann 2009:86). If the lining was intended to make the hat more comfortable, then this further indicates that the hat was worn by the interred individuals. It is impossible at this point to speculate on the frequency with which these hats were worn, but overall this line of evidence suggests that these hats served some purpose in being viewed by an audience beyond the wearer's immediate community. The difficulty in identifying this audience is that there are many factors that could have influenced this which are not archaeologically preserved. Were birch-bark hats everyday ornaments or were they worn only at certain times of the year? Were they restricted to use in activities that only people of certain ages, genders, or social standing were able to witness? Were they restricted to use in certain spaces? Whether or not these questions can be answered, they are important to consider in the interpretation of the intended purpose and meaning of these hats.



Figure 3.25: Bast sutures of the birch-bark hats (Böckmann 2009:88).

Feasts are one possible venue where these hats may have been worn if they were meant to send a signal to a group of people unrelated to the wearer. Large numbers of people attended these feasts, including non-elites. The highest ranking figure in the community was the focal point of these events, providing wine imported from the Mediterranean for the elites, while the

commoners drank mead (Arnold 1999). As has already been shown, depictions of headgear on situlae that held this alcoholic beverage meant solely for elite individuals suggest that at least some forms of headgear were symbolic of various status positions. The fact that these situlae were traded and were widely distributed greatly increases the size of the potential audience, even if many people never saw the actual headgear. As the Hochdorf “prince” was the leader of his farmstead or hamlet, it is likely that he would have been a central figure at any large-scale dining event held locally. Further, as it has been shown that his hat was worn, it is not a great stretch to assume it may have been worn along with the torc at such a political and social event to display his position. The torc was the only item of jewelry in the burial to show significant signs of wear (Arnold 2011), further supporting the idea that the head and neck areas were the primary focus of elite male signaling.

Part of determining who the intended audience may have been is questioning the status of the people in the burials as their position in society would have affected their visibility and influence. It is known that they were elites, but as the elite class was internally stratified, it stands to reason that these individuals would not have been ranked the same as individuals who had no connection to birch-bark hats in the sixth-fourth centuries BC. If these hats did mark a specific position in the social hierarchy, then the deceased wearer was most likely at the same social level as other hat-wearing individuals during their lifetimes. Determining the exact social position and/or role may not be possible, but several hypotheses suggest themselves. While it has been argued that the Hochdorf male, for example, was a member of the secondary elite category (Arnold 2011), Krausse’s (1999) argument may indicate even further class distinctions. Krausse argued that the material in the Hochdorf burial may denote the combined position of a chief and a priest, or *Sakralkönig* (Krausse 1999). This is further supported by Miranda and Stephen

Aldhouse-Green's (2005:123) argument that mind-altering substances, such as the cannabis found in the Hochdorf burial, may have had a connection to shamanism. If this argument is accepted, would the similarity between all of the hats and their association with other grave goods connected to Celtic cosmology, such as the torcs (Arnold 2011:157-158), suggest that these individuals also held 'priest-king' or 'peace-chief' positions? Do similarities between the hats themselves suggest that their message was aimed at similar kinds of audiences despite their distance from one another? The similarity of material in all of the burials, especially Dürrenberg Grave 352 compared with the Hochdorf burial assemblage (Hansen 2010:142), may indicate that they all held a similar social position in life.

Analyzing iconographic representations of headgear is one way to at least understand how far the message of these hats would have been understood, if a message was intended. It is possible that preservation bias has not only affected the mortuary contexts, but also may have influenced the quantity of iconographic depictions of hats in the archaeological record. If the hats in the monumental sculpture or *situlae* that have been preserved, due to the materials of which they are made, are iconographic displays of birch-bark hats then this would have made the hats observable on a greater scale than would be possible if they were restricted to dress. DeMarrais *et al.* (1996) argue that materialization allows for messages to have a wider range of distribution beyond the community level. Ceremonial events, such as feasts, are also considered materialized ideology. Wobst (1977) and Arnold (2008) discussed the range at which a message can be observed or understood. The similarity in the patterns and measurements of the birch-bark hats, as well as the associations with other types of elite grave goods, would suggest that the message was understood over a large geographic area. If more hats were once present in west-central Europe at this time than have come down to us, then the message would not have needed to

travel a great distance to reach the intended audience. At the very least, there must have been some communication between these areas, as the hat measurements and designs are too similar to have been independently created in Austria, Germany and Gaul.

2) The behavior must be costly so that it cannot be imitated.

Sosis (2000) discusses the differences between honest and deceptive signals. Signals and displays, in general, are meant to convey information and influence others to the benefit of the sender, though not necessarily to the recipients. A deceptive signal is one that is manipulated to send a false message about the sender that will benefit them, such as someone making themselves appear more powerful than they actually are. In the case of the Hochdorf burial, the deceptive signal would have been the gilded materials in the grave while the intended audience would have been the community, as the survivors were manipulating the burial to send a message that would benefit them in the sociopolitical structure of their society (Arnold 2011). An honest signal, or costly signal, is described by Sosis as the communication of honest information about a trait “when imitating the signal is more costly for those who do not possess the trait being advertised” (Sosis 2000:241-242). Material that is costly, then, is that which cannot be imitated without causing negative consequences for an individual or group of people. According to this definition of signals, most of the material in the Hochdorf burial was a dishonest signal, as he was not a paramount elite, but the risk was avoided because the individual was already deceased. However, if the birch-bark hat was not meant to signal paramount elite status but some other social position or role, such as that of a ritual practitioner, to which the individual may have had a legitimate claim, then the hat would not be considered a dishonest signal. The absence of hats in a majority of elite burials could indicate that these hats were not imitations of paramount elite headgear created by the secondary elite to enhance their social

position, though preservation bias may also have affected the quantity of hats present in the archaeological record. It is possible that only a small number of elite individuals played a ritual role in any given Iron Age society. In that case, gold jewelry would have been more common than the birch-bark hats.

The absence of non-elite burials makes it difficult to determine if there was any imitation of this type of hat outside of the elite class. Many of the materials in these elite graves required skilled craftsmen who, theoretically, could have produced several of the hats; however, if the headgear was symbolic, as most of the objects in these graves were, then craftsmen would have been taking a risk by producing them for non-elites. Further, if societal norms such as sumptuary regulations prohibited ornamentation of the head with birch-bark hats, then non-elites would not be likely to risk wearing these items.

3) The behavior must be a reliable signal.

For a behavior or material to be a reliable signal, it must accurately portray a trait (or in this case social position), but in order for this to be received people must understand the message that is being sent. This is where the non-verbal communication (Fletcher 1989:33-38; Rapoport 1988:320-322) discussed earlier becomes important. We have to ask what signal, if any, was being sent by these birch-bark hats and would people have understood their symbolic significance. One way to determine what the signal may have been is to look closer at energy expenditure, as well as Celtic ideology, cosmology and the Ogham language that was used in later insular contexts.

The control of resources and labor is a hallmark of elite status in many prehistoric and historical societies (Almagro-Gorbea and Lorrio 2004; Clark and Blake 1994; Schreiber 2009;

Wells 1996a; Wells 1996b). Objects that signal elite status cannot retain their symbolic value if they become available to non-elites, as was seen in west-central Europe around 400 BC when trade activity shifted from the Greek colony of Massalia to Spina in the Po Plain of northern Italy and mercenary activity increased (Arnold 2011:168). This is around the same time that birch-bark hats seem to disappear from the archaeological record as well. If birch-bark hats were used to signal some position within the elite class, then their production in the Hallstatt and Early La Tène periods would likely have been controlled by elites in the same way as torcs, necklaces, and other luxury items (imported and locally produced). Questions that need to be answered are: What skill was required to produce these hats? Who is producing these hats? How much effort is required (collecting supplies, where trees grow, etc.)? Were they being made locally or acquired from a distance?

As has already been discussed, the early Iron Age was a time of increased craft specialization and increased time and energy spent on production (Wells 1996a). In Tumulus 18 Grave 6 at the Speckhau mound group in Germany, for example, the jewelry placed with the female individual would have taken several hundred hours of labor to produce (Arnold and Hagmann 2014:3). As the burials containing birch-bark hats also contained items that would have required significant time and skill to produce, energy expenditure and possible specialization in the production of birch-bark hats should be considered. The first aspect of this is the collection of raw materials. Birch is a relatively fast-growing tree. These trees, on average, are short-lived and 100 years is considered old (Forestry Commission 2015a). Birch is very susceptible to pests and pathogens (Forestry Commission 2015c). Downy birch (*Betula pubescens*) tends to grow on wetter soils than European White Birch (*Betula pendula*) and it is often found among conifers and other broadleaf trees (Forestry Commission 2015b). Erika

Schaffer (1976) discusses bark in her ethnographic study of Canadian basketry. She states that, due to the way that the bark grows over a long period of time, birch bark is very smooth compared to other kinds of bark. Spruce, for example, was not used by native peoples in North America unless it was an emergency, as it is not ideal for crafting. Cedar, however, was used more often for weaving mats and hats because it is less susceptible to rot. In weaving, it is the fibers from the root bark that are used (Schaffer 1976:129-130). Leslie Gottesfeld's (1992) study of the aboriginal economies of Northwestern British Columbia, Canada, shows that cedar was the primary tree genus selected for various uses, however the Gitksan and Wet'suwet'en peoples did use *Betula papyrifera* for making household containers. From these types of ethnographic studies, it can be seen that knowledge of the environment is necessary in crafting objects made of wood or bark. Bark is used for many objects because it is generally lighter, more buoyant and more waterproof than wood from the trunk of the tree (Schaffer 1976:130). The bark of the tree is not necessarily difficult to remove, but different parts of the birch tree must be collected at specific times of the year (Gifford 2000; Schaffer 1976). Bark is easier to remove in the springtime when the sap is running (Schaffer 1976:130). The quality of the products depends on the time of year the material is collected, the maturity of the tree, and the quality of the soil (Schaffer 1976). Young leaves have to be collected in late spring and early summer, sap has to be collected in early spring, and bark has to be collected in the spring or by late summer. The bark has to be carefully removed because cutting bark all the way around the trunk kills the tree (Gifford 2000:17). Ethnographic studies of native peoples from British Columbia show that these people did not destroy trees unless the whole tree was needed (Turner et al. 2000). Replication of the birch-bark hats has shown that they were likely made from freshly cut bark (Hansen 2010:53), suggesting they were made sometime in the spring or summer immediately following

the collection of the bark. The fact that cutting the bark all the way around the tree would render it no longer useful, considered together with the need for specific lengths of bark to produce these hats (at least 35 cm in diameter) and the fact that the bark could only be collected in the spring/summer, indicates that this harvesting must have been a carefully planned activity.

Piggot (1996:321-323) argued that woodworking and conscious woodland management was already being practiced in the fourth millennium BC, at least in Britain, though mostly oak was collected for building construction. There is evidence that the lathe began to be used to make wheels in the sixth century in southern Germany. Though knowledge of wood management was necessary to make these hats and would likely have contributed to the planning and possibly the collection of the bark, there is no evidence to suggest woodworkers would have had the skill to decorate and craft these hats. In fact, the stamp decoration on the hats is similar to early Iron Age repoussé metalwork, such as that seen on the Hochdorf bronze couch (Figure 3.26).

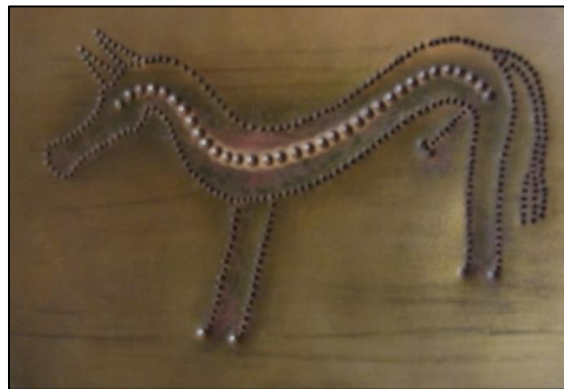


Figure 3.26: Repoussé metalwork on the bronze couch from the Hochdorf burial, Germany (“Keltenmuseum Hochdorf/Enz” 2013).

The hats were made using a technique of punching the design into the bark from the outside of the hat, most likely done before the two halves of the hat were sewn together. Leather workers may have also been involved in this process, as sewing was required in the production of leather clothing (Jope 1996:397-398), and it has been shown that leather hats were a fashion during this

time in Etruria (Bonfante 1975). It is also known that organic materials, such as bark, resins and waxes, were often used in metalworking. Wood, for example, was used as supports for shields, cups and cauldrons, but also for furniture and sculpture (Jope 1996:397-402; Wells 1996a:214). The two helmets found in Verona, Italy (Hansen 2010), whether or not they are in any way related to birch-bark hats, were put together in the same way the bark hats were, except the two halves were riveted together rather than sewn. While it may be somewhat of a stretch without further evidence, the close association between smiths and shamanic beliefs (as they lived on the edge of the community but were still important to it) could also indicate metalworkers produced items of ritual significance, possibly extending to birch-bark hats. An image on a castorware sherd from Sawtry, Huntingdonshire, England shows a smith-god wearing a conical hat or helmet (Aldhouse-Green and Aldhouse-Green 2005:132). It could be that the shape of this hat, and those who crafted them, are closely connected; however, this should not be overly emphasized as this may actually be a helmet and originates from an insular context. The crafting of smiths was like a performance, creating objects that make sounds and shine like a dreamscape. Luminosity, as much as color, was important in ancient Europe (Darville 2002; Keates 2002). If these hats were ceremonial/symbolic, their production by metalworkers could have been significant. It may even be that numerous craft specialists worked on different aspects of the hats.

Craft production is necessarily impacted by access to natural resources. While many elites imported items from Etruria and the Mediterranean throughout the Iron Age, elite objects were also produced locally. In the analysis of production, it is important to consider accessibility of resources as this in turn can reveal important information about social structure. Pollen analysis is one method available for the study of tree distribution in prehistoric times. The

European Fossil Pollen Database (EPD) provides pollen data taken from samples dating from prehistoric to modern times. These samples have been acquired mainly from lakes and bogs to reduce the possibility of contamination. A modern-day distribution map of European white birch (*Betula pendula*) shows that birch no longer grows in any significant amounts in either Spain or Italy (Figure 3.27; “European Forest Genetic Resources Programme” 2014), although Holocene pollen data indicates that the birch was once dominant in Spain, along with oak and pine (Penalba 1994). However, pollen analysis from southwestern Spain shows that by around 4000 BP there were no traces of *Betula* present in this area (Stevenson 1985). By contrast, the EPD shows that birch was present in Gaul, Germany and Austria throughout prehistory. These data indicate that birch distribution fluctuated throughout prehistory depending on the area, but in general birch tends to grow at higher elevations, though it varies through time and by region. For example, pollen samples collected from three different sources in Auneau, France at an elevation of 127m showed that between approximately 8770 \pm 60 years BP (depth 363cm) and 1125 \pm 45 years BP (depth 56cm) the highest count of birch pollen was 11 and it was found at a depth of 125cm (Hervé 2009). However, at the German lake Herrenweiser See, at an elevation of 8300 meters, pollen samples show that birch pollen ranged from 99 to 268 between 1996 \pm 27 YBP and 2876 \pm 25 YBP (Rösch 2012). The pollen data indicate that birch would have been available in all of the areas where the hats have been found, suggesting that the hats were most likely locally made rather than imported for these elite individuals. While birch was not available in either Spain or Italy, where no birch-bark hats have been recovered, pollen data show that birch would have been available in Switzerland (van der Knaap et al. 2000; Welten 1982).



Figure 3.27: Map showing the modern distribution of European white birch (*Betula pendula*) (data from “European Forest Genetic Resources Programme” 2014; map modified from National Geographic basemap).

While lack of evidence for these hats may be due to preservation bias, the lack of depictions of this hat shape in these areas possibly indicates that this was never a fashion that took hold in the area.

Since there are many types of headgear and material used to emphasize the head in Iron Age Europe, birch-bark hats may be best understood by focusing on materiality. The use of bark, as opposed to more permanent materials such as stone or metal, may have been intentional. As Miranda (Aldhouse-Green 2004) and Stephen Aldhouse-Green (Aldhouse-Green and Aldhouse-Green 2005:119-120) have argued, wood is almost flesh-like in the way that it decays. The life-cycle of the wood is similar to that of human beings. The hats do not seem to have been recycled, as evidenced by their deposition in three Austrian burials roughly dating between 516 and 475 BC (Hansen 2010). The associated items that signal elite status suggest that these hats also held significance regarding status, but burial with each individual that owned them may indicate that it was necessary to dispose of these items because of their close association with the deceased. This would suggest that they were inalienable possessions, meaning they needed to be kept rather than exchanged. Inalienable possessions by definition have symbolic and economic power that cannot be transferred. This type of object is usually ritual in nature and is used to legitimize authority within a group (Mills 2004). It should not be assumed, based on materiality alone that organic materials indicate religious or ceremonial importance (Aldhouse-Green and Aldhouse-Green 2005:119); however, other aspects of the hats (color and pattern) and the specific use of birch for each hat cannot be ignored.

Ogham and the symbolism of trees are important here to establish the significance of using birch, rather than another type of bark. While Ogham is a later medieval insular writing system (O'Sullivan and Downey 2014), it could still have applications here in the consideration

of older traditions on the continent (Arnold 1999). It is well-established that natural, edgy places held special significance for Celtic peoples (Aldhouse-Green 2014; Aldhouse-Green and Aldhouse-Green 2005; O’Sullivan 1990). This is not unique to the Celtic peoples. Indian folklore, for example, contains stories of the sacredness of trees and the ancient peoples that had ceremonies that revolved around them (Upadhyaya 1964). In Scandinavia, the ancient tradition of divining involved using rods of hazel, birch, mistletoe, and rowan (Besterman 1926). These ideas about the natural world and liminal places among the Celts continued on the continent throughout the Iron Age and likely influenced insular Celtic traditions to some extent. This is not to say that the meanings of Ogham should be taken as having a one-to-one correlation with the earlier traditions of the Celtic and Germanic tribes of the continent, but this form of communication should not be ignored either. Gifford (2000), expanding on the previous translation of the Welsh poem entitled “The Battle of the Trees” (Graves 1948), discusses the significance of trees to the ancient Celts. Ogham was a secret language employing notches cut into wood or stone along a straight line or stem (Figure 3.28; Atkinson 1874; Connelly 2015; Gifford 2000:7; O’Sullivan and Downey 2014). Ogham was not only a form of communication, but was also believed to open the door to the spirit realm. There are many types of Ogham, including Bird Ogham and Color Ogham, but the earliest form of Ogham is called Tree Ogham or the Celtic Tree Alphabet. This type of Ogham has 20 letters, each of which is associated with a particular tree. The first letter, Beth or Beithe, is associated with the birch tree (both *Betula pubescens* and *Betula pendula*) and the period of the year from December 24th to January 20th. This is a time when the winter solstice has passed and the days begin to lengthen (Gifford 2000:7-10). Clare Connelly (2015) examined Irish and Scottish Ogham stones in an effort to

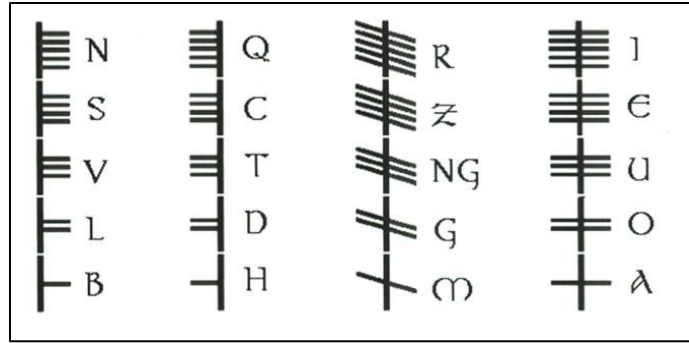


Figure 3.28: The Ogham tree alphabet (O’Sullivan and Downey 2014:27).

understand the association between the language and specific artifact types. While Connelly focused on pillar stones, this thesis is more concerned with the mystical associations of certain types of wood, as this would have sent a particular message to the population. It may be that, like the Ogham language, only a certain part of the population would have understood certain signals.

The birch tree has been referred to as the Tree of Inception as it is a symbol of new beginnings, birth, and springtime. As a pioneer tree, growing where other trees cannot, the birch tree symbolizes resilience in extreme circumstances, but it is also associated with fertility as its rotting leaves help fertilize the ground, thus creating the conditions necessary for other plants to grow. This association with fertility, birth, and springtime has led to the use of the birch tree as a maypole in the celebration of spring (Gifford 2000:12-13). Miranda and Stephen Aldhouse-Green’s statement that in some cultures practicing shamanism the color white is often used to symbolize semen (2005:32; Borić 2002:25; Jones and MacGregor 2002:7,11) seems to support this association with fertility as well. These associations with birth, or possibly rebirth, could indicate why these hats were buried with these individuals, especially Dürrenberg Grave 352, which also contained an infant. Following Armit’s argument that ithyphallic imagery may have represented fertility, if the Hirschlanden sculpture does depict a birch-bark hat, not only would it have been highly visible on the landscape, but lack of clothing may have also been part of the

signal (Armit 2012). While birch-bark hats have not yet been found in association with females, female ornament in mortuary contexts indicates that some material objects were produced with reproduction in mind. Belts found in Germany, for example, had rings attached that allowed them to be adjusted with age and weight gain (most likely due to pregnancy) (Arnold and Hagmann 2014).

In addition to fertility, liminality also seems to be important in the discussion of color and pattern. The white bark of birch trees has been associated with many otherworldly beings such as the faerie (Gibson 2013; Gifford 2000) and the goddess Arianrhod, who presides over birth and initiation and appears in insular mythology. Part of this association with the Otherworld may be due to the growth of the Fly Agaric (*Amanita muscaria*) toadstool next to birch trees, which is a powerful hallucinogenic that is said to have aided Otherworld journeying (Gifford 2000:12-14). Previous discussions of the significance of the color white (Arnold 2012b; Jones and MacGregor 2002) can be compared to this evidence. White birch trees are associated with crystals (Gifford 2000), which may have some significance in regards to the placement of white quartz/quartzite in early Iron Age burials in continental Europe (Arnold 2012b). Crystals have been interpreted as items of divination, allowing shamans to see into a world beyond their own (Aldhouse-Green and Aldhouse-Green 2005:152). In a Classical account of the Germanic peoples by Tacitus, the color white in general and the significance of wood is mentioned in the context of divination. Though this is a later Roman account, the ritual significance of color and wood should still be considered.

To divination and the lot they pay as much attention as anyone: the method of drawing lots is uniform. A branch is cut from a nut-bearing tree and divided into slips: these are distinguished by certain marks and spread casually and at random over white cloth... In the same groves and coppices are fed certain white horses, never soiled by mortal use:

these are yoked to a sacred chariot and accompanied by the priest and king, or other chief of the state...(Tacitus, Volume I, *Germania*, 145-147).

The implication here is that white was associated with purity and the gods. White cloth also used in shamanic rituals of Siberian tribes (Royal Anthropological Institute of Great Britain and Ireland 1895:152). This common theme suggests that there may be some biological aspect behind the use of colors in cultural practices. Color Theory provides some insight into this. Kueppers (1982) states that color exists as perception and is not tied to particular material objects. The color of an object depends on the ability of a material to absorb light. The light that is not absorbed and reflects off the object is the hue that is perceived by the viewer; however, the same object can appear to be a different color depending on the available light. In a more recent study of the meaning associations of color and psychological responses to non-verbal communication (specifically facial expressions), it was found that the color white has positive associations. Part of this is the high level of lightness of white and the positive association that is often made with brighter objects/colors, as opposed to darker hues (Gil and Bigot 2014). Red, for example, enhances the ability of a person to identify anger rather than positive emotions (Young et al. 2013). It could be, then, that the choice to use white for these hats and in known ceremonial events could stem from the innate perception of white as a bright and positive color.

The geometric patterns on the hats and on textiles may have also related a message about liminality. Geometric patterns are said to be the first stage of altered consciousness (Aldhouse-Green and Aldhouse-Green 2005:30) and in some cultures have represented the liminal boundaries between worlds. Objects with geometric patterns were placed with the newly dead to help them on their journey to the afterlife (Boriç 2002:26-27; Cooney 2002:97). Something similar may be occurring with these hats. Birch appears in other European mortuary contexts that may also be connected to these liminal ideas associated with the birch tree itself. Though it is far

removed temporally from these birch-bark hats, at least one example of a birch-bark container exists from a female burial in Egtved, Denmark dated to around 1370 BC. This young woman and the birch-bark container were placed on a cow's hide within an oak coffin and buried beneath a barrow. The birch-bark pail was once filled with beer or fruit wine (Cunliffe 2008:214-215). This parallels the later Iron Age tradition of burying elite individuals with alcoholic beverages. This connection between death and the color white (not just birch bark) is also seen as early as the Neolithic period in Western Europe. Several sites dated to the fourth millennium BC contain bone tempered pottery. Not only was the use of bone practical, as bone is lighter and stronger than rock temper (Cleary 1984), it necessarily has a connection with death whether or not that was an aspect that was emphasized in this time period.

Outside of the burial context, the use of birch and other associations with white have been documented in ethnographic accounts of Siberian and eastern European shamanism. In a healing ritual for a mildly ill individual, a Buryat shaman sprinkles wine as he rings a bell and prays to the deity to heal the sick individual. The Buryats believe that sickness is caused by evil spirits. So-called white shamans serve the good spirits and are most valued by the community as they bring prosperity, while black shamans deal with the evil spirits and are thought to bring death and disease. When the sickness is more severe, the shaman performs a longer exorcism ritual in the open air and an animal sacrifice is made. These shamans hold high positions (except among the Chukchis), as the well-being of everybody in the community depends on them. Among the Yakut, these positions are held by males and females (shamankas) are considered inferior, while other groups value both male and female shamans. When a shaman dies in Siberian culture, they are buried temporarily in a grove after being adorned with ceremonial robes. After some time their bones are collected, starting with the head, and placed into a hole cut in a fir tree.

Anyone who cuts down the tree brings bad fortune to their family (Royal Anthropological Institute of Great Britain and Ireland 1895).

It is common in societies practicing shamanism for shamanic individuals to cross gender lines, often including both masculine and feminine characteristics within performances and daily life, as well as boundaries between existence (Aldhouse-Green and Aldhouse-Green 2005; Walter and Fridman 2004:131-135). One suggestion that has been made regarding the Hirschlanden statue is that the position of his arms may signify the opposite sex (Armit and Grant 2008). The placement of the earrings from Cannstatt Grave 2 on either side of the head of the biologically male individual also may suggest gender-bending. If the hats were liminal objects, they may have marked the individuals as intermediaries between the earthly realm and that of the gods (the ancestral dead). This notion of the ancestor cult, mentioned earlier, seems to be a significant part of Celtic ideology and cosmology (Frey 2004:108,111), as was the so-called cult of the head. Monumental sculpture, for example, functioned as markers of legitimacy, connecting a group to both the landscape and their ancestors (Arnold 2011:157; Arnold and Gibson 1995:7-8); they may have had other symbolic meanings as well (Armit and Grant 2008).

If the depiction of the ploughman from the Nesactium situla is that of a birch-bark hat (or other organic headgear), it may indicate an association between headgear and fertility. In eastern Asian cultures, the planting of rice was often accompanied by fertility rituals involving elaborate dances, robes and head ornamentation (E. King 1971). Planting has also been associated with chiefly power and death in Central Borneo (Aijmer 2010).

4) The behavior must have benefits to outweigh the risk.

While the hats would be a risk to wear on an individual level, as they would signal to potential enemies the significant social standing of the wearer, there may have also been benefits that outweighed the risk for both the individual and the group. It is important to keep in mind that symbolic material or behavior only holds power if it has the support of the majority. If the headgear symbolized status or some particular role, it was likely a role that would benefit the collective. On an individual level, the hats may have caused others to view the wearer with respect or fear, allowing them access to more or different resources than the average person, or they may have allowed an individual to travel safely in other areas where the signal was understood; however, these types of relationships are not preserved archaeologically. What can be seen, both archaeologically and ethnographically, is that the use of birch bark was not restricted to these high status individuals. Non-elite individuals may have utilized the same kinds of birch bark that was used to make these hats, as well as other parts of the birch tree. Ethnographies of native peoples from Canada document the various uses of birch bark, as well as other parts of the birch tree, for medicinal purposes and craft production (Gottesfeld 1992; Schaffer 1976). Archaeological evidence for the use of birch tar from Greece to Norway dates to at least 9500 BC. Differences in the tar samples indicate that the tar was locally produced rather than traded. Tar is made by burning the bark of the birch tree. This tar can be used for various purposes, including for hafting, waterproofing, and sealing ceramic vessels, as well as chewing (Stern et al. 2006). Organic residue analysis of Neolithic pottery from Northern Greece showed that, out of three tree genera, *Betula pendula* was the primary material used to waterproof and glue pottery (Mitkidou et al. 2008). The oil from birch bark can be used to treat skin conditions such as eczema, or even used as an insect repellent. Native Americans have been known to make

syrup from Cherry Birch sap, which can be used as a remedy for dysentery and urinary infections. Sap can also be used to make tonic wine. Birch leaves can be used with tea to make an antiseptic and diuretic (to break down kidney stones), but can also be used as mouthwash (Gifford 2000:17). Birch could have had many uses and may have been associated with healing. As such, individuals wearing hats made of birch bark may have been associated with these healing properties, whether because they were actual healers or simply because they wore items made of birch. Shamans in many cultures are considered healers (Walter and Fridman 2004:65). This evidence indicates that it may not have been the birch itself that was restricted or proscribed, but the adornment of the body with hats made of birch bark.

Chapter Four

Conclusion

The purpose of this research has been to delve deeper into this idea of the head and shoulders as the most significant part of the body for display. Previous research (Armit 2012) has already established that the human head had special significance to the ancient Celts, but no in-depth analysis has been applied to specific types of headgear or their relationship to status and gender in an effort to better understand Celtic ideology and social structure. As this thesis has shown, headgear in both mortuary and iconographic contexts can increase our understanding of the significance placed on the head in the Iron Age. Birch-bark hats, specifically, provide a unique opportunity to explore organic headgear in a way that has not often been possible due to preservation issues.

Six questions were asked at the beginning of this research that can now be re-visited. The first question that was presented was: If the headgear was a symbol, what was the intended audience? There are a number of possibilities here. If birch-bark hats are presented on *situlae*, then their viewers may have been widespread; however, the key term here is ‘intended’ audience. *Situlae* would have been used at public events, such as feasts, where elites as well as non-elites were in attendance. If birch-bark hats are not depicted on these vessels, at the very least they are showing that metal headgear of similar shape had significance within the Celtic world. Metal headgear also has been found in high status burials and would have been visible in certain situations that required their use. Hats may have been worn more frequently than helmets. The analysis of hats in the mortuary context suggests that the hats were definitely worn. Based on their association with other elite materials that were widely used in the west-central European Iron Age to signal status, such as torcs, birch-bark hats were likely used for a similar purpose.

Thus, hats were most likely used to accentuate the head and mark some level of status or specific role to an audience. If this was done at a public event, then elites and non-elites likely viewed the hats. If they were used in a military situation, they may have been used to signal rank to individuals within and between groups.

The second question addressed was whether other social roles may have been marked by headgear in general and these birch-bark hats specifically. If so, what distinguishes birch-bark hats from these other types of headgear? Birch-bark hats as well as other types of metal, and possibly organic, headgear marked elite status. Based on mortuary and iconographic evidence, the specific type of headgear seems to be dependent on social ranks or roles within the elite category. It has been shown that material is significant in this matter. Birch bark has both functional and symbolic properties that impacted its use in other cultures documented ethnographically, as well as in Neolithic cultures the Mediterranean to northern Europe; however, the use of birch for headgear specifically is significant. While birch bark may have been used to make armor, metal helmets dominate the archaeological record in terms of functional headgear. Preservation bias and regional changes in headgear over time might account for the small number of birch-bark hats, but it is possible that this pattern indicates that birch-bark hats were not a common head ornament compared to functional and symbolic metal headgear.

The third question has been more difficult to answer, but still should be addressed. Were birch-bark hats indigenous to central Europe or was this a fashion adopted through trade/contact with other regions? It was shown that the shape of birch-bark hats was seen in earlier Etruscan fashion, but the material was leather and felt before later being made of metal. It has further been suggested that this Etruscan style may have been influenced by eastern styles (Bonfante 1975).

Trade contact was occurring on a grand scale during this time, so it is not impossible that ideas traveled between these groups. Trade with the Mediterranean did falter around 400 BC (Arnold 2011:168) but this is well after the hats appeared in Gaul, Germany and Austria. Pollen data shows that birch was available in these areas, indicating that the production of the hats (if not the ideas) was likely local. Further comparison of eastern and western Celtic headgear may yield more information about changes in style over the course of the Iron Age.

The fourth question that was posed at the beginning of this analysis is: What other materials or objects considered markers of elite status are found in association with birch-bark hats? The comparative analysis of birch-bark hats and both functional and symbolic headgear has shown that symbolic headgear in four out of the six mortuary contexts appeared with birch-bark hats, though evidence of disturbance at Grave 351 could explain the absence of other elite headgear or status items in this burial. In addition to headgear, other materials of elite status that appeared with birch-bark hats in several mortuary contexts were fibulae, daggers, bronze vessels, ceramic vessels, and couches. In iconographic examples, the possible birch-bark hat on the Hirschlanden statue is depicted with a torc as well as a dagger.

The fifth question asked: What is the association between birch-bark hats and gender/age? Does the evidence imply a separate position within the social hierarchy that only individuals of a certain status and gender could achieve? The small sample size and preservation bias is an issue. Based on the data available, iconographic representations of helmets and hats seem to be mainly restricted to males, while iconographic representations of females tend to include representations of symbolic headgear in the form of veils. In the mortuary context, no females have been found with either helmets or birch-bark hats. The current data on birch-bark hats indicates that these may have been restricted to adult male individuals; however, only five of

the burials can definitely be identified as male. Also, the later Iron Age is marked by a greater visibility of female burials than males. If more hats were produced at this time and buried with male individuals (thus indicating hats were more common than the current sample indicates) then they are not as likely to be found archaeologically from this period. As for the question of social position, there are two possibilities. If this type of hat was functional in a military sense, it may have marked a particular position/rank within a group. The depiction of several conical hats/helmets on the Providence situlae indicates that headgear of this shape could be used in military situations, but it was apparently worn by many people within a group. I would argue that the limited number of birch-bark hats that have been found, as well as the absence of military equipment and armor in the graves with birch-bark hats, suggests that they were not used in this manner. Other types of headgear that are clearly not birch-bark hats seem to dominate the iconography of military activities. Ethnographic accounts and the study of birch and color suggest the possibility that material utilized was significant in displaying social position. Further, the possibility of these being inalienable items suggests they were symbolically tied to each individual. The absence of birch bark hats in other contemporary elite burials, both male and female, from west-central Europe could support this argument. The restriction of the hats that have been found thus far to elite adult male individuals could indicate that not only were the hats not common to all elites, but they may have marked a specific role or status within the elite that was restricted by gender and age. Evidence of basal demarcation and possible ritual objects from the Hochdorf burial indicate that the individual may have been a ritual practitioner (Krausse 1999), which could mean that the birch-bark hat in the grave also signaled that role. Helmets found in graves have not had the same relationship to the body as these hats have, further suggesting that while they mark elite status, their material and purpose had a different

significance than birch-bark hats. This, combined with the symbolic qualities of birch and the often ritual use of white materials, could indicate that the hats were also tied to a specific social role.

The final question asked was whether the color white has been found in any other non-functional contexts that might inform interpretation of this headgear category. The current sample size and the state of preservation of the hats make it difficult to determine if the hats were white when they were worn; however, as the bark itself was white and no hats made of another kind of bark have been found, the color was considered here due to the possibility that the birch bark may have been chosen for its color. It was shown that not only does the color white trigger positive biological/psychological responses, it also has connections to both ceremony and mortuary ritual, as documented in both archaeological and ethnographical contexts. While care should be taken in applying this directly to the birch-bark hats, it does indicate that there is a strong possibility that color was related to the purpose of these objects.

This brings us back to the hypotheses that were generated from the above questions. The first hypothesis stated that if birch-bark hats were found with other materials that signify elite status then they must mark status in some way. All of the graves (possibly excluding Grave 351 which had evidence for disturbance) contained items that signify elite status, though the grave goods varied in quantity and quality. This association supports the hypothesis that birch-bark hats did mark status in some way. The second hypothesis stated that if birch-bark hats were functional then iconographic depictions of headgear may show how they were used. While birch-bark hats may have been depicted on situlae, the other headgear depicted shows that headgear in general was used to mark different positions or roles within society. While birch-bark hats could have functioned as protective gear, it is inconclusive from iconographic analysis if they were

actually used in this manner. As for the third hypothesis, ethnographic and archaeological evidence supports all four of the criteria of Costly Signaling Theory, suggesting that it is possible that birch-bark hats were symbolic.

The final hypothesis stated that specific headgear would be used to mark different positions in the social hierarchy of west-central European peoples if head ornamentation (and notions of the significance of the head) was a pan-Celtic phenomenon. Ian Armit (2012) has argued that the head had significance in the Iron Age, but that the practices and iconography involving the head were not pan-Celtic. I would suggest, however, that headgear from west-central Europe, as well as headgear depicted in East Alpine *situlae* and other eastern Celtic designs, indicate that the fascination with the head was not only pan-Celtic, but also a significant part of Etruscan and Mediterranean culture as well. Fashions changed throughout the Iron Age, and varied regionally, but the head itself was distinctly marked across the continent. Analysis of functional and ceremonial headgear has shown that, while birch-bark hats may have been functional to some extent, there are numerous lines of evidence that indicate they were more likely symbolic. Iconography in general and helmet finds from this region show that conical headgear was not restricted to birch-bark hats, indicating that shape was not necessarily a factor; however Costly Signaling Theory has shown that the use of birch bark specifically may be significant. Birch-bark hats were most likely created as display items, rather than functional objects. Qualitative comparison with other markers of elite status indicates they did mark some social role or rank. Analysis of the hats using Costly Signaling Theory has shown that there is more evidence for a symbolic purpose for these hats than there is for a functional purpose. Whoever the specific audience may have been, the hats were definitely worn during life and, as such, were targeting a particular audience. Ethnographic and archaeological evidence has shown

that crafting of trees is an art that requires time, skill, and planning. Literary sources on Ogham and the importance of nature in cultures practicing shamanism have shown that people placed meanings on trees that may have been transferred from tree to object to individual. Their restriction to adult males, while also possibly representing the feminine element, may indicate they were items used in gender-bending, while their color and decoration also suggest a possible connection to the ideology and cosmology of the Celts.

Birch-bark hats were a relatively short-lived fashion in the Iron Age, disappearing from the archaeological record in the later Iron Age. Beginning in the early La Tène period, the human head appears on all types of metalwork, as well as wooden and stone sculpture (Armit 2012; Megaw and Megaw 2001:69-74,162-172,257). The comma-leaf decoration that appears on the fifth century sandstone warrior from the Glauberg in Hessen, Germany also appears, in slight variations, on the sandstone sculptures from Heidelberg and Pfalzfeld in Germany dating to the same period (Figure 4.1; Frey 2004:108,111; Kimmig 1987:279; Megaw and Megaw 2001:74,257). This “Blattkrone” decoration may represent a wire and leather headdress, an example of which was found in Tumulus 1 Grave 1 at the Glauberg site in Germany (Armit 2012:107-109); however, it has also been interpreted as a possible symbol of deification that may relate to the concept of the heroic ancestral dead (Frey 2002; Frey 2004:108,111). Armit considers this statue and its association with other materials of a similar style within his analysis of the significance of the head, suggesting that this design style might be a continuation of this connection between the human head and fertility (Armit 2012:109-110). Given this, the change in iconography and actual elite headgear may have been a transmutation of the birch-bark hat symbolism into a new organic medium that could have marked the same role.

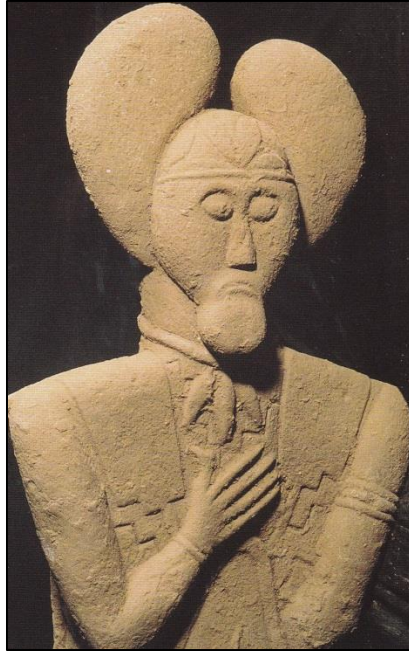


Figure 4.1: “Blattkrone” decoration on the Glauberg statue, Germany (Birkhan 1999:128).

It has been shown that the dearth of analysis of organic remains due to preservation bias and other factors has made it difficult to get a clear picture of what these birch-bark hats may have meant to the ancient Celts. The distribution of the hats over such a large geographic area, and the similarities in their design, could indicate that more of these hats existed at one point in time, if not in iconography then at least in the mortuary or settlement contexts. Future excavations in the study region may reveal evidence of additional birch-bark hats. Beyond the hats themselves, it is important to test all organic remains that are found in mortuary or settlement contexts, as they can reveal significant information about how people in prehistoric times influenced and were influenced by their environment, as well as how their beliefs shaped their material culture and relations within their social structure.

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